



RUE  
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Conférenciers invités (Keynote Speakers)

**Prof. Mathieu Declerck**

(Vrije Universiteit Brussel, Belgium)

*Keeping multilingual learning under control*

**Dr. Alice Foucart**

(Universidad Nebrija, Madrid, Spain)

*Emotion processing in multilingual contexts:  
Behavioural and neurophysiological evidence*

**Dr. Miguel Angel Santos Santos**

(Unidad de Memoria Sant Pau, Barcelona, Spain)

*Bilingualism and Neurodegenerative Disease:  
From Molecular Mechanisms to Clinical Management*

# Conference **COM2026** on Multilingualism

Laboratoire de Neuropsycholinguistique (LNPL)

## Toulouse, May 27-29, 2026

UNIVERSITÉ TOULOUSE - JEAN JAURÈS, **Maison de la Recherche**

<https://com2026.sciencesconf.org/>





# Conference on Multilingualism COM2026

May 27th - 29th 2026

University Toulouse - Jean Jaurès in Toulouse (France)

## Book of Abstracts



UFR Langues, Littératures et Civilisation Etrangères (LLCE) de l'UT2J



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# Call for Papers

The Conference on Multilingualism has a longstanding tradition, albeit under different names. Founded in 2005 at the University of Trento (Italy) as "Workshop on Bilingualism", it has been held under the title "Workshop of Neurobilingualism" in Donostia/San Sebastian (Spain) in 2010, and Groningen (Netherlands), among others. Since the 2016 edition held at Ghent University (Belgium), the conference has adopted the title "Conference on Multilingualism", to include a broader range of aspects of multilingualism. Recent editions have been held in Konstanz (2021) and Aix-en-Provence (2024).

Following tradition, the conference is open to the numerous aspects of **bi- and multilingualism** within the broad scope of cognitive sciences, such as language and speech sciences, neuro- and psycholinguistics, psychology, neurology and education. The 2026 edition will, as reflected by the invited keynote speakers, focus **specifically on language control**, that has given rise to fierce debates in recent years, and **on acquired language disorders in multilingual speakers**, topics traditionally studied at the host laboratory, the Laboratory of NeuroPsychoLinguistics (LNPL).

Additionally, we particularly welcome submissions focusing on the relation between **bilingual speakers and their environment**, as for example in the perception of accented speech. This will allow us to discuss **the following topics** that will be given specific attention in the roundtable:

- What is the role of language control in language cognition in different speakers? To what extent are the processes at play in multilinguals also present in monolinguals, and what are the specificities of the former? How could we develop integrated neurocognitive models of mono-, bi and multilingual language use?
- How does the multilingual mind/brain develop over the life-span? What are the neurocognitive consequences of multilingualism over time? How can we use insights from such studies to promote healthier aging of all speakers, mono-, bi- and multilinguals alike?
- How does multilingualism contribute to cognitive and neural reserve, potentially mitigating the effects of neurodegenerative diseases on language and cognition? What are the best practices for assessing and treating speech and language disorders in multilingual populations, and how can these practices be improved to better serve culturally and linguistically diverse communities?
- What are the specificities of bi- and multilinguals with respect to language processing but also in other domains of cognition? How could we achieve a better understanding and acknowledgement of these specificities, eventually contributing to a more inclusive society?

However, we also welcome submissions on **any topic related to bi- or multilingual language processing**, concerning any language and any type of population.

We have the pleasure to welcome three keynote speakers who will present different aspects of bi/multilingualism:

- Prof. Mathieu Declerck, Vrije Universiteit Brussel, Belgium
- Dr. Alice Foucart, Universidad Nebrija, Madrid, Spain
- Dr. Miguel Angel Santos Santos, Unidad de Memoria Sant Pau, Barcelona, Spain

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Saveria Colonna (SFL, Université de Paris 8, France)

Angela de Bruin (University of York, GB)

Mathieu Declerck (Vrije Universiteit Brussel, Belgium)

Alice Foucart (Universidad Nebrija, Madrid, Spain)

Cheryl Frenck-Mestre (LPL, Université Aix-Marseille, France)

Stephanie Grasso (University of Texas at Austin, US)

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Holger Hopp (Technische Universität Braunschweig, Germany)

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# Acknowledgments

We are grateful to our keynote speakers Mathieu Declerck, Alice Foucart and Miguel Angel Santos Santos who have shaped the thematic orientation of the 2026 edition of COM, as well as Angela de Bruin and Guillaume Thierry for their insightful participation in the roundtable. We are equally grateful to the scientific committee for evaluating more than 125 submissions to the conference thereby ensuring the high scientific quality.

COM2026 would not have been possible without the financial support of the Commission de Recherche of University Toulouse-Jean Jaurès and University Paris 8, the Laboratory of NeuroPsychoLinguistics (LNPL) in Toulouse and Structures Formelles du Langage (SFL) in Paris, the research networks Toulouse Mind and Brain Institute (TMBI) and the Réseau Thématique en Acquisition des Langues Secondes (ReAL2, GDR 2148 of the CNRS), the Departments of Languages Sciences (SdL) and of French as a Foreign Language Study (DEFLE), as well as the UFR des Langues et Civilisations Etrangères (LLCE) of University of Toulouse.

We are particularly grateful to the team of the Centre de Promotion de la Recherche (CPRS) of University of Toulouse Jean Jaurès who took care of the logistical and material organisation of the conference and allowed things to go so smoothly.



# Programme

Wednesday, May 27th 2026

Time	Event
13:30 - 14:00	Welcome desk
<b>14:00 - 14:15</b>	<b>Welcome word by the dean of Toulouse Jean Jaurès University research department and the head of the Laboratory of NeuroPsychoLinguistics</b>
<b>14:15 - 14:30</b>	<b>Opening of the conference by the organizers</b>
<b>14:30 - 15:30</b>	<b>Keynote 1 - <i>Keeping Multilingual Learning Under Control</i>, Mathieu Declerck, Vrije Universiteit Brussel, Belgium</b>
15:30 - 16:00	Coffee break (Lobby)
<b>16:00 - 18:00</b>	<b>Oral session 1: A Deep Dive into Language Control</b>
16:00 - 16:30	A. Avvessari, A. Casaponsa & J. Rothman (U Lancaster): <i>Beyond Interactional Context: The Role of Individual Differences on the Overlap between Bilingual Language Control and Domain-General Executive Control.</i>
16:30 - 17:00	Z. Ilchovska, A. Mazaheri & A. Krott (U York and U Birmingham): <i>Individual Differences in Bilingual Experience Predict Response Times During Language Switching via Functional Reactive Brain Responses</i>
17:00 - 17:30	L.M. Sanchez, E. Struys, D. Peters & M. Declerck (VU Brussel & U Tilburg): <i>Language Control in Context: Accented Speakers and Virtual Interlocutors</i>
17:30 - 18:00	J. Kroll & I. Finger (U California & FU Rio Grande do Sul): <i>Experimental Studies of Bilingualism: When the Lab and the World Align</i>
18:00 - 19:30	Reception in the lobby

Thursday, May 28th 2026

Time	Event
8:30 - 9:00	Welcome desk
<b>9:00 - 10:00</b>	<b>Keynote 2 - <i>Bilingualism and Neurodegenerative Disease: From Molecular Mechanisms to Clinical Management</i>, Miguel Angel Santos Santos, Sant Pau Memory Unit, Barcelona</b>
10:00 - 10:30	Coffee break (Lobby)

<b>10:30 - 12:00</b>	<b>Oral session 2: Healthy and Pathological Aging</b>
10:30 - 11:00	J. Hofweber, A. Patra, N. Dash & A. Bose (UC London & New College of Humanities): <i>Code-Switching in Bilingual Aphasia: Teasing Apart Atypical from Typical Sociolinguistic Practices</i>
11:00 - 11:30	A.L. Toth, G. Sánchez-Benavides, ... & M. Calabria (UOC Barcelona): <i>Multilingualism and Late-Life Cognition: Does Number of Languages Matter?</i>
11:30 - 12:00	A. de Bruin, E.G. Jones & A. Sequeira (U York): <i>Lexical Alignment within and across Languages in Bilingual Younger and Older Adults</i>
12:00 - 13:00	Lunch on site (Lobby)
<b>13:00 - 14:30</b>	<b>Poster session 1</b>
<b>14:30 - 16:00</b>	<b>Oral session 3: Challenges in L2 Lexical Acquisition and Processing</b>
14:30 - 15:00	M. Péliissier & H. King (U Paris-Cité): <i>Beyond the Standard: Unfamiliar English Accents Slow Down Lexical Access in Learners</i>
15:00 - 15:30	I. Fally (U Wien): <i>Once Seen, It Cannot Be Unseen? - Cross-Linguistic Influence in Processing Complex Verbs in L2 French?</i>
15:30 - 16:00	Stoehr, S. Yang, R. Hayes-Harb & C. Martin (BCBL): <i>Individual Differences in Auditory Processing Shape Orthographic Interference in Adult Language Learning</i>
16:00 - 16:30	Coffee break (Lobby)
<b>16:30 - 18:00</b>	<b>Oral session 4: Cognitive Resources in Language</b>
16:30 - 17:00	H. Liu & A. Chaouch-Orozco (U Xian Jiaotong Liverpool & City U Hongkong): <i>When Mixing Costs and Reversed Dominance Effect Agree, and When They Don't: Static and Time-Dynamic Associations in Bilingual Control</i>
17:00 - 17:30	J. Plym, P. Lahti-Nuuttila, E. Service, S. Smolander, E. Arkkila & M. Laasonen (U Helsinki & Helsinki University Hospital): <i>What Do Cognitive Tasks Measure in Sequential Bilingual Children?</i>
17:30 - 18:00	I. Kravchuk (U Adam Mickiewicz Poznań): <i>Multilingual Cognition: Accented Speech Processing and Attention Allocation</i>
18:15 - 19:00	Conference committee internal meeting
<b>20:00 - 23:00</b>	<b>Social Event: Dinner during Cruise on the Canal du Midi</b>

**Friday, May 29th 2026**

<b>Time</b>	<b>Event</b>
8:30 - 9:00	Welcome desk
<b>9:00 - 10:00</b>	<b>Keynote 3 - <i>Emotion Processing in Multilingual Contexts: Behavioral and Neurophysiological Evidence</i>, Alice Foucart, Universidad Nebrija, Madrid</b>
10:00 - 10:30	Coffee break (Lobby)
<b>10:30 - 12:00</b>	<b>Oral session 5: Connecting Languages to Emotion and Culture</b>
10:30 - 11:00	A.M. Plesca, E. Woumans, B. Defrancq & R. Hartsuiker (U Ghent): <i>Emotion Effects on Linguistic and Co-Speech Gesture Production in L1 Dutch and L2 English Dyadic Interactions</i>
11:00 - 11:30	A. Hatzidaki & E. Sintou (National and Kapodistrian U Athens): <i>Bridging Emotion in L2: The Role of Cognates</i>
11:30 - 12:00	Lu, B. Yao, K. Cain & F. Citron (U Lancaster): <i>Effect of Culture Relatedness on Affective Neural Responses to Words in L1 and L2: ERP Studies</i>
12:00 - 13:00	Lunch on site (Lobby)
<b>13:00 - 14:30</b>	<b>Poster session 2</b>
<b>14:30 - 16:00</b>	<b>Oral session 6: Prediction and priming in complex language tasks</b>
14:30 - 15:00	A. Bautista, M. Flores, F. Branzi & C. Martin (BCBL): <i>Engaging the Production System Enhances Predictive Processing in Both the L1 and the L2</i>
15:00 - 15:30	F. Antonioli, G. De Sutter, J. Daems & R. Hartsuiker (U Ghent): <i>When Syntax Carries Over: A Multi-Method Investigation of Structural Priming in German-Dutch Translation</i>
15:30 - 16:00	C. Griffin & C. Baus (U Barcelona): <i>Language Differences in Belief Updating under Uncertainty</i>
16:00 - 16:30	Coffee break (Lobby)
<b>16:30 - 17:30</b>	<b>Roundtable discussion “Going beyond...” featuring Angela de Bruin, Alice Foucart, Miguel Angel Santos Santos &amp; Guillaume Thierry</b>
<b>17:30 - 17:45</b>	<b>Closing remarks</b>

*N.B.: In the book of abstracts, oral presentations' abstracts are listed in the order in which they will be presented. The corresponding oral session is indicated in the header.*



# List of Poster Presentations

*N.B.: Posters are numbered according to the corresponding board space. Posters may be attached in the morning and remain visible the whole day.*

## **Poster session 1 (Thursday, May 28<sup>th</sup>, 2026, 13:00-14:30)**

- 1-1 Hérisse, C., Audouit, J. & Ezzedine, N.** Crosslinguistic Transfer in Bilingual Aphasia: A Single-Case Experimental Design Study Using Semantic Feature Analysis
- 1-2 Qiu, Y. & Martin, C.** Do Home Language Balance and Age Predict How Spanish-Basque Bilingual Children Categorize Spanish Speech Sounds? Evidence from Visual Analogue Scaling (VAS)
- 1-3 Heyer, V., Hopp, H., Hert, R., Jamieson, E., Köpke, B. & Schmid, M.** How Bilinguals Use Cues to Make and Revise Predictions: Effects of Age of Onset, Cross-Linguistic Influence and Dominance
- 1-4 Sinha, P., Mirza, I. A. & Sekerina, I. A.** Stroop Performance in Hindi-Urdu Bilinguals: The Role of Script, Age of Learning, and Proficiency
- 1-5 Taura, H.** A 29-Year Longitudinal Case Study of Bilingual Development: Linguistic and Neurocognitive Adaptations to Environmental Change
- 1-6 Aslan, G. & Eggers, K.** Attention Networks and Speech Disfluencies Among Monolingual Dutch and Bilingual Dutch-Turkish Speaking Children: A Pilot Study
- 1-7 Castillo, J., Martínez-Cuitiño, M. & Bruno, D.** From Advantage to Reserve: Cognitive Performance in Late Bilinguals
- 1-8 Xheladini, A., Vandendaele, A., Koc, A., Koch, I., Struys, E. & Declerck, M.** How Robust Is the Bilingual Flanker Effect
- 1-9 Veic, A., Már Viðarsson, B. & Thordardottir, E.** Linguistic and Cognitive Predictors of Language Proficiency in Multilingual Children
- 1-10 Chellen, N.** Language Control and Agentive Regulation in Audiovisual Processing: Subtitled Video Reception of French in a Multilingual Environment
- 1-11 Cherrouk, L., Tissier, G., Aparicio, X. & Tolosa-Igualada, M.** Language Control Under Cross-Modal Interference: Evidence from Computer-Assisted Interpreting
- 1-12 Ilchovska, Z., Arif, I., Nazir, F. & de Bruin, A.** Language Control with Ageing in Heritage Language Speakers: Cued and Voluntary Language Switching Contexts
- 1-13 Liu, H. & Chaouch-Orozco, A.** Managing Two Languages under Load: Enhanced Proactive with Preserved Reactive Control in Bilinguals

- 1-14 Vandendaele, A., Braem, S., Struys, E., Phillip, A., Koch, I. & Declerck, M.** One Switch to Rule Them All: Combining Language Switching and Task Switching Paradigms Reveals No Dissociation in Switch Costs between the Two
- 1-15 Dall'Acqua, A., Dal Maso, S. & Melloni, C.** “The More, the Better”. Antecedent Informativity Modulates Anaphora Resolution in Italian Monolingual and Bilingual Children: Evidence from Eye-Tracking
- 1-16 Yang, S., Li, P., Martin, C. & Stoehr, A.** Auditory Processing Modulation of L2 Vowel Perception and Production in Preadolescents
- 1-17 Wu, R., Parafita Couto, M. D. C. & Schiller, N.** Classifier Congruency Effects in Spanish-Chinese Bilingual Noun Phrase Production: Behavioral and Electrophysiological Evidence
- 1-18 Thordardottir, E.** Creative Communicative Strategies Used by Older Children in Early Stages of L2 Learning
- 1-19 Choi, J. & Blin, R.** From Omission to Semantic Reconfiguration: Referential Management and Determiner Acquisition in French-Korean Bilingual Narratives
- 1-20 Martin, C., Bautista, A., Mares, D.-I. & de Bruin, A.** Relative Interference of the Most (L1) and Least Dominant (L3) Languages during L2 Perception and Production: Evidence from L2-L1 and L2-L3 Cognate Processing
- 1-21 Dragota, A., Li, P. & Stoehr, A.** Auditory Processing Abilities and the Effects of Phonetic Training in L2 English Stops
- 1-22 Fyndanis, V. & Kubota, M.** Mixed Effects of Multilingualism on L1 Grammatical Aspect Production in Cognitively Healthy Non-Immigrant Adults
- 1-23 Sahyoun, Z. & Thordardottir, E.** Narrating in Three Languages: Story Structure, Complexity, and the Roles of Exposure and Metalinguistic Awareness
- 1-24 Alasgarova, R.** Phraseological Unit Attrition in Bilingual Adolescents in English-Medium Education
- 1-25 Bautista, A. & Martin, C.** Reduced N400 Prediction Effects in L1 and L2 when Production Is Blocked
- 1-26 Possidónio, M. & Almeida, L.** The Acquisition of Liquid Codas in Simultaneous French–Portuguese Bilingual Children
- 1-27 Hu, H., Piazza, G., Cordero-Rull, M., Kalashnikova, M., Li, P. & Martin, C.** Universal or Speaker-Dependent? Acoustic Adjustments in Foreign-Directed Speech

- 1-28 **Song, C., Shi, L. & Wang, X.** Whether Inserted Inter-Word Spaces Facilitate CFL Learners' Chinese Reading: Evidence from Eye Movements
- 1-29 **Cambon, A., Papadopoulou, D., Renaud, O. & Franck, J.** Analogical Reasoning Through Pedagogical Translanguaging in L2 Learning: Insights from Artificial Grammar Learning
- 1-30 **Beluska, T., Loerts, H. & Poarch, G.** Accent Credibility in a Multilingual Context: An Approximate Replication of Research Investigating Accentism

**Poster session 2 (Friday, May 29<sup>th</sup>, 2026, 13:00-14:30)**

- 2-1 **Caira, T., Declerck, M., Poarch, G. & Struys, E.** How Does Language-Mixing Affect Learning in Highly Proficient Bilinguals?
- 2-2 **Wu, R., Ge, H., Chen, X. & Zhang, C.** Bilingual Language Control in Cantonese–English Speaking Autistic and Neurotypical Children: Group Differences and Underlying Predictors
- 2-3 **Baulande, N. & Köpke, B.** Assessing Language Control beyond the Switched Naming Task: An Exploration of Disfluencies, Lexical Diversity and Lexical Frequency As Cost Markers in a Switched Discourse Task
- 2-4 **Awada, L. & Köpke, B.** The Language Control Index: A New Tool to Assess Discourse Language Switching
- 2-5 **Parshina, O., Schwarz, K. G., Bui, D. & Laramee, R.** Bilingual Language Control During L2 Reading under Domestic Immersion: An Eye-Tracking Study
- 2-6 **Dalakoura, A., Kirk, N. W. & Declerck, M.** Bilingual Language Control During Sentence vs. Single Word Production
- 2-7 **Meliksetian, A., Wolna, A., Kulej, T. & Wodniecka, Z.** Exploring Language Co-Activation and Language Control Indices in Multilingual Speakers of Languages of High versus Low Proximity
- 2-8 **Thille, M., Slaats, S. & Hervais-Adelman, A.** Inhibitory Control in Trilingual Language Production
- 2-9 **Han, X.** Interference Control in Self-Paced Bilingual Sentence Reading: The Role of Reading Task and Bilingual Experience
- 2-10 **Stolle, S. I., Struys, E., Keijzer, M., Housen, A., de Bruin, A., Trenkic, D. & Declerck, M.** Is Everything Under (Language) Control? The Influence of Language Control on L2 Vocabulary and Morphological Learning

- 2-11 Rostamipour, S. & Thordardottir, E.** Amount of Exposure, Self-Reported Proficiency, and Comfort Levels in Trilingual Children
- 2-12 A Q Nasser, H., Jordan, G. & Krott, A.** Exploring Parents' Experiences Raising Bilingual Children Born Preterm: A Mixed Methods Approach
- 2-13 Duarte, B.** Living Multilingualism
- 2-14 Plesca, A.-M., Woumans, E., Defrancq, B. & Hartsuiker, R.** Lying about How You Feel: Multimodal Evidence from L1 Dutch – L2 English Bilingual, Dyadic Conversations
- 2-15 Saddour, I.** Social Networks, Multilingual Practices, and Second Language Development Among Syrian Refugees in France
- 2-16 Trad, S. & Gunnarsson-Largy, C.** Sorry, I Didn't Get It! It's the Emotion: Emotional Influences on L2 Reading Comprehension through Eye-Tracking and Physiological Measures
- 2-17 Liu, H. & Chaouch-Orozco, A.** Beyond Task Demands: Affective and Motivational Modulation of Proactive Language Control in Bilinguals
- 2-18 Thordardottir, E. & Veic, A.** Trilingualism through Incidental English: Why Do Children Decide to Use English rather the Language of Home or School?
- 2-19 Heyer, V., Hopp, H., Hert, R., Jamieson, E., Köpke, B. & Schmid, M.** Associations Versus Grammatical Constraints in Bilingual Predictive Processing
- 2-20 Black, T.** 'That's Wot I Heard': The Perception of Vowel Contrasts by Francophone Learners of English
- 2-21 Jamieson, E., Hert, R., Heyer, V., Hopp, H., Schmid, M. & Köpke, B.** Shifting Dominance: The Role of Early Life Factors vs. Community Immersion in Late German-English and German-French Bilinguals
- 2-22 Cordero-Rull, M., Li, P. & Martin, C. D.** Beyond Words: How Native Speakers Adapt Speech and Gestures to Non-native Speakers
- 2-23 Sperlich, D.** Bilingual Processing of Scalar Implicature: Resource Limitations and Pragmatic
- 2-24 Lu, T.-P. & Tsai, J.-L.** Disentangling Pragmatic and Structural Cues in L2 Relative Clause Processing: An Eye-Tracking Study of Mandarin-English Bilinguals
- 2-25 Lam, H. & Paradis, J.** Gender-Stereotypes Matter, But Maybe Not L1: Self-Paced Listening and Acceptability Ratings of English Pronouns in Adult Monolingual and Heritage Bilinguals

- 2-26 Ren, L., Schimke, S. & Colonna, S.** How Do L2-Learners Interpret More Complex Pronominal Forms?
- 2-27 Skalba, A. & Thierry, G.** Individual Differences in the Processing of Present Perfect: An ERP Study with Polish-English and Welsh-English Bilinguals
- 2-28 Lyu, Y., Baulande, N., Hert, R. & Köpke, B.** Interaction Between Orthography and Phonology in Bilinguals: A Psycholinguistic Approach to Word Production in the Picture-Word Interference Paradigm
- 2-29 Lombardia, C., Birulés, J., Fort, M., Pascalis, O. & Pons, F.** Language Experience Modulates Infants' Multisensory Recognition of Other-Race Faces: Bilingualism or Language Exposure?



# Abstracts: Keynotes



**Prof. Mathieu Declerck**  
(Vrije Universiteit Brussel, Belgium)

### **Keeping Multilingual Learning Under Control**

During multilingual language processing, both languages are activated to some degree and compete with each other. Language control is the process used to minimize this cross-language interference and select words in the appropriate language. The vast majority of language control studies have focused on investigating language control during language production and comprehension. In this talk, I will discuss the influence of language control from a different perspective by focusing on its impact on second language acquisition and content learning. More specifically, I will discuss recent language switching studies that investigated vocabulary and rule learning of a second language with adult monolinguals, and language mixing experiments on content recall with children in a bilingual education program. Together, these results indicate that language control does not just influence language production, and language comprehension somewhat, but can also influence learning.



**Dr. Alice Foucart**  
(Universidad Nebrija, Madrid, Spain)

**Emotion Processing in Multilingual Contexts:  
Behavioural and Neurophysiological Evidence**

Emotion plays a crucial role in social interaction, enabling individuals to communicate their feelings and interpret the emotional states of others. Although certain forms of emotional expression, such as facial expressions, appear to be universal, expressing emotions through language may come with certain limitations. Research has shown that responses to emotionally charged stimuli tend to be weaker when processed in a second language (L2) compared to a first language (L1). In this talk, I will present behavioural and neurophysiological evidence investigating this phenomenon. First, I will examine the features that determine the emotionality of affective words. Then I will report studies that have examined emotion processing in sentence context. I will also discuss the cognitive implications of reduced emotional reactivity in L2. Finally, I will consider native speakers' responses to affective stimuli produced by non-native speakers, offering a broader perspective on emotion processing in multilingual communication.



**Dr. Miguel Angel Santos Santos**  
(Unidad de Memoria Sant Pau, Barcelona, Spain)

**Bilingualism and Neurodegenerative Disease:  
From Molecular Mechanisms to Clinical Management**

Bilingualism has been proposed as a modifiable factor that delays dementia onset by approximately four years. Yet despite half the world's population being bilingual, critical gaps persist: most studies lack biomarker-confirmed diagnoses, define bilingualism dichotomously, and focus almost exclusively on typical Alzheimer's disease in English speakers. The biological mechanisms underlying bilingualism's protective effects remain largely unknown.

This presentation addresses these gaps through two comprehensive research programs being carried out at the Hospital Sant Pau Memory Unit in Barcelona. First, we present findings from our Alzheimer's Association-funded study examining the molecular bases of bilingualism's protective effect in a Spanish-Catalan bilingual cohort with CSF biomarkers of amyloidosis, tau, and neuroinflammation. Our results demonstrate that active bilinguals show enhanced cognition across multiple domains while also exhibiting interactions between bilingualism, sex, and education on amyloid and neuroinflammation markers, suggesting both resistance (reduced pathology) and resilience (preserved function despite pathology) mechanisms operate simultaneously.

Second, we present data from our NIH-funded international collaboration with the University of Texas examining how bilingualism affects diagnosis and treatment in primary progressive aphasia, a neurodegenerative syndrome characterized by predominant language impairment. We demonstrate that automated NLP-based analysis of bilingual connected speech achieves high accuracy in differentiating PPA variants in bilinguals, and that tailored bilingual speech-language interventions produce significant improvements maintained at one-year follow-up with cross-linguistic transfer.

These findings carry immediate clinical implications for risk assessment, diagnosis, and treatment of bilingual patients with neurodegenerative disease, while highlighting the urgent need to capture multilingual language use data along with other lifestyle and sociocultural factors in aging cohorts to understand how their interactions shape bilingualism's protective potential.

# Abstracts: Oral Presentations

Wednesday, May 27th, 2026

## **Beyond Interactional Context: The Role of Individual Differences on the Overlap between Bilingual Language Control and Domain-General Executive Control.**

*Avversari Alessandra, Casaponsa Aina, Rothman Jason*

Lancaster University

Although links between cognitive processes involved in bilingual language control (bLC) and domain-general executive control (EC) have been widely theorized and empirically explored (e.g. Branzi et al., 2016; Lehtonen et al., 2023), findings remain inconsistent. This inconsistency is likely due to inadequate assessments of bilingual experience (DeLuca et al., 2019, Leivada et al., 2021; Titone & Tiv, 2022). The present study addresses this issue by jointly examining the role of the Interactional Context and Individual Differences (IDs) across bilingual experiences and testing how these can predict the overlap between bLC and domain-general EC.

98 Italian (L1)-English (L2) bilinguals from two interactional contexts took part in the study: 48 in Italy (non-L2-immersion) and 50 in immersion in the UK. Participants completed the Triad Matching Task (Gray & Kiran, 2019), in a linguistic and non-linguistic version, designed to be comparable in cognitive demands and to assess Inhibitory Control processes involved in bLC and domain-general EC (i.e., interference suppression and response inhibition). In the non-linguistic version, participants were presented with three figures and were asked to select the matching figure based on two criteria (i.e., shape or colour). In the linguistic version, participants were presented with three words (either in Italian or in English) and were asked to select the semantically related one. Bilingual experience was assessed using the Language and Social Background Questionnaire (LSBQ; Anderson et al., 2017), providing continuous measures of L2 exposure and use.

We predicted similar patterns of Interference Suppression and Response Inhibition in the linguistic and non-linguistic task versions, and an interaction between the two reflecting increased cognitive demand. These predictions were supported by the analysis, which shows a pattern of shared Inhibitory Control mechanism in both versions of the task. Furthermore, we predicted that IDs (i.e., L2 Social Use, L2 Home Use) would predict the degree of overlap between bLC and domain-general EC above the effect of context. The analysis didn't support this, i.e., no interaction between IDs and components of Inhibitory Control. Nevertheless, visual inspection of the data reveals context-dependent variability calibrating to bilingual experience alongside within-context variability. Importantly, the analysis reveals an interaction between IDs and Task, showing that dual language engagement modulates task performance. This indicates that the relationship between bLC and domain-general EC can be better captured by fine-grained IDs in dual language usage rather than interactional context alone.

**Keywords:** bilingualism, psycholinguistics, cognitive functions, inhibitions, individual differences, triad task, attentional control

## **Individual Differences in Bilingual Experience Predict Response Times During Language Switching via Functional Reactive Brain Responses**

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In a cued picture naming paradigm, the Control Processes Model (Green, 1998) predicts that the presentation of the language cue initiates the selection of the required language schema, while the picture triggers the production of a specific lexical item (lemma). Nevertheless, it remains unclear whether behavioural switch costs are due to control processes at the lemma level (e.g., Chang et al., 2016; Yi et al., 2018) or at the schema level (Kang et al., 2018; 2020; Khateb et al., 2017; Wodniecka et al., 2020). In addition, not all bilingual speakers demonstrate the same language switching costs (e.g., Costa & Santesteban, 2004), suggesting variations in the individual bilingual experiences play a role (cf., the Adaptive Control Hypothesis by Green & Abutalebi, 2013 ; the Control Processes Model by Green & Wei, 2014 ; the UBET model, by DeLuca et al., 2020). Finally, the EEG evidence of control during switching has mainly concentrated on event-related evoked responses (e.g., Chang et al., 2016; Guo et al., 2013), leaving out induced oscillatory responses, where the latter are suggested to provide important complementary evidence for understanding language switching control (see Cui et al., 2024, Liu et al., 2015, Timofeeva et al., 2023, Xie et al., 2019). We explored whether the language switching costs result from control over language schemas, lemmas, or both. The second and main question of this study was whether individual differences in bilingual experience might predict bilingual language switching control and how functional brain processes during language switching might mediate these predictive relationships. We tested 89 young adult healthy bilinguals on a cued picture-naming language switching task with continuous EEG recordings, and on the Switching Experience and Environment Questionnaire (SEEQ; Ilchovska et al., 2025). Our ERP results showed proactive control evidence at the level of the cue and reactive control evidence at the level of the target. While ERP cue-locked response showed a symmetry in the switching cost between L1 and L2, the oscillatory response demonstrated an asymmetry in the alpha suppression response for L1 only. Behaviourally we observed asymmetric switching costs and global slowing effects for L1. We built structural equation models (SEM) to explore whether individual difference factors can predict these asymmetric switching and global slowing effects through the neural effects. Both SEM models showed that the individual difference factors predict the neural effects we observed, which in turn predict the behavioural switching cost and global slowing effect.

Keywords: bilingualism, language switching, individual differences

## **Language Control in Context: Accented Speakers and Virtual Interlocutors**

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Language control is the process that supports target language selection in bilinguals by alleviating cross-language interference. The language control literature has often focused on decontextualized language production at the single word level. Production is therefore devoid of contextual aspects fundamental in spontaneous language use such as the presence of a conversational partner, a communicative goal, and the use of sentences and word categories beyond concrete nouns. Here, we report a language switching study with increased contextual richness. In the experiment, French-English bilinguals participated in a game with a group of eight animated characters during a mock-video call. An action description task was used to elicit full sentences, giving participants a wider variety of lexical and syntactic choice during production compared to previous sentence production studies, where a fixed syntactic frame is often used. At the beginning of every block, two animated characters introduced themselves in French or English (in the cued section), or in both languages (in the voluntary section). In the cued section, participants had to adapt their language choice to their interlocutor, whereas in the voluntary section, they switched freely. Moreover, in each section, one pair of characters spoke the target language with a native accent (neutral condition), while the other pair spoke with the accent of the non-target language (accented condition). We examined whether the accent of the interlocutor would affect language control and whether the effect would differ across the cued and voluntary switching paradigms. Our results revealed evidence of switch costs in both paradigms (reactive control), but the reversed language dominance effect (proactive control) was only present during voluntary switching. In the cued paradigm, L1 outperformed L2. We also observed different effects of accent on the two paradigms. Participants performance was better in the accented than the neutral condition during cued switching, whereas during voluntary switching, the effect of accent was modulated by language. Our findings highlight the adaptability of language control to the interactional context and the need for studies incorporating more contextual factors to better understand how language control is implemented in spontaneous bilingual interactions.

Keywords: language control, bilingualism, language switching, sentence production, accent

## **Experimental Studies of Bilingualism: When the Lab and the World Align**

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Recent discussions have raised old concerns that experimental studies of the bilingual mind and brain might be out of touch with the experience of bilingualism in the world. The lab has been characterized as a place of scientific isolation, removed from the social and cultural reality of how language reflects the world around us. That stereotype finds support in public misinformation about science and in its representation in the media. We argue here that the findings and agenda in the laboratory are not only congenial with a social justice agenda but provide a converging source of evidence and power to make the case that bilingualism is the natural state of language(s) in the mind and brain. Studies of the bilingual mind and brain have demonstrated that learning and using two languages reflect a dynamic interchange between the two languages themselves and with domain general cognition. Under ordinary circumstances, both of a bilingual's languages are active. Despite the prevalence of bilingual speakers around the world, there remains a great deal of mythology that is associated with the consequences of these language dynamics. The resulting biases have led to widespread misunderstanding about what it means to code switch or to mix the two languages at will, to speak with an accent, and to be a skilled native speaker. In the upswing of research on bilingualism in the last two decades, there is now a wealth of scientific evidence that shows that mixing languages is the normal state of affairs for bilingual speakers, not one that necessarily incurs costs. The life experience of learning and using two languages actively comes to change all languages in play, including the native language. The bidirectional consequences of multiple language use demonstrates that the traditional native speaker model is simply wrong. There is no ideal native speaker. The native language of bilingual speakers reflects their bilingualism. It also reflects the language experiences that bilinguals have early in their lives that they may carry with them into adulthood. Variation in language experience shapes language abilities in bilingual and monolingual speakers alike. In this talk we review laboratory evidence on bilingual speakers that shows that far from being at odds with the social, cultural and political consequences of bilingualism, experimental data provide strong support for the view that multilingualism is both psychologically real and socially meaningful.

Keywords: Language mixing, Cross, language dynamics, Native speakers, Interactional context



# Abstracts: Oral Presentations

Thursday, May 28th, 2026

## **Code-Switching in Bilingual Aphasia: Teasing apart Atypical from Typical Sociolinguistic Practices**

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Code-switching, i.e., mixing languages within the same utterance, is a common bilingual practice. Despite of its ubiquity in typical bilinguals, code-switching in aphasia assessment is often labelled as “pathological” by default (Fabbro, 2000). However, nuanced investigations considering typical code-switching as a benchmark provide insights into the nature of aphasic impairments (Balasubramanian et al., 2015). In this study, we systematically compared the code-switching in the narrative production of a Bengali-English bilingual with aphasia (BWA) with a group of healthy controls HCs. Our aim was to tease apart typical from atypical code-switching, and explore what the quantity and quality of BWA’s code-switching could reveal about the nature of the impairment. Importantly, we investigated a widespread, yet under-researched language combination, i.e., Bengali-English.

Our BWA, aged 50 years, male, displayed moderate chronic Broca’s aphasia. BWA also manifested with executive function deficits, which may affect code-switching (Hofweber et al., 2020). We compared BWA’s speech to that of eight sequential bilingual HCs matched for gender, education, and language profile. We elicited narrative production using the frog story picture-book. Crucially, the BWA was instructed to complete the task in two different unilingual conditions, i.e., Bengali, and English. The HCs narrated the identical frog story in a bilingual mode, which would elicit typical code-switching (Grosjean, 2001). Code-switches were counted, as well as classified according to a typology developed by Muysken (2000).

Our assessments revealed cross-linguistically asymmetrical code-switching patterns. In the unilingual English condition, the BWA produced hardly any switches to Bengali. However, in the Bengali unilingual elicitation mode, the BWA produced a large quantity of code-switches to English: 36 code-switches in 85 lexical items produced. Given that the appropriate language choice in this mode was Bengali, these code-switches were interpreted as atypical. Crucially, code-switching of the BWA also differed both quantitatively and qualitatively from the HCs.

Overall, the results suggest that the BWA was suffering from difficulties with semantico-lexical retrieval in Bengali, using code-switches from English as a compensatory strategy. The reported pattern is also identical to the atypical Hindi-English code-switching reported by Balasubrahmanian et al. (2015), so may be common in typologically distinct language combinations. The results suggest that allowing code-switching as a compensatory behaviour in bilingual aphasia would result in better functional communication. Our study highlights the need to develop assessments considering typical code-switching in HCs.

Keywords: code, switching, bilingualism, aphasia, cognition

## Multilingualism and Late-Life Cognition: Does Number of Languages Matter?

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Subirats Laia<sup>1</sup>, Marin-Marin Lidon<sup>5</sup>, Calabria Marco<sup>1</sup>

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Lifelong bilingualism has been associated with better late-life cognition<sup>1,2,3,4</sup>, but it is unclear whether speaking more than two languages provides additional benefits. This study investigated whether a higher number of languages spoken relates to enhanced performance across multiple cognitive domains in a large sample of cognitively unimpaired older adults from Catalonia, Spain.

We studied the cognitive performance of 2665 cognitively unimpaired older adults (mean age=55.8, range 44 to 74 years, 63.72% female) from the ALFA cohort of whom 888 reported speaking two, 856 three, 722 four and 199 five languages-defined as “(Number of) Languages you know besides Spanish and Catalan”. The cognitive assessment included the Memory Binding Test (immediate and delayed, free and paired recall), Digit Span (Forward, Backward and Sequence) WAIS-IV Coding, Visual Puzzle and Matrix Reasoning and semantic fluency task. Principal component analysis identified four cognitive dimensions: Memory (all MBT subtests), Working memory (all Digit subtests), Processing speed/reasoning (all WAIS subtests), and Semantic fluency. Associations between number of languages and each cognitive dimension were examined using regression models, adjusting for age, sex, and cognitive reserve index (Cognitive Reserve Questionnaire, excluding the language component). First, across all four cognitive domains, we observed a positive linear association between number of languages and cognitive performance (Memory:  $\beta = 0.12$ ,  $t = 4.73$ ,  $p < .001$ ; Working memory:  $\beta = 0.09$ ,  $t = 6.07$ ,  $p < .001$ ; Processing speed/reasoning:  $\beta = 0.11$ ,  $t = 6.42$ ,  $p < .001$ ; Semantic fluency:  $\beta = 0.02$ ,  $z = 3.92$ ,  $p < .001$ , Poisson regression). No evidence of non-linear (quadratic or cubic) effects emerged, indicating a monotonic relationship between language count and cognition. Second, group comparisons revealed small-to-moderate differences between language groups (Cohens’  $d = 0.16-0.39$ , see Table 1), with a predominant tendency for speakers of four or five languages to outperform those speaking two or three languages, particularly on measures of memory, working memory and processing speed/reasoning. Our findings suggest that multilingual experience confers incremental, domain-specific cognitive advantages in cognitively unimpaired older adults, rather than influencing a single general ability. These results can help explain how and when multilingual cognitive advantages emerge and support the development of policies promoting multilingualism as a contributor for cognitive reserve. Future work should examine whether these effects extend to neural measures of brain structure and function.

Keywords: Multilingualism, Cognitive reserve, Cognitive aging, Memory, Processing speed/reasoning, older adults

## **Lexical Alignment Within and Across Languages in Bilingual Younger and Older Adults**

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Speakers align their word choices with the interlocutor (e.g., “sofa” or “couch”, e.g., Branigan et al., 2011). This, at least partly, has been attributed to automatic mechanisms such as priming (Pickering & Garrod, 2004). However, non-automatic mechanisms, related to audience design and social or pragmatic factors, may also play a role (e.g., Chartrand & Bargh, 1999).

Bilinguals can also align their lexical/language choice across languages (e.g., de Bruin & Shiron, 2024; Fricke & Kootstra, 2016). Here, we first examined whether cross-and within-language lexical alignment operate similarly in bilinguals. Next, we examined whether alignment differs between younger and older adults. While older adults continue to use priming (e.g., van Boxtel & Lawyer, 2023), non-automatic mechanisms might change. Older adults display increased prosocial behaviour (e.g., Li et al., 2024), which could increase alignment, but this might also require more effort, especially in a second language (L2).

54 younger adults (Mage = 27 years) and 54 older adults (Mage = 65 years) took part. Groups were matched on demographic variables, language background/experiences, and L1/L2 vocabulary and proficiency. Participants had a lower L2-French than L1-English proficiency and use, allowing us to examine dispreferred words within a language and in a dispreferred language. Participants completed two naming/matching tasks with an L1-French interlocutor (participants’ L2). In the bilingual task, participants could use either language. We measured participants’ French use for pictures previously named in French by the interlocutor, compared to baseline trials (“cross-language alignment”). In the second, English-only, task, we measured participants’ use of dispreferred words after the interlocutor had used that dispreferred word, compared to baseline (“within-language alignment”). Participants also completed language-background and proficiency measures, no-interlocutor baseline naming tasks, and measures of prosocial behaviour.

Both age groups showed within-and cross-language alignment. While these correlated in younger adults (suggesting similar mechanisms might underlie the two types of alignment), this was not the case for older adults. Compared to younger adults, older adults also aligned more within-language but less cross-language, including after removal of L2 words participants did not know. This suggests older adults align more when their lexical retrieval allows them to (within a language, using their L1) but are less able to do so when words are more difficult to retrieve (in their L2). Together, these data suggest the role of automatic and non-automatic mechanisms in bilinguals’ alignment might change with age, possibly depending on the demands posed on lexical retrieval.

Keywords: Bilingualism, alignment, ageing

## **Beyond the Standard: Unfamiliar English Accents Slow Down Lexical Access in Learners**

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English language teaching typically prioritises standard accents, most notably Southern British English (SBE) and General American (GA). However, real-world communication frequently involves exposure to non-standard varieties, including native regional variation. While the perception of regional accents has been extensively studied in native (L1) listeners, comparatively little research has examined how foreign language (L2) learners process regional variation in their target language. Existing L2 work has largely adopted a sociolinguistic lens, focusing on learners' ability to identify or understand dialects in read or spontaneous speech (Lam & O'Brien, 2014; Schoonmaker-Gates, 2017, 2018).

More recently, Yaw and Ferronato (2025) directly tested comprehensibility, intelligibility and acceptability of Northern, Central and Southern Italian dialects in L2 listeners, showing that Southern Italian ranked lowest on all measures. Although contact with the target language predicted comprehensibility, accent familiarity did not. These findings demonstrate that regional variation can reduce intelligibility for L2 learners. However, no study to date has examined, at a psycholinguistic level, how dialectal variation affects one of the most fundamental processes underlying intelligibility: lexical access. The present study addresses this gap by investigating how lexical access in French learners of English is modulated by standard and nonstandard accents. Forty-six native speakers of French studying English at university completed a speeded auditory lexical decision task. Participants had 2.5 seconds to decide whether an auditorily presented stimulus was a real English word. The stimuli consisted of 80 words and 80 matched nonwords. Words contained phonetic segments selected to maximise accentual differences across four varieties: two familiar accents (SBE and GA) and two unfamiliar accents (Northern English, NE, and white South African, SA). Target segments included vowels from multiple lexical sets (e.g., KIT, TRAP, GOAT), intervocalic /t/, initial /h/, and word-final <er>. Each accent was represented by two speakers (one male, one female), and stimuli were balanced across accents and segment types.

Results revealed significantly faster and more accurate lexical decisions for words produced in standard accents than in non-standard accents. Learners were both quicker ( $\beta = -0.17$ ,  $p = .0002$ ) and more accurate ( $\beta = 1.31$ ,  $p < .0001$ ) for SBE (94%, 500 ms) and GA (96%, 471 ms) than for NE (83%, 578 ms) and SA (87%, 547 ms). These findings provide direct psycholinguistic evidence that dialectal variation impacts early lexical access in L2 listeners, even when later comprehension may be supported by contextual information or perceptual adaptation.

Keywords: lexical access, lexical decision, English accents

## **Once Seen, It Cannot Be Unseen? – Cross-Linguistic Influence in Processing Complex Verbs in L2 French**

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Word structure has been shown to influence lexical processing, specifically by facilitating word retrieval (Creemers et al., 2020; De Grauwe et al., 2019; Smolka et al., 2018). The degree to which this facilitation effect is observed is not identical across all languages, but differs depending on factors such as orthographic depth or overall morphological richness. For languages such as English or French, which are considered to have more opaque orthographies, sensitivity to morphological structure has been reported to be lower than for languages such as German or Italian, which have more transparent orthographies (cf. De Simone et al., 2024). Similarly, morphological priming effects have been reported as strong in German, but weaker in French (cf. Longtin et al., 2003; Smolka et al., 2018), potentially reflecting morphological richness. A question that arises from these results in L1 processing is how morphological processing is affected in bi- or multilingual speakers, when their languages differ in orthographic depth and morphological richness.

The present study explores this question with regard to visual processing of complex verbs by testing speakers with L1 German and L2 French. For the purpose of this study, a primed lexical decision experiment for French was constructed and administered to 40 Austrian students studying French at university. In the experiment the effect of prior presentation of prefixed verbs (e.g., *comporter* ‘to behave’) to base verbs (e.g., *porter* ‘to carry’) on decision latencies of the base verbs was measured. The study design took into account the semantic and morpho-orthographic relationship between the base-verb and the derivate, as well as frequency, morphological family size and orthographic neighborhood density. The experiment was set up to determine whether speakers decompose the prefixed verbs and to what extent this is facilitated by the morpho-semantic structure of the verbs. The results of the study were analyzed and compared to those of a group of French university students who were all L1 speakers of French.

Results show that while both French L1 and L2 speakers are overall sensitive to the morpho-semantic structure of the complex verbs, the facilitation effects for morphologically related items are significantly stronger for the L2 group. These results suggest that German L1 speakers transfer their sensitivity for morphological structure to their L2 French. The aim of the paper is to discuss the repercussions of these differences and implications for models of bilingual language processing.

Keywords: morphological processing, L2 French, primed lexical decision

## **Individual Differences in Auditory Processing Shape Orthographic Interference in Adult Language Learning**

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Words in a new language are often mispronounced when grapheme-to-phoneme correspondences differ from the L1 [1]. For adult language learners, written input is often salient and can strongly shape speech processing. However, learners differ widely in their susceptibility to orthographic interference, and the cognitive sources of this variability remain poorly understood [2].

Eighty L1-Spanish speakers participated in a three-day artificial language learning study targeting the novel vowels /y/ and /ø/. The vowels were presented in two conditions: orthographic (/y/ represented as <u>; /ø/ represented as <o>) and auditory-only. The assignment of vowels to conditions was counterbalanced between participants. Vowel learning took place on Days 1 and 2, during which each vowel was presented repeatedly and actively produced. In the orthographic condition, the relevant letter was displayed during auditory presentation; no orthographic information was provided in the auditory-only condition.

After learning, participants completed vowel production and perception tests. Production was elicited using the corresponding letter in the orthographic condition and a fixation cross in the auditory-only condition. Perception was assessed using a multiple forced-choice categorization task with synthesized vowel tokens varying in F1 and F2. At the end of Day 2 and the beginning of Day 3, all participants learned 20 novel auditory words referring to real objects and containing the trained vowels, without orthographic input. At the end of Day 3, word production was tested via picture naming and word perception via an auditory lexical decision task including orthographic and control mispronunciations. Auditory processing ability [3;4] was measured on Day 1 as a predictor of orthographic susceptibility.

Exposure to orthography during vowel learning systematically shifted vowel categories: vowels learned with orthography were produced and perceived with lower F2 values, closer to orthographically linked L1 vowels. Importantly, higher auditory processing precision attenuated orthographic effects in both production and perception. Orthographic effects also extended to word perception independent of auditory processing precision: participants were less accurate at rejecting orthographic mispronunciations than control mispronunciations, despite words being learned auditorily without orthography. No corresponding effect was observed in word production. These findings demonstrate a robust influence of orthography on adults' speech sound learning and that individual differences in auditory processing modulate susceptibility to orthographic interference. The dissociation between orthographic effects in word perception and production suggests that perceptual representations are more malleable than motor output in early learning and that phonolexical integration of novel contrasts may emerge later in production [5].

Keywords: auditory processing, speech production, speech perception, orthography, CLI

## **When Mixing Costs and Reversed Dominance Effect Agree, and When They Don't: Static and Time-Dynamic Associations in Bilingual Control**

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In language-switching tasks, the reversed dominance effect (the typical faster performance in L1 in single-language blocks reverses to faster L2 in mixed-language contexts) and mixing costs (slower repeat trials in mixed than single blocks) are widely treated as behavioural signatures of proactive bilingual control. Yet it remains unclear whether they converge or reflect partly distinct components (e.g., sustained inhibition vs monitoring/goal maintenance; Declerck, 2020). This gap is consequential because the two effects are often used interchangeably to support theoretical claims; if they dissociate, proactive control cannot be treated as unitary and conclusions may depend on which effect is analysed.

We tested convergence in two ways: (1) whether participants with a larger reversed dominance effect also show larger mixing costs overall, and (2) whether the two effects change together over time. For the latter, we derived a participant-specific change slope for each effect (how that effect grows, shrinks, or remains stable across block trials) and correlated these slopes across effects.

One hundred and twenty-six high-proficiency Chinese –English bilinguals, screened with the MINT (Gollan et al., 2012), completed a cued picture-naming task with single-language blocks and mixed (cued-switching) blocks. Mixed-effects models estimated the reversed dominance effect and L1/L2 mixing costs. We extracted participant-level indices of overall effect magnitude and change slopes. We predicted strong correlation between the reversed dominance effect and L1 mixing costs if both reflect an L1-focused proactive component (e.g., sustained regulation of the dominant language), but weaker or selective association if the indices are not interchangeable. Classical effects emerged: a robust reversed dominance effect and larger L1 mixing costs. The reversed dominance effect correlated with L1 mixing costs ( $r = .36$ ,  $p < .001$ ) and negatively with L2 mixing costs ( $r = -.48$ ,  $p < .001$ ). L1 and L2 mixing-cost time slopes covary across participants ( $r = .86$ ,  $p < .001$ ). In contrast, the reversed dominance effect's time slope correlated with L2 mixing-cost change strongly ( $r = -.68$ ,  $p < .001$ ) but only weakly with L1 ( $r = -.24$ ,  $p = .009$ ).

These findings argue against treating the reversed dominance effect and mixing costs as interchangeable indices of proactive control. Instead, they support a multi-component account: mixing costs reflect both L1 inhibition (as does the reversed dominance effect) and a monitoring resource that fatigues over time across both languages. Additionally, the reversed dominance effect is maintained only while high L2 activation can be preserved under fatigue. .

Keywords: proactive language control, bilingualism, reversed language dominance effect, mixing costs

## **What Do Cognitive Tasks Measure in Sequential Bilingual Children?**

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**Background.** Recent research on bilingualism and cognition has focused primarily on bilingualism's neurocognitive effects on executive functions (EFs): managing two language systems is proposed to result in structural and functional adaptations in the brain (Cespón & Carreiras, 2020), hence enhancing the efficiency of EFs in children (e.g., Bialystok & Craik, 2022; Boerma & Blom, 2020). However, empirical support for these effects varies widely (Gunnerud et al., 2020; Lowe et al., 2021). It remains unclear how bilingualism relates to cognition in sequential bilingual children (who acquire their first language at home from birth and begin second-language [L2] acquisition later in daycare) and whether potential effects generalize to other cognitive domains in preschool-aged children, whose cognition is still in the process of differentiation (Garrett, 1946; Mungas et al., 2013). Moreover, broader cognition and its underlying structure beyond individual task performance has received less attention (Johann et al., 2022). The present study aimed to characterize the structure of cognitive functions in preschool-aged sequential bilingual children and to compare it with that of monolingual peers, thereby informing the interpretation and comparability of cognitive task performance across groups.

**Method.** The participants were sequential bilingual Finnish 4–7-year-old children (n = 61) and their monolingual peers (n = 66). We used factor analytic methods (exploratory and confirmatory factor analysis) and structural equation modeling to probe measurement invariance and to examine latent cognitive constructs reflected by 23 standardized cognitive tasks (nonverbal and verbal reasoning, language processing, memory, visuomotor functions, attention, and social cognition) tested in bilingual children's L2. In addition, we examined the possible cognitive advantage or disadvantage of bilingualism at the level of latent cognitive performance. Results. Measurement invariance was not found as the latent cognitive structures differed between bilingual and monolingual children: differences in the structures related to L2 verbal abilities and to relations among processing speed, short-term memory and visuomotor functions. We did not observe a cognitive advantage or disadvantage of bilingualism at the level of latent constructs.

**Conclusions.** The results suggest bilingual adaptation to the language environment. Bilingual children may use unique strategies compared to monolingual children for cognitive tasks in their L2. The results highlight the challenge in interpreting group differences in cognitive performance between bilingual and monolingual children: they may reflect differences in the organization of cognitive functions or in confounding background factors rather than cognitive advantages or disadvantages.

Keywords: sequential bilingualism, preschool children, cognitive structure, cognition

## **Multilingual Cognition: Accented Speech Processing and Attention Allocation**

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Viewing multilingualism as a continuum, this project examines its impact on attention allocation and accented speech comprehension. While the generalizability of cognitive advantages of bilinguals is debated (Von Bastian et al., 2016), Bialystok & Craik (2022) argue that bilinguals differ in resource allocation in complicated tasks requiring attention allocation, but not capacity. Although bi-vs. trilingual comparisons yielded no behavioral differences, previous studies reported inconsistent group definitions. Addressing this research gap, we employ the demanding attention tasks, treating multilingualism as a continuous variable (Berthele, 2022) measured by the Multilingual Language Diversity score (LHQ3; Li et al., 2020). Furthermore, we analyze accented speech comprehension. Although bilinguals show higher cue attentiveness (Cristia et al., 2012), which seems to fade in noise (Morini & Newman, 2019), the specific impact of multilingualism on accented speech comprehension remains understudied. Therefore, this project addresses two main research questions:

- Does cognitive performance in attention tasks vary with respect to the degree of multilingualism?
- Do individuals with a higher Multilingual Language Diversity (MLD) score perform differently in accented speech comprehension?

The participants include 120 individuals, differing in the number of languages they use daily (based on the LHQ3 results); controlled for L2/L3 proficiency (LexTale; Lemhöfer & Broersma, 2012), and working memory (backward digit span). They are asked to complete a lexical decision task (LDT, using accented and native words/nonwords), a sentence comprehension task (designed as an analogue of LDT, providing the context to the words that must be recognized), and two versions of the task-switching paradigm tests using visual and audio stimuli (Stoet et al., 2013; Mora-Plaza et al., 2022; Xie & Kurumada, 2024). All tasks are programmed using the PsyToolkit online platform (Stoet, 2010, 2017). The recordings for the linguistic tasks were normed for comparability in accentedness and comprehensibility. The experimental procedure was refined based on a pilot study with 15 participants. The data collection is ongoing and currently focused on participants who use one or two languages daily. Participants with higher MLD scores are predicted to show lower switch and mixing costs in the task switch paradigm. The difference is also expected in accented speech processing: if the accent acts as "noise," highly multilingual participants may perform worse. However, if accent is treated as novel linguistic input, they may show a multilingual advantage.

Keywords: multilingualism, attention, cognition, task switch, accented speech comprehension, lexical decision task, bilingualism

# Abstracts: Oral Presentations

Friday, May 29th, 2026

## **Emotion Effects on Linguistic and Co-Speech Gesture Production in L1 Dutch and L2 English Dyadic Interactions**

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Do bilingual speakers process and produce emotion similarly across languages? Previous research points to stronger emotional processing in a dominant, native language, whereas emotional resonance may be reduced in a second or foreign language (Harris et al., 2006; Dewaele, 2010; Pavlenko, 2012). During emotional narratives, the use of gestures appears to differ across bilinguals' languages, serving compensatory functions in L2 but supporting emotional language production in L1 (Özder et al., 2023). Evidence at the lexical level is mixed, with reports of enhanced emotional word recall in L1 alongside non-significant cross-language effects (Anooshian & Hertel, 1994; Ferré et al., 2010). While foundational, current evidence is heterogeneous and predominantly unimodal, offering limited insight into emotional language production as a multimodal phenomenon. Additionally, negative emotions are underexplored in bilinguals, despite evidence of a negativity bias that may amplify multimodal language production (Rozin & Royzman, 2001; Matovic et al., 2014).

The present study seeks to address these gaps through a multimodal approach employing a Watch-and-Talk paradigm. L1 Dutch-L2 English sequential bilinguals watched sad and neutral movies and engaged in semi-scripted, dyadic conversations. Using a 2 x 2, within-participants design, this study examined the effects of Language (L1/L2) and Emotion (emotional/neutral) by addressing two research questions: 1) Are there differences in gestural behaviour and linguistic production across emotion conditions? 2) Do bilinguals' languages interact with emotion, and how would this interaction shape language and behaviour?

Audio-visual recordings of the conversations were analysed using three main types of dependent variables: (i) co-speech gestures; (ii) acoustic speech variables (e.g., pitch-derived measures, speech rate); (iii) linguistic and psychological word categories (e.g., affect, nonfluencies) obtained via text analysis mediated by LIWC-22 (Boyd et al., 2021). Linear mixed-effects models (Bates et al., 2015) fitted to pilot data (N = 6) indicated a significant interaction between language and emotion for co-speech gestures. In emotional conditions, participants gestured significantly more in their L1 than in their L2, whereas they used significantly more words of affect in their L2. Emotion further impacted speech rate, which slowed in emotional vs. neutral conditions, while language-related effects indicated a higher frequency of nonfluencies in L2. Pilot findings suggest that emotional manipulation affects linguistic and behavioural production and interacts with language, potentially aligning with prior work indicating stronger emotional embodiment in L1, reflected in more frequent emotional co-speech gestures. The full study (N = 60) is pre-registered, with data pre-processing and full analysis underway.

Keywords: bilingualism, emotion, language production, dyadic interactions, multimodality.

## **Bridging Emotion in L2: The Role of Cognates**

*Hatzidaki Anna, Sintou Eftychia*

National and Kapodistrian University of Athens

Studies on words that share orthographic/phonological features and semantic content cross-linguistically (cognates) have shown a processing advantage over words that do not (non-cognates; e.g., Dijkstra & Van Heuven, 2002; Dijkstra et al., 2019). Moreover, the emotional charge of words (valence) has also been found to modulate lexical access, with a notable facilitatory effect for positive vs. neutral or negative content (Ferré et al., 2024). Yet research on emotional language processing suggests that bilinguals often experience reduced emotional engagement in their second language (L2) relative to their native language (L1), especially when L2 proficiency is lower (see Aguilar, Ferré, & Hinojosa, 2024 for a review; cf. Ponari et al., 2015). A relevant question then is how cross-linguistic similarity shapes core language processes and subjective linguistic experience and whether such similarity facilitates not only lexical access but also the affective resonance of words in L2. The present study addressed that using a visual word recognition task with 80 Greek (L1)-English (L2), highly proficient bilinguals ( $M_{age} = 22.6$ ). Cognate status (cognates vs. non-cognates), emotional content (positive vs. neutral) and language (L1 vs. L2) were manipulated across 48 words in a design where the language of word presentation was between participants. Variables that were controlled were word frequency, concreteness and word length (all  $ps > .05$ ). The significant three-way interaction in the LMM analysis showed that the typical speed-up emotional effect was present in L1 regardless of cognate status. In L2, however, the cognate status changed how valence played out: there was a processing advantage exclusively for positive cognates. Our findings suggest that cognates in L2 may act as a bridge to L1 emotional representations, facilitating emotional resonance and grounding of L2 words. This observation carries important theoretical and practical implications for research on the relationship between language and emotion and how linguistic similarity and emotional load may jointly modulate L2 processing and learning. This knowledge can be used to our advantage in various aspects of bilingual life, for example, in the design of emotionally engaging L2 learning materials, in the training of translators and interpreters, and in the strategic use of language to modulate emotional engagement and communicative impact.

Keywords: emotion, bilingualism, cognates, visual word recognition

## **Effect of Culture Relatedness on Affective Neural Responses to Words in L1 and L2: ERP Studies**

*Lu Yanxi, Yao Bo, Cain Kate, Citron Francesca*

Lancaster University

Bilinguals frequently report reduced emotional engagement in their second language (L2), a phenomenon known as L2 emotional distance (Pavlenko, 2012; Hsu et al., 2015). While extensive research has examined linguistic factors such as proficiency and age of acquisition, the role of cultural context in modulating this experience remains underexplored. This study investigates how culture relatedness (i.e., we propose culture relatedness as the extent to which a concept is anchored to the native or second culture), interacts with emotional valence to shape neural responses to emotive words in late bilinguals.

Thirty-four late Mandarin-English bilinguals residing in the UK performed a valence judgment task (positive vs. neutral) in both their L1 (Mandarin) and L2 (English) whilst electroencephalography (EEG) was recorded. Stimuli consisted of positive and neutral words that were either related to Chinese culture (e.g., dumpling), British culture (e.g., scones), or unrelated to either (e.g., sake). We analysed reaction times (RTs) and two event-related potential (ERP) components: the Early Posterior Negativity (EPN), indexing early automatic attention, and the Late Positive Component (LPC), reflecting sustained evaluative processing.

Behavioural results revealed a robust positivity advantage (faster RTs for positive words) in both languages, suggesting successful access to emotional semantic prosody. However, the neural data demonstrated a striking dissociation between languages. In the L2 (English), processing was characterised by a classic emotionality effect: positive words elicited significantly larger EPN amplitudes than neutral words (e.g., Citron, 2012), indicating that L2 emotional items successfully captured early automatic attention. In contrast, L1 (Mandarin) processing showed no such valence effects; instead, it was dominated by significant main effects of culture relatedness on both the EPN and LPC components. Specifically, words related to the native culture modulated neural activity distinctly from unrelated words.

Our findings suggest that culture relatedness can influence the affective processing of words and modulate neural responses and provide new evidence that culture relatedness shapes bilinguals' emotional experiences at both behavioural and neural levels, above and beyond the well-established overall "emotional distance" from L2.

Keywords: culture, emotional valence, bilinguals, Chinese, English, ERPs

## **Engaging The Production System Enhances Predictive Processing in Both the L1 and the L2**

*Bautista Ana<sup>1, 2</sup>, Flores Marco<sup>2, 3</sup>, Branzi Francesca M.<sup>4</sup>, Martin Clara<sup>3</sup>*

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Language prediction has been proposed to rely on the production system, with comprehenders recruiting production mechanisms to anticipate upcoming words [1]. In a previous study, participants read high and low constraining sentence contexts, aloud and silently, followed by a picture depicting the final noun of the sentence which they had to name as fast as possible [2]. Picture naming times were faster following high vs. low constraining contexts, and after reading aloud vs. silently. Crucially, picture naming times were especially fast after reading high contexts aloud, supporting the hypothesis that language prediction involves the production system.

Previous proposals have suggested that prediction in second language (L2) speakers may not rely on production, given that L2 production is generally slower and less fluent [1]. If so, manipulating the reading mode to engage the production system should not affect L2 prediction. In this study, we directly tested whether L2 prediction relies on production, by replicating [2] in bilingual speakers.

We tested 77 Spanish-English bilingual speakers in an online study using the design of [2]. Participants read high and low constraining sentences, aloud and silently, in two counterbalanced language blocks for Spanish (L1) and English (L2). Picture naming times were measured relative to the onset of the final picture. A linear mixed-effect model revealed significant main effects of reading mode ( $p < .001$ ; faster naming times when reading aloud than silently), sentence constraint ( $p < .001$ , faster naming following high vs. low constraining sentences) and of language ( $p < .001$ , faster naming in L1 than L2). Importantly, there was a significant interaction between reading mode and sentence constraint ( $p < .001$ ) that did not further interact with language ( $p = 0.33$ ) (see Figure 1).

This interaction revealed that naming was especially fast after reading highly constraining contexts aloud, indicating a specific benefit for language prediction when engaging the production system. Both the main effects and interaction replicate the original findings [2]. Contrary to our expectations, those effects and interaction were similar in L1 and L2, suggesting that prediction relies on the production system in both languages to a comparable extent. These results offer new insights into the mechanisms underlying prediction and into previously unexplored similarities and differences between L1 and L2 in this function.

Keywords: language prediction, L2 processing, bilingualism

## **When Syntax Carries Over: A Multi-Method Investigation of Structural Priming in German—Dutch Translation**

*Antonoli Francesca, De Sutter Gert, Daems Joke, Hartsuiker Robert*

Ghent University

Structural priming—the tendency to re-use recently activated syntactic structures (Pickering & Ferreira, 2008)—is a very robust findings in psycholinguistics (Mahowald et al., 2016) and a key mechanism for testing the hypothesis that multilingual speakers store overlapping syntactic constructions from different languages in shared mental representations (Hartsuiker et al., 2004). Although multilinguals clearly align syntactic structures between their languages during speech production (Van Gompel, 2017), it remains unclear how such cross-linguistic activation unfolds during translation, a specific and complex multilingual task (Maier, 2011; Carl & Schaeffer, 2017; Jacob et al., 2024).

To investigate the phenomenon within these underexplored conditions, the present study tests whether structural priming shapes bilinguals' syntactic choices in German-to-Dutch translation and how translation expertise modulates this effect, using voice alternation (generalised active vs. agentless passive) as a testing ground. The study design combines a corpus-based component with an experiment to overcome the limitations of each: experiments offer causal evidence but limited ecological validity, and corpora provide authentic translations but cannot show whether structural alignment reflects genuine priming (Branigan et al., 1995; Gries, 2005). Integrating both approaches therefore provides a more comprehensive perspective on structural priming in translation than either method could achieve alone.

The corpus component analyses ~4,000 aligned German –Dutch sentence pairs from InterCorp, annotated for German source-text voice and Dutch target-text voice, along with key grammatical predictors of voice alternation. Crucially, the analysis treats the German source structure as a prime, testing whether translators align with it in their target-text beyond what can be accounted for by grammatical or discourse-level constraints. Preliminary results on a subset of 500 instances show that the source-language voice is one of the strongest predictors of Dutch voice choice, indicating cross-language structural alignment in naturalistic translations.

To target the cognitive mechanism directly, the experiment tests online structural priming in Dutch – German bilinguals (half with translation training; half without). Participants translate briefly presented 6-word German sentences (64 critical items) into Dutch, while keystroke logging captures processing dynamics. Early results on the first 19 participants reveal a general robust source-to-target voice alignment, moderated by expertise: trained translators show a weaker effect.

Together, these findings provide converging evidence on structural priming as a key mechanism shaping bilingual syntactic choices during translation, and I will examine these points in greater methodological and theoretical detail during the conference presentation.

Keywords: Structural Priming, Translation Process Research, Corpus, Based Research, Voice Alternation.

## **Language Differences in Belief Updating Under Uncertainty**

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People use the context of a given situation to make predictions about upcoming information and establish an informational context, updating these predictions when they result in error. Foreign speakers are often faced with higher cognitive load and more sh allow processing of their target language, resulting in alternative decision making known as the Foreign Language Effect (Costa et al., 2014; Del Maschio et al., 2022). The present study investigates differences in belief updating under uncertainty in a native and foreign language. Forty-nine native speakers of Spanish attempted to guess the name of a category from its members in either Spanish (native language) or English (foreign language) with incrementally more information given throughout each trial, using forty-eight categories split into easy and hard. Participants responded whether they arrived at the expected category name or not, and where in the sequence they were certain of their response (Order, 1-6). EEG was recorded as participants completed the task, as our previous research shows an N400 response for harder categories. A main effect of language and category difficulty was found on mean word order response, suggesting that foreign speakers require more information to come to a decision under uncertainty in their foreign language. While no main effect of language emerged in the N400 amplitude across conditions, interactions with category difficulty and word order show that foreign language semantic processing costs depend on context. The interaction of language status and category difficulty suggests that a non-native language increases the cost of semantic ambiguity, delaying category resolution and enhancing N400 negativity. These findings replicate previous work on belief updating under uncertainty and reveal how these predictive processes differ in non-native speakers. Further analysis on the brain activity shown at the preceding and following word to a correct category guess is made, indicating that differences between native and foreign speakers are relative to the difficulty of both category and language.

Keywords: foreign language effect, belief updating, prediction, categorisation, EEG, bilingualism



# Abstracts: Poster Presentations

Poster session 1  
Thursday, May 28th, 2026

# Crosslinguistic Transfer in Bilingual Aphasia: A Single-Case Experimental Design Study Using Semantic Feature Analysis (1-1)

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## **Introduction**

Providing language rehabilitation for bilingual patients remains challenging. There is currently no consensus on methods that reliably promote crosslinguistic generalization when intervention is delivered in a monolingual setting. Recent evidence suggests that within-language generalization is more robust than crosslinguistic generalization in bilingual patients receiving monolingual therapy, and that crosslinguistic transfer may be enhanced when therapy is conducted in the first-acquired language and/or the immersion language (Goral et al., 2023). Studies have also highlighted the limited crosslinguistic generalization in anomia rehabilitation (Lee & Faroqi-Shah, 2024). Nevertheless, established methods such as Semantic Feature Analysis (SFA; Efstathiou et al., 2018) have demonstrated promising evidence of both within-and cross-linguistic generalization (e.g., Bihovsky et al., 2023). Further research is needed to clarify the mechanisms underlying crosslinguistic transfer in bilinguals. This ongoing study aims to investigate the effects of SFA therapy on crosslinguistic transfer of naming abilities in a bilingual patient.

## **Method**

### **Patient presentation**

Patient X is a 34-year-old man who experienced a left ischemic stroke in December 2024. He is an early, highly proficient English–French bilingual and living in France for four years. He receives four therapy sessions/week. The initial assessment revealed anomia, mild syntactic comprehension difficulties, and impaired word repetition, with slightly better performance in English than in French.

### **Materials and study design**

The patient is undergoing anomia therapy in English using SFA within a Single Case Experimental Design (SCED) comprising three phases. The protocol includes an initial assessment (40 items per language), a baseline phase (A1; five repeated measures [RM]), an intervention phase (B; seven RM, four trained items per week), and a return-to-baseline phase (A2; three RM). RM consist of naming 20 items per language. Initial assessment items were drawn from the MultiPic database (Duñabeitia et al., 2022) and controlled for H-index (0) and cross-linguistic frequency ( $W = 309, p = .531$ ). The RM list included both successfully named and failed items across and within languages. Intervention items consisted of 14 items selected from failed items during the A1 phase and additional semantically related items to assess generalization. Intervention stimuli were sourced from the Pixabay database. All item lists included semantically isolated and related items, as well as cognates and non-cognates, with counterbalanced presentation.

### **Concluding remarks**

Preliminary results showed better naming performance in English (19/40) than in French (11/40). Data collection is ongoing, with completion expected by the end of March. Analyses will be conducted using SCED-specific statistical methods.

Keywords: bilingual aphasia, crosslinguistic transfer, SCED, Semantic Feature Analysis

# **Do Home Language Balance and Age Predict How Spanish-Basque Bilingual Children Categorize Spanish Speech Sounds? Evidence from Visual Analogue Scaling (VAS) (1-2)**

*Qiu Yue<sup>1,2</sup>, Martin Clara<sup>1,3</sup>*

(1) Basque Center on Cognition Brain and Language, (2) Universidad del País Vasco, (3) Ikerbasque - Basque Foundation for Science

Children in the Basque Country (Spain) grow up exposed to both Basque and Spanish, but the amount and balance of each language can differ substantially across homes. Here we ask: within a community where most children are bilingual, does home language balance predict how children categorize Spanish speech sounds, and does this relationship change across development?

We report preliminary results from Basque–Spanish bilingual children in grades 2–4, all recruited from a single school (current  $N = 54$ ; target  $N = 120$ ). Children completed a child-friendly Visual-Analogue-Scaling task using a Spanish /s/ –/x/ pseudoword continuum (presented as two “dinosaur names”). We focused on /s/ –/x/ because this contrast is differentially supported in Basque and Spanish, making it a sensitive test of home language experience. On each trial, children heard one token and placed a cursor on a continuous line between the endpoints to indicate how /s/-like versus /x/-like the sound was, yielding a graded measure of perceived category membership. This design quantifies not only the category choice, but also the degree of endpoint preference and trial-to-trial consistency, which is informative for developmental and bilingual individual differences (e.g., Kapnoula et al., 2017; Kim et al., 2025).

Home language experience was grouped as Basque-dominant, Spanish-dominant, or balanced (systematic use of both languages at home). We fit Bayesian hierarchical psychometric functions to VAS responses and extracted two VAS indices following Sorensen et al. (2024): categorization sharpness and categorization consistency (i.e., lower response variability). We tested effects of home language, age, and their interaction.

Two competing predictions were evaluated. Under an input-driven account, greater Spanish exposure at home should be associated with sharper and more consistent categorization of Spanish sounds, with age-related convergence. Under a balanced-bilingual advantage account, balanced bilingual children should show the sharpest and most consistent categorization, especially earlier in development.

In this preliminary sample, two patterns stand out. First, among younger children, balanced bilinguals show sharper categorization than Basque-dominant peers, whereas group differences are reduced in older children. Second, younger balanced bilinguals categorize more consistently than children from both dominance groups, and this difference attenuates with age.

Together, these results suggest that even within a shared community and school environment, balanced home language experience is associated with more stable Spanish /s/ –/x/ categorization in younger children, followed by developmental convergence. Ongoing data collection will test the robustness of these effects and examine their relation to literacy and speech production measures.

**Keywords:** Bilingual development, home language environment, phonological development, child speech perception, speech categorization, Visual Analogue Scaling (VAS)

## **How Bilinguals Use Cues to Make and Revise Predictions: Effects of Age of Onset, Cross-Linguistic Influence and Dominance (1-3)**

*Heyer Vera<sup>1</sup>, Hopp Holger<sup>1</sup>, Hert Regina<sup>2</sup>, Jamieson E.<sup>3</sup>, Köpke Barbara<sup>2</sup>, Schmid Monika<sup>3</sup>*

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Language users actively predict upcoming input in language comprehension using different types of cues. They also revise initial predictions once they turn out to be inaccurate (Chow & Chen, 2020). This study investigates how bilinguals flexibly adapt and revise predictions. We aim to disentangle general bilingualism effects from cross-linguistic influence, age and dominance effects in bilingual processing. We compare different English-German and French-German bilinguals: Simultaneous bilinguals from birth (n=82; mean age=34.4yrs), late L2 learners of German (n=96; 43.6yrs) and potential L1 German attriters in the UK or France (n=89; 47.2yrs). We examine the time-course of how bilinguals make and revise predictions according to lexical-semantic information (hungry vs. thirsty) and grammatical gender (der vs. das-masculine vs. neuter articles). In a visual world eye-tracking study, participants listened to sentences with or without gender cues for prediction of a sentence-final noun. In addition, semantically-constraining conditions created an initial semantic prediction, which would later need to be revised based on semantic (semantic revision) or grammatical cues (gender revision). LMER analyses of the predictive effects before noun onset showed that early bilinguals and L1 German speakers with long-time contact to English and French used both semantic and grammatical cues to make and revise predictions, because they had more fixations to target compared to the condition with no predictive cues (Figure 1). L2 speakers also used semantic and grammatical cues to make initial predictions, and they could also revise initial predictions according to later semantic cues. Yet, they failed to revise and overwrite initial semantic predictions by grammatical gender cues. Among L2 learners, L1 French learners differed in the initial use of gender from L1 English learners, indicative of cross-linguistic influence (gendered vs. non-gendered L1). Findings suggest that long-time early or late bilingualism does not impair the flexible use of native-language cues in processing. In contrast, later onsets of language acquisition decrement learners' ability to flexibly use L2 grammatical information in sentence processing. Specifically, late L2 learners may not overwrite semantic commitments by grammatical cues, even if they can use these grammatical cues for prediction in isolation. Over and above group differences, we also explore effects of within-group differences in language dominance. Findings show that lower German dominance comes with lower cue use across and in all groups. We discuss how interactions of cross-linguistic influence, age of onset and dominance may lead (late) bilinguals to prioritize semantic over competing grammatical cues in sentence processing.

**Keywords:** prediction, revision, visual world eye, tracking, grammatical gender, German, L2 learners, attriters, simultaneous bilinguals, language processing

# **Stroop Performance in Hindi-Urdu Bilingual Biliterates: The Role of Script, Age of Learning, and Proficiency (1-4)**

*Sinha Prajna<sup>1,2,3</sup>, Mirza Iqra Ali<sup>1,2,3</sup>, Sekerina Irina A.<sup>4</sup>*

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Cross-linguistic research has demonstrated that learning to read in different writing systems may recruit partially different cognitive skills and strategies, depending upon orthography-phonology consistency (Katz & Frost, 1992). Georgiou et al. (2008) demonstrated that children learning to read in orthographically consistent languages rely on straightforward grapheme-phoneme mappings. Conversely, children learning inconsistent orthographies develop flexible reading strategies. In Iranian-English biliterate children, both phonological and orthographic processing skills predict reading in English, but only phonological processing skills predict reading in Persian, suggesting that more opaque scripts engage different reading strategies (Panah & Padakannaya, 2008; Yeong et al., 2014). Thus, greater experience in one script may reinforce one strategy over another.

Hindi-Urdu offers a unique case to test this as the same phonological system is mapped onto two scripts with opposite orthographic opacity, Devanagari (relatively shallow) and Perso-Arabic (more opaque), which individuals may learn at different time points (Kachru, 2008). Little work has examined how biscriptal learning histories shape adult reading strategies and performance on executive functioning tasks. However, several studies have focused on bilingual language experiences shaped by social factors (Gullifer & Titone, 2019). Despite being a significant population, biliterates are understudied (Vaid, 2022). We expanded upon our previous work examining script-dependent differences in a Stroop task in Hindi-Urdu adults by testing whether their performance is modulated by the age of learning and self-reported proficiency in each script.

29 biscriptal adults from India took part in an online colour-word Stroop task in which colour words appeared in coloured ink in either Devanagari or Perso-Arabic script, and the response options were displayed in the same script (pure blocks) or in the other script (mixed blocks). Across congruent and incongruent trials, reaction times (RTs) were analysed as a function of script and block type. Age of script learning and self-reported proficiency were added as predictors.

Stroop interference was significantly greater for Devanagari than for Perso-Arabic. Like our previous study, we also observed a significant interaction effect of the script type and congruency. Age of learning and self-reported reading proficiency were stronger predictors for Devanagari RTs than for Perso-Arabic. In India, Hindi-Urdu speakers acquire literacy under different sociolinguistic conditions. Devanagari is learned earlier and used more often, which likely makes reading more automatic and increases Stroop interference, whereas Perso-Arabic is often learned later and used in limited contexts, so script effects may be weaker. Our findings highlight the importance of considering biscriptal experiences in shaping reading strategies.

**Keywords:** Reading, biscriptality, biliteracy, executive function

## **A 29-Year Longitudinal Case Study of Bilingual Development: Linguistic and Neurocognitive Adaptations to Environmental Change (1-5)**

*Taura Hideyuki*

Ritsumeikan University

This longitudinal case study, grounded in Emergentism and Complex Dynamic Systems Theory (CDST), examines how environmental factors shape the developmental trajectories of a simultaneous early Japanese–English bilingual across nearly three decades. Rather than relying on a cross-sectional group approach, this study focuses on an individual’s longterm linguistic and neurocognitive development. The project consists of two phases. Phase 1 followed the participant’s less dominant language, English, from age 4;09 to 19;01 over a span of fourteen years. Analyses of narrative development revealed stage-like growth patterns comparable to English monolinguals, providing support for the Separate Development Hypothesis. The findings also indicated that a 15-month residence in an English-dominant society, during which English became the primary educational language, played a crucial role in accelerating development in the less dominant language of English.

Phase 2 tracked the participant from age 19;02 through the subsequent fifteen years and incorporated both linguistic measures (narrative samples) and neurocognitive measures derived from functional near-infrared spectroscopy (fNIRS). This phase particularly examined changes before and after two extended stays in two English-speaking environments: for 6 months at age 21 and for a year and 5 months at age 32;07). Preliminary analyses revealed marked neurocognitive shifts: compared with measurements at age 19;02, oxy-Hb levels in the left inferior frontal gyrus (IFG) during English production decreased significantly immediately after the participant’s return from an English-speaking environment ( $t(114)=3.118$ ,  $p<.001$  after 6 months and  $t(114)=2.095$ ,  $p<.05$  after 17 months), whereas activation during Japanese production increased ( $t(114)=-2.391$ ,  $p<.001$  and  $t(114)=-3.175$ ,  $p<.001$ , respectively). These findings suggest experience-dependent reorganization of language-related neural networks and differential resource allocation between the two languages. In the final five years of Phase 2, fNIRS data were collected not only from the IFG but from ten regions across both hemispheres, including ACC, DLPFC, pre-SMA, and SMG. This expanded data set enables a more detailed analysis of dynamic neurocognitive adaptations towards shifting linguistic environments. Detailed results and temporal trajectories across all regions of interest in Phase 2 will be presented at the conference.

Keywords: Emergentism, CDST, longitudinal, fNIRS

# Attention Networks and Speech Disfluencies Among Monolingual Dutch and Bilingual Dutch-Turkish Speaking Children: A Pilot Study (1-6)

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**Introduction:** This pilot study investigated whether attention skills influence speech disfluencies in school-aged children, comparing monolingual Dutch (MONO) speakers and bilingual Dutch – Turkish speakers (BIL). Disfluencies frequently arise from heightened cognitive load and the planning demands of speech production (Bortfeld et al., 2001; Kemper et al., 2003, Dromey & Bates, 2005). Given that bilingualism may impose additional attentional demands (Green, 1998; MacWhinney, 2018), we also examined whether attention skills predict disfluency patterns across BIL’s languages and how language dominance affects these patterns in bilinguals.

**Methods:** 34 typically developing children (17 MONO and 17 BIL) participated. Speech samples were elicited through narrative retelling and spontaneous conversation in Dutch and, for bilinguals, also in Turkish. Disfluencies were coded using the Illinois Disfluency Classification System (Ambrose & Yairi, 1999) distinguishing between stuttering-like (SLD) or other disfluencies (OD). Attention was assessed via the child version of Attention Network Test (Rueda et al., 2004), measuring alerting, orienting, and executive control. The bilingual profile of the BIL group was assessed using the Parents of Bilingual Children Questionnaire (Tuller, 2015). Linear mixed-effects models evaluated associations between attention networks and disfluency rates across groups and languages.

**Results:** Speech elicitation task type significantly influenced disfluency patterns. Retelling a story elicited more SLD, while spontaneous speech elicited more OD. Within BIL, language dominance did not significantly affect disfluency rates. Attention networks did not significantly predict the production of SLD and OD in Dutch in either language group. However, better alerting and executive control scores were associated with fewer OD in the BIL’s (non)dominant language.

**Conclusion:** The results suggest that attention may not be a primary factor that determines disfluency patterns, pointing to a more complex interaction between cognitive and linguistic factors. Future research should include larger, more diverse samples and additional cognitive measures to clarify these relationships.

Keywords: bilingualism, speech disfluencies, attention networks

## From Advantage to Reserve: Cognitive Performance in Late Bilinguals (1-7)

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Bilingualism has often been proposed as a proxy for cognitive reserve, both in clinical populations and in healthy individuals (Berkes & Bialystok, 2022; Bialystok, 2021). However, criticism has pointed to biases in the investigation and inadequate control of confounding variables, such as the difficulty of finding “true monolinguals”, levels of proficiency, distance between L1 and L2, and even the so-called “migration effect” (Calvo et al., 2016). Moreover, most research has focused on simultaneous or early sequential bilinguals, neglecting a large group of bilinguals: older mid-to late bilinguals who live in L1-dominant contexts, yet use their L2 daily. In such cases, the impact of bilingualism on cognitive functions has not been deeply explored.

The aim of the present study was to examine the relationship among cognitive profile, linguistic profile and cognitive reserve in healthy aging mid-to late bilinguals, while controlling for variables often overlooked in previous studies.

The sample consisted of two groups: an experimental group of 15 bilinguals, and a control group of 15 monolinguals. The groups were matched in sex, age ( $M=66$ ), years of formal education, L1 (Argentinian Spanish), and other cognitive reserve proxies, as measured through the Cognitive Reserve Questionnaire. The bilingual group was further controlled in their L2, and in not having a personal history of migration. The monolingual group was also controlled in terms of residency and lack of experience with a second language. A battery was administered to assess knowledge in the L2 (LHQ 2.0), intelligence (Wat-BA and WAIS IV Matrices for premorbid and fluid intelligence, respectively), general cognitive performance (ACE-III and IFS), executive control (ACE-III, IFS, Digit s Span) and linguistic abilities (WAIS IV Vocabulary, MLSE, Cordoba Naming Test, phonological and semantic fluency).

No difference was found in terms of intelligence ( $p=.13$ ). Significant differences were found in favor of the bilingual group both in general cognitive performance (ACE  $p=.002$ ,  $d=1.17$ ; IFS  $p=.006$ ,  $d=0.98$ ) and in linguistic tasks (WAIS  $p<.001$ ,  $d=2.41$ ; MLSE  $p=.004$ ,  $r=.55$ , CNT  $p=.04$ ,  $d=.66$ , phonological fluency  $p=.035$ ,  $d=0.69$ , semantic fluency  $p=.004$ ,  $d=1.04$ ). Regression analyses further supported these group differences.

Our results show that older mid-to late bilinguals outperformed their monolingual counterparts in both executive and linguistic tasks, even while controlling for variables such as intelligence and other cognitive reserve proxies. These findings support the view that bilingual experience fosters cognitive resilience in aging, even when the L2 was acquired later in life and without migration.

Keywords: cognitive reserve, bilingualism, linguistic profile, cognitive profile

## **How Robust Is the Bilingual Flanker Effect (1-8)**

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The bilingual flanker effect has been suggested as a robust marker of language control during bilingual comprehension (Declerck et al., 2018; Declerck et al., 2019; Eben & Declerck, 2019). Yet, findings have not been entirely consistent across prior studies (Koc et al., submitted). In the present study, we conducted several experiments to evaluate the robustness of the effect across different tasks (lexical decision and semantic categorization), language pairs (English-Dutch, Arabic-English, and German-English), and linguistic contexts (single or mixed language blocks, and language ratios of 75%/25% or 50%/50% in the latter). The results showed no robust bilingual flanker effect across experiments. This suggests that this effect is less robust than previously thought and, together with other markers of comprehension-based language control, may suggest that language control does not play as prominent a role during bilingual comprehension as previously proposed

Keywords: Bilingualism, language control, bilingual comprehension, bilingual flanker effect

# Linguistic and Cognitive Predictors of Language Proficiency in Multilingual Children (1-9)

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Language development is influenced by various cognitive factors, with some being claimed to be enhanced in bilingual children, subsequently possibly enhancing multilingual learning. This study examined the relationship between nonverbal and verbal cognitive tasks and societal-language proficiency in children with bilingual and trilingual exposure.

The study took place in Iceland, where 60 children participated: 32 L1 (Icelandic; M age =12.72 years, SD =1.54) and 28 L2 speakers (M age =12.87 years, SD = 1.93). Exposure was documented through parent report. The groups did not differ in age but differed in LOR (exposure to Icelandic). Children were administered these tasks of verbal processing: the Competing Language Processing Task (CLPT) in Icelandic (listening span), Non-word repetition task (word-like and non-word-like, Rapid Automatized naming (RAN), and non-verbal processing: the Odd One Out task (visual span), digit span (forward and backwards), the Wisconsin Card sorting test (WCST). The dependent variable was Icelandic proficiency, as measured by Milli Mála. An independent t-test revealed a significant group difference in Icelandic proficiency. Two separate multiple linear regressions were conducted in R to examine the extent to which the verbal vs nonverbal measures predicted Icelandic language proficiency, with Group and LOR entered as predictors as well. The verbal measures model accounted for 82% of variance in Icelandic proficiency (Adj.  $R^2 = .82$ ,  $p < .001$ ). Within this model, non-word repetition (non-word-like:  $p = .005$ ), CLPT yes/no questions ( $p = .006$ ) and CLPT words' recall ( $p = .011$ ) significantly predicted Icelandic accuracy. Other measures (Group, LOR, RAN, and non-word repetition word-like) were not significant. The nonverbal model also explained substantial variance ( $R^2 = .69$ , Adj.  $R^2 = .62$ ,  $p < .001$ ). Here, LOR was the strongest predictor ( $p < .001$ ). Forward digit span was also significant ( $p = .021$ ), while backward digit span showed a trend ( $p = .095$ ). All other predictors, including WCST and Odd-one-out tasks, were non-significant.

Together, these findings suggest that group (bilingual versus trilingual) did not affect verbal or nonverbal processing skills. The findings confirm the importance of language-specific exposure in developing proficiency in that language. They show that beyond such exposure, verbal and non-verbal processing skills also contribute to language proficiency; however, similarly in both groups of multilingual children. This approach has the potential to cross-validate results, leading to a more reliable understanding of how multilingual children's cognitive and linguistic skills are interrelated, particularly in the context of acquiring Icelandic.

Keywords: multilingualism, cognition, trilingual exposure, verbal processing, non, verbal processing

# **Language Control and Agentive Regulation in Audiovisual Processing: Subtitled Video Reception of French in a Multilingual Environment (1-10)**

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This ongoing study (2023 to 2029) investigates audiovisual language processing in multilingual speakers through the lens of language control and agentive regulation. Contemporary neuro- and psycholinguistic models describe multilingual language use as a dynamic process involving continuous monitoring, selection, and inhibition of competing linguistic representations (Green & Abutalebi, 2013; Declerck & Philipp, 2015). Within this framework, audiovisual input offers a particularly rich testing ground for examining how multilingual speakers manage cross-linguistic activation across modalities.

The research is situated in Mauritius, a highly multilingual environment characterised by daily interaction between Creole, English, French, and additional languages (Carpooran, 2015). Such settings are especially relevant for exploring the interaction between language control mechanisms and environmental affordances, as multilingual speakers are known to adapt control processes to contextual demands (Green & Wei, 2014). The study focuses on learners of French as a foreign or additional language who, despite sustained exposure, report persistent difficulties in oral and/or written comprehension.

Adopting a mixed-methods design, the study analyses the effects of regular viewing sessions of subtitled audiovisual materials on spoken and written reception in French. Both intralingual and interlingual subtitles are examined, building on prior work showing that subtitles can support lexical access, segmentation, and form–meaning mapping (Vanderplank, 2016; Montero Perez et al., 2018). Participants include children, adolescents, and adults, allowing for a lifespan perspective on multilingual processing. Data collection combines comprehension tasks, structured observation grids, learner reflections, and questionnaires.

Analytically, particular attention is paid to behavioural and self-reported indicators of language control, such as attentional allocation, cross-linguistic interference, and strategic language selection (Abutalebi & Green, 2016), alongside indicators of learner agency, defined as the capacity to actively regulate cognitive and linguistic resources during comprehension (Gao, 2010). Preliminary findings suggest that subtitled audiovisual input facilitates comprehension by supporting cross-modal integration and reducing processing load. Rather than suppressing non-target languages, learners appear to engage in flexible regulation across languages, selectively mobilising linguistic resources in response to task demands.

By articulating audiovisual processing with language control and learner agency, this study contributes to ongoing debates on multilingual cognition and highlights the role of the linguistic environment in shaping language processing. It also offers pedagogical implications for language education approaches that capitalise on multilingual speakers' control mechanisms rather than attempting to neutralise them.

**Keywords:** code switching, code mixing, audiovisual processing, intentional viewing, subtitles, learner agency.

# Language Control Under Cross-Modal Interference: Evidence from Computer-Assisted Interpreting (1-11)

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Simultaneous interpreting provides an extreme thus highly informative case of multilingual processing, in which several linguistic representations are co-activated and must be regulated under temporal constraints. In such contexts, successful performance depends less on language proficiency per se than on the ability to monitor and resolve competition among concurrent linguistic cues. From a cognitive perspective, interpreting therefore offers a valuable empirical setting for investigating multilingual control under conditions of high temporal and informational density. This presentation focuses on situations in which professional interpreters work in computer-assisted interpreting (CAI) environments, where spoken input in one language is accompanied by automatically generated written suggestions in another. These systems rely on speech recognition and machine translation to provide real-time linguistic output, which may diverge from the auditory stream. Rather than treating these discrepancies as a mere technological noise, the study conceptualizes them as experimentally controlled instances of audiovisual and cross-linguistic interference, comparable to effects documented in bilingual lexical access and sentence processing. The central question is how expert multilinguals arbitrate between competing sources of information when both are linguistically plausible.

Using a controlled CAI task with professional French –English interpreters, the study manipulates the degree and type of divergence between auditory and visual streams, focusing on numerals, terminology and proper names. These elements are particularly sensitive to monitoring demands and accuracy control in multilingual comprehension. The experimental framework assumes that language control relies on dynamically updated expectations about incoming content, and that audiovisual mismatches engage executive mechanisms such as inhibition, selective cue reweighting, or strategic reliance on one source of information over another.

To capture how these processes unfold, the analysis combines individual cognitive profiles with measures of attention, physiological activation and linguistic output. Preliminary results indicate a robust visual-dominance effect, with visual cues exerting a sustained influence on perception even when conflicting with auditory input, leading to increased cognitive effort and distinct patterns of multilingual regulation under time pressure.

Keywords: language control, audiovisual interference, predictive processing, attentional control, simultaneous interpreting

# **Language Control with Ageing in Heritage Language Speakers: Cued and Voluntary Language Switching Contexts (1-12)**

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The world multilingual population is ageing (Rowland, 2009) and so far, language switching in older bilinguals has mostly been studied using dual-language picture-naming tasks (e.g., de Bruin et al., 2023; Weissberger et al., 2012) that pose high demands, requiring picture naming guided by an external cue. However, this might not reflect all types of daily-life language usage or code switching. Language control as applied during language switching has been argued to involve reactive mechanisms (exerted at the moment of switching, in response to a stimulus), and proactive mechanisms (exerted in anticipation of upcoming language competition). These mechanisms can involve inhibiting one language and activating the other (Green, 1998). Voluntary switching (dense code-switching), however, has been argued to recruit less language control (Green & Abutalebi, 2013). Indeed, research with younger adults (e.g., de Bruin & Xu, 2023; Gollan et al., 2014; Gollan & Ferreira, 2009) has suggested that both reactive control and proactive control mechanisms might differ depending on the type of switching context bilinguals are communicating in.

With respect to aging, there is little research examining how reactive control and proactive control change. Research on non-verbal task switching has argued that ageing affects proactive control in particular. Research on language switching though has presented more mixed findings. It suggests that older adults' difficulties with (proactive) language control also depend on the type of switching context. Such changes in proactive control with ageing might be most pronounced during cued switching tasks and might be reduced or absent during voluntary code switching (de Bruin et al., 2020). As part of a larger project on ageing and multilingualism, we investigate how age influences these two types of control in different switching contexts. We focus on understudied heritage-language speakers (target N = 80 younger and 80 older speakers of English and Pahari-Pothwari or Panjabi/Punjabi: Indo-Aryan languages: Pakistan, India, Azad-Kashmir and UK), with ongoing data collection. Participants named pictures in response to external cues, instructing them when to use English or Pahari-Pothwari/Panjabi/Punjabi (cued switching and single-language contexts), and in contexts where they could use the two languages freely (voluntary switching). We analyse the switching cost (reactive control), and the mixing cost (proactive control). Our preliminary results (N=30) suggest overall faster performance in the voluntary switching condition, compared to the cued-switching and the single-language conditions. We will present and discuss data further evaluating the impact of context and ageing on reactive and proactive language control.

Keywords: bilingualism, language switching, ageing, language control

# Managing Two Languages under Load: Enhanced Proactive with Preserved Reactive Control in Bilinguals (1-13)

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Current views of language control posit that bilinguals regulate the concurrent activation of their languages through language control, typically categorized into proactive (preventing interference before it happens) and reactive (resolving interference when it occurs) (Declerck, 2020). In laboratory language switching tasks, switching costs, measuring the difference in performance between switch and repeat trials, traditionally serve as markers of reactive control, while the reversed language dominance effect—better performance in a non-dominant language in mixed language contexts—signals proactive control.

Additionally, the Adaptive Control Hypothesis proposes that control is shaped by interactional context (ACH, Green & Abutalebi, 2013). For instance, lab studies have found that voluntary switching is typically associated with a more flexible, less tightly constrained control state than externally cued switching (Gollan & Ferreira, 2009). While the ACH highlights the importance of the linguistic interactional context, communicative contexts typically involve other variables that critically affect communication in ways that affect the cognitive processes at play.

Crucially, everyday bilingual communication rarely occurs in quiet, single-task settings; it often unfolds under multitasking pressure, where competing sensory inputs tax attention. Notably, we propose that these demands bear the potential to shift how proactive and reactive control are deployed. Therefore, testing language control under increased cognitive load conditions is critical to examine the ecological validity of the current models of language control.

The present study addressed this critical gap. Seventy-eight high-proficiency Chinese-English bilinguals completed a picture-naming task under two conditions: (1) no-load and (2) high-load—where they simultaneously identified auditory tones in a concurrent task. Importantly, we also compared cued and voluntary switching, assessing how switching mode interacts with cognitive demands. Overall, if cognitive load impairs control (Lavie et al., 2004;), we expected a smaller reversed dominance effect and increased switching costs. Conversely, if load enhances control (Kim et al., 2017), the reversed dominance effect should increase and switching costs decrease. Linear mixed-effects models showed that cognitive load had no effect on switching costs, in either cued or voluntary switching. However, cognitive load increased the reversed dominance effect, with the effect being larger during cued switching. This pattern indicates that bilinguals upregulate proactive (sustained) control to stabilise language selection when attention is divided, while reactive (moment-to-moment) control remains largely unchanged. Critically, these findings demonstrate that language control flexibly adapts to interactional cognitive demands imposed within interactional contexts, moving current models towards a more ecologically grounded account of bilingual language control.

Keywords: language control, cognitive load, contextual demands

# **One Switch to Rule Them All: Combining Language Switching and Task Switching Paradigms Reveals No Dissociation in Switch Costs between the Two (1-14)**

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Whether language switching relies on the same domain-general executive control mechanisms as non-linguistic task switching remains highly controversial. Most evidence for this claim comes from studies that investigate language and task switching in isolated (i.e., blocked) settings. As a result, direct comparisons between language and task switching are scarce, leaving open the question of whether language switch costs reflect a distinct control process or the operation of domain-general mechanisms. In the present study, we directly addressed this issue by combining language switching and task switching within a fully orthogonal experimental paradigm. Across two online experiments, Italian – English bilinguals performed cued switching tasks in which both the response language (Italian vs. English) and the task set could either repeat or switch from trial to trial. In Experiment 1, participants alternated between magnitude and parity judgments on digits, responding vocally in the cued language. In Experiment 2, we extended this approach to picture naming versus category naming. In both experiments, we observed robust main effects of task switching and language switching, with slower and less accurate performance on switch trials relative to repetition trials. Crucially, however, these main effects were accompanied by significant interactions between task and language transitions. Specifically, both task switch costs and language switch costs were present only when the other dimension repeated. When participants had to switch both task and language simultaneously, neither task-specific nor language-specific switch costs were observed in reaction times or error rates. This fully underadditive interaction pattern was highly consistent across the two experiments, despite differences in both task complexity and response set size. The absence of switch costs on dual-switch trials suggests that language switching and task switching do not rely on separable, additive control processes. Instead, the results are compatible with the idea that both forms of switching draw on a shared, domain-general control mechanism. Taken together, these findings challenge accounts that posit language-specific control mechanisms distinct from general executive control. Instead, they support a unified control framework in which switching suffices to reconfigure both linguistic and non-linguistic task sets.

Keywords: bilingualism, language control, executive control, language switching, task switching

# **“The more, the better”. Antecedent Informativity modulates Anaphora Resolution in Italian Monolingual and Bilingual Children: Evidence from Eye-Tracking (1-15)**

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**Theoretical Background:** During reading comprehension, anaphora resolution requires retrieving an antecedent by integrating morphosyntactic cues with higher-level processes. Psycholinguistic models explain this process as a balance between processing costs and cognitive resources (Sperber & Wilson, 1995), shaped by referential accessibility (Ariel, 1991) and informational load (Almor, 1999). Experimental studies on adult readers suggest that more informative antecedents may facilitate anaphora resolution (Hofmeister 2011), but evidence remains limited to English and sentence-based paradigms, leaving naturalistic text reading and developmental populations underexplored. Bilingual children schooled in their L2 are particularly under-represented, despite their documented difficulties with discourse cohesion.

**Aim:** This study investigates anaphora comprehension during naturalistic reading in Italian monolingual and bilingual children. We examine (1) whether antecedent informativity modulates anaphora resolution and (2) whether its effects differ across groups. We manipulated the informational richness of antecedents (highly informative = long sentences; intermediately informative = NP followed by a modifier; minimally informative = bare NP) in short expository texts while keeping the anaphoric expression constant (the demonstrative pronoun *questo* ‘this’). We predicted lower processing costs for highly informative antecedents, intermediate costs for intermediately informative antecedents, and higher costs for minimally informative antecedents, with bilinguals showing overall higher costs and potentially different sensitivity to antecedent informativity.

**Methods:** 30 monolingual ( $M = 11.4$ ,  $SD = 0.8$ ) and 30 bilingual children ( $M = 11.1$ ,  $SD = 0.5$ ) with typical development completed an eye-tracking reading task. Participants read a text (screen 1) and answered a multiple-choice question while the text remained visible (screen 2). Gaze duration, go-past time, dwell time and regression-in probability were analysed at both the antecedent and the anaphor regions, during text reading (screen 1) and during question answering (screen 2).

**Results and discussion:** Antecedent informativity significantly affected processing at the anaphor region during question answering (screen 2), broadly confirming the predicted processing costs hierarchy (high < intermediate < minimal informativity). Bilinguals showed a distinct behavioural pattern: while in screen 2 highly informative antecedents elicited lower gaze duration, go-past time, regressions-in and dwell time than minimally informative antecedents in both groups, the contrast between intermediate and minimal antecedents was significant in bilinguals only. Dwell time further revealed a group effect: bilinguals showed lower processing costs during text reading (screen 1) but higher costs during question answering (screen 2), suggesting greater resource allocation during information retrieval. These findings indicate that bilingual children rely on antecedent informativeness to a greater extent and that antecedent informativity primarily influences retrieval and integration processes required for deeper comprehension.

**Keywords:** eye-tracking, anaphora, anaphors resolution, bilingual children, Italian, antecedent, informativity, reading, text comprehension

# **Auditory Processing Modulation of L2 Vowel Perception and Production in Preadolescents (1-16)**

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The Auditory Precision Hypothesis-L2 proposes that individual differences in auditory processing play a central role in foreign language (FL) speech learning, particularly when learners must acquire phonological contrasts absent from their native language [1]. Auditory processing is commonly divided into two components: auditory acuity, which refers to sensitivity to acoustic differences, and audio-motor integration, which supports the mapping of auditory representations onto motor commands for acoustic production. Although this framework has been widely investigated in adult learners, relatively less is known about how auditory processing relates to FL speech perception and production during preadolescence, despite evidence that auditory processing peaks during this period [2].

The present study extends this framework by examining whether auditory processing is associated with English vowel perception and production in L1-Spanish children aged 9-10 years (N=66). All participants had received approximately six years of classroom-based English instruction. We focused on the English /i/ -/ɪ/ contrast, which is known to be difficult for Spanish learners because Spanish lacks the lax vowel /ɪ/ [3]. Perception was assessed using a picture-word matching task, and production was assessed using a picture-naming task. Participants also completed a battery of auditory processing tasks measuring auditory acuity (formant and duration discrimination) and audio-motor integration (melody and rhythm reproduction).

For perception, results showed a positive effect of melody reproduction ability. An interaction was also observed between formant discrimination ability and vowel. Specifically, better formant discrimination was associated with higher perception accuracy for the English vowel /ɪ/, whereas perception of /i/ was not reliably related to spectral sensitivity. For production, duration discrimination ability significantly predicted first formant (F1) production for both vowels. Better duration discrimination was associated with smaller produced F1, indicating a higher, more closed tongue position required for accurate production of /i/ and /ɪ/.

In summary, while perception was associated with both spectral acuity and audio-motor integration, production was only associated with temporal acuity. Perception results suggest that the Spanish vowel inventory may facilitate perception of English /i/ through phonological familiarity, whereas successful perception of the acoustically more distant /ɪ/ relied more strongly on auditory precision. In production, although participants did not reliably differentiate the two vowels, auditory acuity nonetheless supported smaller F1 values for both vowels, placing them within an appropriate high-vowel region of the acoustic space. Together, these findings extend the Auditory Precision Hypothesis-L2 to a preadolescent population and highlight the role of auditory abilities in early FL perception and production.

Keywords: auditory processing, speech perception, speech production, L2 acquisition

# **Classifier Congruency Effects in Spanish-Chinese Bilingual Noun Phrase Production: Behavioral and Electrophysiological Evidence (1-17)**

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Mandarin Chinese employs a classifier system where specific morphemes, known as ‘classifiers’, are obligatorily positioned between a demonstrative, a numeral, or a quantifier and the noun in NPs (e.g., 一张桌子, /yí1zhang1zhuo1zi3/ [one classifier zhang1 table], ‘one table’; Li & Thompson, 1981). While previous studies have explored classifier congruency effects in monolingual Mandarin Chinese speakers, it remains unclear whether this effect extends to early Spanish-Chinese bilinguals. To address this gap, this study investigated the classifier congruency effect in noun phrase production by 29 early Spanish-Chinese bilinguals and 30 Mandarin Chinese speakers (control group) using behavioral and electrophysiological (EEG) measures. Participants completed a picture-word interference (PWI) task in which two factors were manipulated: classifier congruency (congruent vs. incongruent) and semantic relatedness (related vs. unrelated) between the target pictures and distractor words. This resulted in four conditions: congruent/related, congruent/unrelated, incongruent/related, incongruent/unrelated. Participants named the target pictures quickly and accurately with Mandarin Chinese noun phrases (e.g., 一只猫 [one + classifier-zhi1 + cat], ‘one cat’) while ignoring distractor words. Vocal responses (RTs) and EEG data (using a standard 32-electrode 10/20 montage) were recorded and analyzed using a generalized linear mixed model (GLMM) and a single-trial linear mixed model (LMM), respectively. Behavioral results showed significantly longer naming latencies in classifier-incongruent and semantically related conditions in both groups compared to classifier-congruent and semantically unrelated conditions. Electrophysiological data revealed sensitivity to classifier incongruency (N400 effect) in both groups and semantic interference, with an N400 effect in bilinguals and a P600 effect in monolingual Chinese speakers. These findings suggest that classifiers are competitively selected during noun phrase production, and the classifier congruency effect is robust in early Spanish-Chinese bilinguals, mirroring monolingual Chinese speakers’ processing patterns.

**Keywords:** Language production, classifier congruency effect, bilingualism, Chinese noun phrase, Spanish, Chinese bilingual, PWI, N400, P600

# **Creative Communicative Strategies Used by Older Children in Early Stages of L2 Learning (1-18)**

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The question of whether there are critical periods or an optimal age to acquire a second language has been addressed by examining grammatical correctness with studies claiming that particular grammatical inflections are very hard to learn past a certain age (Meisel, 2009; Tsimpli, 2014). This longitudinal study examines the French as L2 learning of children who start the L2 learning process at different ages (Age of arrival, AoA) and focuses on lexical, syntactic and morphosyntactic learning. Particular attention is paid to spontaneous language patterns that indicate the use of communicative strategies requiring higher cognitive abilities and cross-linguistic transfer.

Participants were 46 children (34 Mandarin L1, 12 Spanish L1), with AoA ranging from 2 to 12 years on arrival in Montreal, Canada. All attended French language schools or daycares. Language exposure was detailed through parent report. All the children had comparable cumulative and current exposure to French; however they differed in AoA. In 4 yearly sessions, their French vocabulary was tested formally and language samples were collected and analyzed for length of utterance, morphological correctness and semantic and syntactic patterns, including creative language use (circumlocutions and awkward but near-correct structures). The analysis of these creative patterns was not originally a goal of the study but was undertaken because such patterns were noticed in the samples. All coding was verified for inter-coder reliability.

Receptive vocabulary increased gradually over time from a standard score around 60 at Time1 (more than 2 SD below the mean) to 90 at Time 4 (within the normal range) compared to monolingual French children. Raw scores were predicted by AoA ( $R^2 = .178^*$  to  $.304^*$  across test times) but standard scores were not ( $p = .065$  to  $.538$ ) – both findings show older children to have larger French vocabularies as higher standard scores require higher raw scores at older ages. Mean length of utterance (MLU) was also strongly predicted by AoA ( $R^2 = .52^{**}$  at Time1) favoring older children, with overall high morphological diversity and accuracy. Semantic error patterns and creative wordings were used particularly by the oldest children early on, and only at later test times by younger children. For each age group, the use of these patterns reached a high subsequently diminishing as French knowledge increased. These patterns show that older children learn the L2 faster and are more capable of compensatory strategies at early L2 stages. In contrast, morphological accuracy patterns had no systematic relationship with AoA.

Keywords: AoA, second language, vocabulary, morphology, syntax, critical period

# **From Omission to Semantic Reconfiguration: Referential Management and Determiner Acquisition in French-Korean Bilingual Narratives (1-19)**

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The acquisition of determiners represents a pivotal milestone in language development, as it lies at the complex interface between morphosyntactic constraints and the management of discursive reference. In languages with obligatory determiners, such as French, these functional markers emerge early as abstract functional categories (Kail & Fayol, 1997). Conversely, in "zero-determiner" languages (Chierchia, 1998) like Korean, noun interpretation relies primarily on pragmatic and contextual cues, leading speakers -and children during acquisition-to favor referential strategies that are highly dependent on the speech situation (Slobin, 1996). To date, few studies (Akinci, 2010) have systematically examined determiner acquisition in a bilingual context involving these two opposing typological systems.

Drawing on the work of Hickmann (2004), the present study analyzes the productions of 30 French-Korean bilingual children aged 5 to 10 years. The protocol is based on a standardized narrative task (Frog, Where Are You?). The narratives are subjected to a dependency-based syntactic analysis within the SUD (Surface Syntactic Dependencies) framework (Gerdes et al., 2018), combined with a quantificational annotation (Blin & Choi, 2025). The dataset is further enriched by an original annotation of ungrammatical forms. Qualitative analysis allows for a distinction between morphosyntactic weaknesses and cognitive biases related to shifts in narrative perspective. The study explores four analytical dimensions: 1) mastery of obligatory nominal marking; 2) semantic management of the definite/indefinite opposition; 3) accuracy of morphological agreement (gender and number); and 4) the influence of extralinguistic factors (age, length of exposure to French).

The results indicate that: 1) obligatory nominal marking is largely stabilized by the age of 5-6 years (> 85%), although morphological gender precision remains variable and continues to improve with prolonged exposure to French; 2) the semantic selection of definite/indefinite articles appears to be governed by functional transfers (calques) from the L1, as reflected in a still unstable use of the indefinite article in its discursive and referential functions. A more detailed qualitative analysis of the productions would, however, be necessary to precisely describe the nature of these potential transfers, including possible links to first-language numerals or demonstratives. In conclusion, the findings suggest that Korean influence manifests less as surface-level interference through omission than as a process of semantic reconfiguration, associated with the still-fragile management of certain morphosyntactic features within the studied bilingual population.

**Keywords:** Korean bilingualism, Determiner acquisition, Syntax, semantics interface, SUD (Surface Syntactic Dependencies), Conceptual transfer

# **Relative Interference of the Most (L1) and Least Dominant (L3) Languages During L2 Perception and Production: Evidence from L2-L1 and L2-L3 Cognate Processing (1-20)**

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Research on bilingualism generally supports the notion of non-selectivity, with both languages of a bilingual being active, and potentially interacting with one another, even in single-language contexts [1,2]. This is exemplified by the cognate facilitation effect, showing faster and more accurate perception [3] and production [4] of cognates (i.e., words with overlapping form and meaning across languages) compared to non-cognates. A few studies have extended this effect to trilingual populations and showed that all three languages can be active simultaneously: triple cognates are processed faster than double cognates, which are processed faster than non-cognates, in perception and production [5,6].

Not only the number of co-activated languages is interesting, but also their relative levels of interference. Comparing L2-L1 and L2-L3 cognate processing in an L2 task can provide insights into the relative activation of the non-target languages (L1 and L3) during target language (L2) processing. Our main hypothesis was that, if L1 is more activated – being more dominant – than L3 during L2 processing, then L2-L1 cognate facilitation effects should be more pronounced than L2-L3 effects, both in perception and production.

We tested 40 L1-Basque L2-Spanish L3-English trilinguals' perception (visual lexical decision task) and production (picture naming task) of L2-Spanish words, in two counterbalanced blocks, each containing distinct words from 3 conditions: non-cognates, L2-L1 cognates and L2-L3 cognates (lists matched on several critical variables: 55 item/condition).

As expected, cognates were produced faster than non-cognates, with a larger (significant) effect for L2-L1 than L2-L3 cognates. This result suggests that other co-activated languages interfere in the process of L2 production, to a larger extent for more dominant (i.e., co-activated) languages.

In perception, both types of cognates were recognized similarly, and more slowly than non-cognates. This unexpected interference cognate effect in perception might be explained by an additional language decision made on a trial-basis level. Although participants were instructed to respond to Spanish words, they knew they were recruited for being trilinguals, and might have considered words in other languages while making lexical decisions. This could have influenced task demands [7] and slowed down cognate processing compared to non-cognates (see [8] for a similar cognate interference effect in a mixed language task).

Regarding language co-activation levels, this study reveals differences in co-activation across the languages, depending on the task: L1 and L3 interfere in a similar manner during L2 visual word recognition, and L1 cognates facilitate L2 responses more than L3 cognates during production.

Keywords: trilingualism, cognate effect, lexical decision task, picture naming, language control

# **Auditory Processing Abilities and the Effects of Phonetic Training in L2 English Stops (1-21)**

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Adult second language (L2) learners vary substantially in pronunciation outcomes, even when age of acquisition and amount of exposure are comparable [1]. Experience-related factors alone are therefore insufficient to account for individual differences in L2 pronunciation. Recent work identified that one crucial factor explaining why some adult learners achieve more accurate L2 perception than others is auditory processing (AP) abilities, defined as the capacity to represent, encode, and integrate spectral and temporal properties of acoustic signals [e.g., 2]. According to the Auditory Precision Hypothesis-L2 [2], learners with higher AP abilities are better able to exploit auditory input, leading to more efficient phonological learning. While previous research has primarily examined the relationship between AP and L2 perception, little is known about how AP contributes to phonetic characteristics of L2 production, or how it modulates the effects of targeted pronunciation training.

The present study addresses these gaps by investigating whether individual differences in AP predict the perception and production of English aspirated voiceless plosives ([ph th kh]) by Spanish native speakers. Spanish has the same set of voiceless plosives, but they are unaspirated with short voice onset time (VOT). Due to this crosslinguistic difference, the production and perception of English voiceless plosives is particularly challenging for Spanish learners of English [3].

100 native Spanish-speaking adults with several years of formal English instruction will complete perception and production tasks before and after a targeted pronunciation training program (data collection ongoing). AP will be assessed using a standardized test battery [2]. Perception will be measured using a mispronunciation detection task contrasting correct pronunciations (e.g., parrot [p<sup>h</sup>ærət]) with unaspirated mispronunciations ([ pærət]). Production will be elicited through a word reading task, with acoustic analyses focusing on VOT. Training will employ high-variability phonetic training [4], incorporating multiple talkers, trial-by-trial feedback, and systematic exposure to the target sounds.

We predict that higher AP abilities are associated with more accurate perception and production overall, and with greater gains following training. An alternative hypothesis is that learners with lower AP may show larger improvements due to greater initial difficulty. By examining both outcomes, this study aims to clarify the role of AP in phonetic aspects of adult L2 speech production and perception and its interaction with pronunciation training.

Keywords: auditory processing, phonetic training, speech production, speech perception

# Mixed Effects of Multilingualism on L1 Grammatical Aspect Production in Cognitively Healthy Non-Immigrant Adults (1-22)

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This study investigates whether multilingualism influences verb-related morphosyntactic production in the first and dominant language (L1MorphosynProd) of cognitively healthy non-immigrant adults. Multilinguals experience concurrent activation of verb representations of translation equivalents encoding specific morphosyntactic features across their languages, and between-language competition. The extent of foreign language (FL) exposure, cumulative FL proficiency, and the total number of FLs known may contribute to the level of lexical competition, thereby impacting L1MorphosynProd. One hundred ninety-three neurotypical Greek-speaking adults (ages 19–80) completed a language background questionnaire, cognitive tasks, and a sentence completion task tapping grammatical aspect and time reference production in Greek. Prior research (Soilemezidi et al., 2024) identified aspect as the most challenging morphosyntactic category for these participants. A regression model incorporating demographic, cognitive, and multilingualism-related factors (number of FLs known, cumulative FL exposure, and L2 proficiency) was fitted to the aspect production (AspProd) data. Results showed that cumulative FL exposure and age negatively affected accuracy in AspProd in local configurations ( $p=.033$  and  $p=.036$ , respectively), while verbal working memory (WM) positively influenced AspProd ( $p<.001$ ). The negative effect of cumulative FL exposure on AspProd suggests that multilingualism increases between-language lexical/verb competition, which taxes participants' processing system and compromises AspProd.

Consistent with previous findings suggesting that multilingualism enhances WM capacity (e.g., Fyndanis et al., 2023), cumulative FL exposure was positively correlated with WM ( $r=.23$ ). Given this, and since WM positively influenced AspProd, we performed path analysis to find out whether, in addition to a direct negative effect of multilingualism on AspProd, there was also an indirect positive effect of multilingualism on AspProd, which was mediated by WM. Path analysis confirmed this indirect effect. The present study provides evidence that cumulative FL exposure affects AspProd both negatively (directly) and positively (through WM mediation). These findings reveal complex effects of multilingualism on L1MorphosynProd/AspProd, with WM playing a mediating role.

Keywords: multilingualism, morphosyntactic production, grammatical aspect, working memory, L1

# Narrating in Three Languages: Story Structure, Complexity, and the Roles of Exposure and Metalinguistic Awareness (1-23)

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**Purpose:** Narratives are central to both clinical assessment and educational practice. Previous research suggests that narrative macrostructure is relatively stable across languages in bilingual children. However, children learning multiple languages experience reduced input in each language alongside potentially enhanced metalinguistic awareness (MA) that may support language learning. The present study examined whether narrative macrostructure remains stable in trilingual children and investigated the role of exposure and MA in shaping narrative performance.

**Methods:** Participants were 42 children (ages 9-12) in Montreal with average cumulative exposure of 38.8% (SD= 11.3) to Arabic, 43.3% (SD= 14.1) to French, and 17.3% (SD= 9.2) to English. All children attended French-medium schools, used Arabic as a home language, and had English as a school subject with additional incidental exposure. Narrative abilities were assessed in all three languages using the Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2019). Children completed a metalinguistic awareness task in French, and language exposure was measured via questionnaires. Analyses examined total story structure, cross-linguistic correlations, Goal-Attempt-Outcome (GAO) sequences, and the use of inferred elements (Goals and internal state terms) and factual elements (attempts and outcomes). Language exposure and MA were tested as predictors of narrative performance, controlling for age, maternal education, and non-verbal intelligence.

**Results:** Narrative Macrostructure differed across languages, with highest scores in French, followed by Arabic, then English. Story complexity mirrored this pattern, with French and Arabic containing more GAO sequences while English narratives contained fewer GAO sequence and fewer inferred and factual elements. Children also included more internal state terms in French than in the other languages. Cross-linguistic correlations revealed significant correlations between Arabic and French as well as Arabic and English. Metalinguistic awareness in French predicted Arabic macrostructure. Cumulative English exposure predicted English macrostructure, with a plateau effect at a threshold of 12 % exposure.

**Conclusion:** Narrative macrostructure is not fully stable across languages in this population of trilingual children. Instead, narrative performance varies according to the language experience. Children adapt their stories according to the language of production, producing richer and more structurally complex narratives in their stronger languages. Cumulative exposure plays a stronger role in narrative performance at lower levels of exposure while metalinguistic awareness supports narrative macrostructure in higher-exposure contexts.

**Keywords:** multilingualism, macrostructure, exposure, story elements, metalinguistic awareness

# **Phraseological Unit Attrition in Bilingual Adolescents in English-Medium Education (1-24)**

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This paper reports on an ongoing doctoral research project examining language attrition as a dynamic reorganization of linguistic competence under conditions of sustained multilingual exposure rather than as pathological language loss (Schmid, 2011). While attrition research has traditionally focused on migrant populations, increasing attention has been drawn to non-migrant contexts in which changes in language use and exposure reshape first-language proficiency (Köpke, 2004; Gallo et al., 2021). One such context is English-medium international schooling in non-English-speaking societies. Despite growing evidence that these environments foster first-language attrition through reduced use and functional restriction, little is known about their impact on phraseological units that rely on frequent contextualized use and sociocultural embedding.

This study investigates the attrition of phraseological units in bilingual high school students attending English-medium international schools in Azerbaijan. The participants are bilingual speakers of Azerbaijani and Russian who have received prolonged schooling in English since early childhood. Building on established findings that language attrition is shaped by frequency of use, functional domains, and environmental support (Schmid, 2011; Köpke, 2004), the study examines whether the intensity and duration of exposure to English in academic settings are associated with reduced proficiency in phraseological units in the students' mother tongues, and whether such attrition manifests symmetrically across the two languages.

The research adopts a sequential explanatory mixed-methods design. In the quantitative phase, approximately 450 students aged 15 –16 will complete a language test assessing comprehension and production of phraseological units in Azerbaijani, Russian, and English. Test data will be analyzed using paired-sample t-tests and repeated-measures ANOVA to identify cross-linguistic differences and patterns of attrition. The qualitative phase consists of semi-structured interviews with a stratified subsample of participants, alongside document analysis of school materials and student writing. These data will be subjected to thematic analysis to contextualize quantitative findings and capture learners' experiences of language use, restriction, and maintenance across domains.

Based on previous research in language attrition, the study is expected to reveal selective vulnerability of phraseological units in the mother tongues, despite their continued use in family contexts (Schmid, 2011). Attrition effects are anticipated to be strongest for low-frequency and culturally embedded expressions, reflecting reduced activation and limited institutional reinforcement within English-dominant school environments. Furthermore, the degree of phraseological attrition is expected to correlate with both the duration and intensity of English-medium instruction, with potential asymmetries between Azerbaijani and Russian linked to differences in functional use and environmental support.

**Keywords:** language attrition, bilingualism, multilingualism, bilingual language processing, language maintenance, idioms, phraseological units

## Reduced N400 Prediction Effects in L1 and L2 when Production Is Blocked (1-25)

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Recent research suggests that language prediction during comprehension relies on the production system, since blocking the production system during reading reduces prediction effects [1]. However, bilingual speakers typically lack experience producing in their second language (L2), which may affect their ability to recruit the production system to form L2 predictions [2]. If so, blocking the production system should have little or no impact on L2 prediction. The present study provides the first direct test of whether L2 prediction relies on production, as L1 prediction does.

We tested 32 native speakers of Spanish who learned French later in life. Each participant completed a replication of [1] in Spanish (L1) and French (L2) while EEG was recorded. They read sentences word by word, each containing a highly constraining context that ended with an expected or unexpected noun phrase. To manipulate the availability of the production system while reading, participants either repeatedly produced a syllable (blocking production) or tapped their tongue (control). ERP mean amplitudes were analyzed in the N400 time window (250-450 ms), time-locked to articles and nouns, to assess prediction effects.

In both languages, blocking the production system reduced N400 prediction effects at the noun level. In Spanish (L1), there was a significant N400 effect ( $p < .001$ ), and a significant interaction with condition ( $p = .001$ ) (Figure 1; time windows of interest highlighted in yellow). Namely, the N400 effect was smaller during syllable production than during tongue tapping. We also observed a significant late anterior positivity (LAP; 600-700 ms time window): unexpected nouns elicited more positive amplitudes than expected nouns ( $p < .001$ ), and this effect also interacted with condition ( $p = .005$ ), being smaller during syllable production than during tongue tapping. Importantly, French (L2) showed the same N400 pattern, but no LAP (Figure 2). No significant N400 effects emerged on the article in either language ( $ps > .05$ ) (Figure s 3 and 4). Blocking the production system similarly reduced N400 prediction effects in L1 and L2, providing the first direct evidence that prediction in both languages relies on production mechanisms to the same extent. The manipulation reduced LAP effects in L1 only, in line with previous research [3]. Although no article-level effects were found, blocking production modulated ERP responses similarly in L1 and L2, arguing against the view that L2 prediction is limited by production efficiency and instead pointing to shared predictive mechanisms across languages.

Keywords: language prediction, L2 processing, bilingualism

# The Acquisition of Liquid Codas in Simultaneous French–Portuguese Bilingual Children (1-26)

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The literature on bilingual language development documents cases of cross-linguistic interaction (CLI) between the two languages being acquired (Paradis & Genesee, 1996). For the acquisition of codas, previous studies have reported divergent results: acceleration, delay or no CLI (Kehoe, 2015). The aim of this study is to add new evidence for the bilingual acquisition of codas and discuss the occurrence of CLI in simultaneous French-Portuguese bilingual children.

Portuguese displays strong segmental restrictions on codas, allowing only fricatives and liquids (Mateus & d'Andrade, 2000), while French displays all consonants in coda position. Differences between the two languages also arise at the phonetic level: in Portuguese, the rhotic is alveolar whereas it is dorsal in French. Moreover, the lateral coda presents secondary articulation (velarization) in Portuguese, whereas in French lateral codas lack secondary articulation.

The literature on monolingual acquisition reports different rates of acquisition for codas. In Portuguese, liquid codas are acquired after age six, while in French codas emerge by age three (Ramalho, 2017; Rose, 2000). This difference allows us to investigate a possible acceleration or delay in one of these languages when they are being acquired simultaneously.

Our empirical data consist of a corpus of 30 simultaneous French –Portuguese bilingual children aged 3;6 to 6 years, attending a French school in Lisbon. Elicited productions were collected through two picture-naming tasks, one in Portuguese (Ramalho et al., 2014) and one in French (Almeida et al., 2015). The Portuguese task includes 20 rhotic codas and 14 lateral codas. The French task includes 14 rhotic codas and 8 lateral codas. The experiment was conducted at the school by native speakers of either Portuguese or French. The data were phonetically transcribed by two native speakers of each language using the software Phon (Hedlund et al., 2020). 25% of the corpus was reviewed by a third transcriber.

Results suggest the occurrence of CLI: at three-year-olds, bilingual children show higher rates of production of codas in Portuguese in comparison with monolingual Portuguese children (Ramalho, 2017), exhibiting the same behavior as monolingual French children. Evidence of French interference is also observed in Portuguese lateral codas, which are frequently produced without velarization by three-year-old children. These findings support the presence of CLI in bilingual acquisition, resulting in both acceleration and transfer. Possible explanations for the direction of CLI (French > Portuguese) will be further explored.

Keywords: Simultaneous bilingualism, Acquisition, Liquid codas, Cross-linguistic interaction

## Universal or Speaker-Dependent? Acoustic Adjustments in Foreign-Directed Speech (1-27)

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Foreign-Directed Speech (FDS) is a speech register used by native speakers when addressing non-native listeners, typically featuring slower speech rate and vowel hyperarticulation (reflected in vowel space expansion) (Uther et al., 2007). FDS is assumed to enhance clarity and support non-native listeners' speech perception (Piazza et al., 2025).

Beyond these global adaptations, it remains unclear whether FDS involves specific acoustic adjustments tailored to listeners' perceptual difficulties. For Spanish natives-English learners, both /i: -ɪ/ and /æ -ʌ/ contrasts are challenging, but /i: -ɪ/ is relatively easier due to durational cues, whereas /æ -ʌ/ require greater spectral (i.e., formant) separation for disambiguation (Baigorri et al., 2019). Furthermore, previous FDS studies rarely consider speaker expertise (e.g., being a language teacher) as a factor. Given teachers' frequent exposure to language learners' perceptual needs, we questioned whether teachers adjust speech more specifically or extensively than non-teachers. Thus, this study aims to (1) identify specific acoustic adjustments in FDS and (2) compare FDS production by language teachers and non-teachers.

Two groups of Southern British English native speakers participated: 13 UK-based non-teachers with no regular contact with Spanish speakers, and 15 Spain-based teachers with daily English teaching to Spanish – English learners. Participants completed two reading blocks to elicit Native-Directed Speech (NDS) and FDS separately. Before each block, they listened to a short clip of the intended listener, either a native English speaker or a Spanish-English learner, and had to imagine addressing them. On each trial, they read aloud “This is a...” followed by a screen-displayed word. Stimuli included 48 English words containing six target vowels, forming two minimal pair contrasts (/i: -ɪ/, /æ -ʌ/) to assess spectral and durational adjustments, and a vowel triangle (/i:/, /u/, /ɑ/) to measure vowel space expansion. Each word was repeated three times per condition.

Analyses covered durational distance, spectral (formant-based) distance, and vowel space area. Durational distance was larger in FDS than in NDS, for both vowel contrasts and with no group difference. Spectral distance was larger in FDS, only for the /æ -ʌ/ contrast and in both groups. Vowel space area was larger in FDS, and a significant interaction with Group showed greater vowel space expansion in teachers. These findings confirm that FDS includes both global and subtle acoustic adjustments, which seem to be specific to listeners' needs. Importantly, the results revealed that both teachers and non-teachers are able to produce FDS, but teachers' greater vowel space expansion suggests that teaching experience enhances global articulatory clarity in FDS.

Keywords: foreign directed speech, speech register, acoustic adaptation

# Whether Inserted Inter-Word Spaces Facilitate CFL Learners' Chinese Reading: Evidence from Eye Movements (1-28)

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Inter-word spaces play an indispensable role in segmenting written texts for alphabetic writing systems. However, Chinese, a typical language with logographic writing system, do not need spaces to indicate word boundaries. For Chinese as a foreign language (CFL) learners from different language backgrounds, would insert inter-word spaces facilitate their Chinese reading? This study aims to answer this question by examining how word segmentation in Chinese sentence reading works among learners from different cultural and orthographic backgrounds. Using eye-tracking techniques, we recorded, analysed and compared between the following three groups of participants' sentence-level reading behaviors: learners from non-Chinese-character cultural circle countries (NC-Chinese learners), learners from Chinese-character cultural circle countries like Japan, Korean, and Vietnam (CC-Chinese learners), and Chinese native speakers (CN-Chinese natives). All of them were required to read sentences under the three conditions: normal unspaced, word-spaced, and nonword-spaced presenting conditions. Results have revealed group-specific eye-movement patterns. The NC-Chinese learners showed the greatest reading facilitation in the word-spaced condition, benefiting most from the explicit segmentation cues that helped them reduce cognitive load and improve word recognition. In contrast, the CC-Chinese learners read most efficiently in the normal unspaced condition, exhibiting reading behaviors (total sentence reading time, mean fixation duration, and mean saccade length) similar to Chinese native speakers. These differences were further validated through Random Forest classifier, which accurately predicted the participant groups based on eye-movement features. The present study further implies the role of orthographic experience and cultural familiarity in shaping Chinese reading processes. These insights offer practical pedagogical implications for CFL reading instruction.

Keywords: word segmentation, spacing effect, Chinese as a foreign language (CFL), L2 reading, eye tracking

## **Analogical Reasoning through Pedagogical Translanguaging in L2 Learning: Insights from Artificial Grammar Learning (1-29)**

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This pre-registered study (OSF: 10.17605/OSF.IO/WVCYT) examines how adult second-language (L2) learning is shaped by analogical reasoning. Drawing on Structure-Mapping Theory (Gentner, 1983), positive and negative transfer are interpreted as outcomes of analogical mappings between learners' existing linguistic knowledge and the relational structure of a novel language. From this perspective, successful L2 learning requires not only extracting patterns from the input but also selecting among competing candidates.

Using an artificial grammar learning paradigm, 147 French-speaking adults learned derivational morphology in a novel language. Derivational morphology was selected as a testbed for rule extraction and generalization (Bybee, 2010; Leonet et al., 2020). Two dimensions central to multilingual processing were manipulated: (a) pedagogy (pedagogical translanguaging (explicit L1 –L2 mappings) versus monolingual L2 instruction (Williams, 1994; Leonet et al., 2019; Cenoz, Leonet, & Gorter, 2022; Abel-Hardenberg, Poarch, & Michel, 2025)), and (b) suffix type (cognate versus non-cognate pseudo-suffixes (Dijkstra, Grainger, & Van Heuven, 1999)). Non-verbal analogical reasoning was assessed using Raven's Progressive Matrices to test whether domain-general pattern detection supports L2 learning and the mobilization of L1 knowledge.

Participants learned 32 pseudo-nouns formed from eight pseudo-suffixes and were tested in two sessions (immediately, and after one week). Testing involved four tasks: two assessing L2 lexical production and comprehension (item-based knowledge of trained items) and two assessing morphological production and comprehension (generalization to untrained items). A  $2 \times 2 \times 2$  fully crossed within-subjects design was used with Pedagogy, Suffix type, and Session as variables.

Results reveal a clear dissociation between lexical and morphological learning. Morphological knowledge showed no effect of Pedagogy or Suffix similarity, but strong temporal stability: it was maintained or even improved after one week, indicating durable rule-based representations. Lexical knowledge was sensitive to both Pedagogy and Suffix similarity: cognate items yielded higher accuracy than novel items, and monolingual instruction led to more durable lexical representations. In contrast to morphological knowledge, lexical performance declined over time.

This study suggests learners may use domain-general analogy to map relational patterns from known languages onto a new one, shaping transfer. This interpretation is also compatible with evidence that vocabulary knowledge can act as a pathway supporting analogical reasoning (Chen et al., 2025). At the same time, it cannot be excluded that Raven's predictive power reflects broader fluid intelligence rather than analogy-specific processes, given that Raven's Progressive Matrices are widely used as an index of fluid reasoning (Carpenter et al., 1990; Gignac, 2015).

**Keywords:** Analogical Reasoning, Artificial Grammar Learning, Morphology, Pedagogical Translanguaging, Second Language Teaching

## **Accent Credibility in a Multilingual Context: An Approximate Replication of Research Investigating Accentism (1-30)**

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Previous research on accent credibility has shown that trivia statements pronounced with a foreign language (FL) accent are perceived as less truthful compared to those spoken with L1 accents, such as American (Hanzlíková & Skarnitzl, 2017) or British (Boduch-Grabka & Lev-Ari, 2021). Some studies have suggested, however, that this accent credibility effect might be modulated by participants' backgrounds and exposure to accents (e.g., Stocker, 2017). Based on Social Identity Theory (Tajfel & Turner, 1979), it may be expected that the effect is modulated by whether the listeners belong to the same or a different group as the accented speaker. Therefore, the present study aims to extend existing findings to see whether the accent credibility effect holds true for people listening to their own foreign accent compared to an unfamiliar foreign accent, possibly revealing an ingroup bias effect in FL speakers. Specifically, we focus on both L1 (British and American) and FL (Dutch and Slovak) English accents as well as the role of listeners' linguistic backgrounds, with particular attention to Dutch and Slovak speakers of English.

In the experiment, participants rate the perceived truthfulness of short English trivia statements recited by speakers with the abovementioned English accents. After rating the veracity of the statements, the listeners judge the speakers' perceived competence and character traits. Finally, participants complete a transcription/comprehension task and an attitude questionnaire. The data will be analyzed using a mixed-effects model for predicting intelligibility and veracity.

Data collection has started and, in line with previous findings, the preliminary results suggest that L1 English is rated as most credible both by L1 and by FL listeners. Interestingly, contrasting the predictions based on Social Identity Theory, Slovak listeners seem to judge speakers with a Slovak-English accent as less credible than those with a Dutch-English accent. Before the start of the conference, sufficient data will have been collected to assess whether listeners favour speakers whose accent is closer to their own (in-group bias) or whether they are more critical of their own accent. By investigating how accented English influences perceived credibility and trustworthiness, this study contributes to research in sociolinguistics, L2 speech processing, language attitudes and crosslinguistic influence.

Keywords: accents, accent bias, credibility, multilingualism

# Abstracts: Poster Presentations

Poster session 2  
Friday, May 29th, 2026

## **How Does Language-Mixing Affect Learning in Highly Proficient Bilinguals? (2-1)**

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Despite strong theoretical support for the integration of both the first language (L1) and the second language (L2) in the classroom, practical implementation remains limited. This discrepancy highlights the need to examine whether language-mixing, which directly engages multilingual language control mechanisms, is beneficial for learning and, if so, under which conditions. Previous research suggests that mixed-language input generally outperforms L2-only input (Authors, 2025; manuscript under review; Roussel et al., 2017) for recall of information. However, these studies also report mixing costs when compared with L1-only learning. It also remains unclear at which level of L2 proficiency these costs and benefits might subside. Moreover, learning processes beyond recall remain underexplored.

To address these gaps, we will conduct two experiments with Dutch –English bilingual secondary school students with high L2 proficiency (B2 or higher). The first experiment adopts an Old/New recall paradigm: participants will read definitions of everyday objects presented in their L1, their L2, or a mixed-language condition, and subsequently recall the corresponding objects. At the B2 level, we anticipate no differences between the L1 and mixed-language conditions. Learners with even higher proficiency may further show no differences between the mixed-language and L2 conditions.

The second experiment examines memory integration by requiring participants to read pairs of stem facts presented in their L1, L2, or a mixed-language format, and to judge whether integrative statements combining information from both facts are true or false. This task targets deeper integrative learning through the combination of information (across languages). All materials are based on authentic school textbooks to enhance ecological validity. Previous studies with primary school children (Esposito & Bauer, 2019) and university students (Cheng et al., 2024) have yielded conflicting results regarding language-mixing in integrative learning, motivating further investigation. Our pilot data suggest that at the C1-level of L2 proficiency, participants perform equally well on this task, regardless of whether the input is provided in their L1, L2 or both languages within the same trial.

Overall, these experiments will clarify how language mixing affects both recall and integrative learning in bilingual learners. By examining if and when mixed-language learning converges with L1 or L2 performance, this work contributes to ongoing debates about language-mixing and multilingual learning. All data will be collected and analysed by the time of the conference.

Keywords: language mixing, recall, memory integration, multilingual education, cognition

# **Bilingual Language Control in Cantonese–English Speaking Autistic and Neurotypical Children: Group differences and Underlying Predictors (2-2)**

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While both monolingual and bilingual children acquire language, bilingual children need to further develop the ability to monitor and select the appropriate language according to communicative context – a capacity known as language control. Recent studies have preliminarily revealed that domain-general cognitive control and bilingual proficiency contribute to bilingual language control in neurotypical children (e.g., Gross & Kaushanskaya, 2020). As autistic children frequently experience challenges with cognitive control (Demetriou et al., 2018) and exhibit heterogeneous language acquisition profiles (Eigsti et al., 2011), it remains underexplored whether bilingual language control has distinctive patterns in autistic children versus neurotypical (TD) peers, and how individual cognitive and linguistic abilities might differentially modulate language control in these two groups.

The present study took an initial step toward addressing this gap by investigating bilingual language control during word production and identifying individual predictors of language control in autistic and TD children. A group of autistic (N = 40) and TD (N = 33) children completed a cued language switching task to assess language control. All children acquired Cantonese as L1 and English as L2 and were dominant in Cantonese. Their language abilities were measured using receptive vocabulary tests in Cantonese and English. For cognitive abilities, inhibitory control was measured using a flanker task and set-shifting was measured with a Dimensional Change Card Sorting (DCCS) task.

The group-level results are shown in Figure 1. TD children made fewer cross-language errors in their dominant language in the single language context, but this language-based difference in error rates subsequently disappeared in the mixed language context. This pattern is commonly interpreted as reflecting proactive language control, which refers to speakers' ability to globally regulate the relative activation of two languages. In contrast, autistic children did not show this context-dependent difference in error rates, suggesting a reduction in global language control strength. At the individual level, flanker effect in accuracy predicted naming error rates in both groups, whereas set shifting ability predicted error rates of Cantonese trials only in autistic children. Language ability did not significantly predict naming performance, suggesting that cognitive ability may play a more prominent role in supporting language control in both groups.

Overall, the findings highlight potential challenges in proactive language control among autistic children and suggest that cognitive abilities may contribute differently to language control in autistic versus TD children. The study also has implications for developing interventions to support bilingual communication in autistic children.

Keywords: bilingualism, language control, autism, children, inhibitory control, set, shifting

# **Assessing Language Control beyond the Switched Naming Task: An Exploration of Disfluencies, Lexical Diversity and Lexical Frequency as Cost Markers in a Switched Discourse Task (2-3)**

*Baulande Noémie, Köpke Barbara*

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The cognitive cost of language switching has been extensively investigated using highly controlled paradigms such as switched naming tasks, which have increasingly been criticized for their limited ecological validity (Kootstra, 2015). In such paradigms, language choice and switching are externally imposed, hence making code-switching largely stimulus-driven (bottom-up), in contrast with naturalistic code-switching, which is typically intentional and planned, and therefore relies primarily on top-down control processes. This discrepancy raises the question of whether the robust switch costs reported in laboratory settings genuinely reflect the processing of code-switching, or whether they arise from task-induced constraints such as limited plannability or inconsistency in switching behavior (Zhu et al., 2022).

Recent studies adopting more ecological approaches suggest that voluntary or naturalistic code-switching may entail reduced costs, no cost, or even facilitation effects (Blanco-Elorrieta & Pykkänen, 2017; Jevtović et al., 2020; Johns & Steuck, 2021). However, such protocols remain scarce, and there is still no consensus regarding how switch costs should be operationalized in these paradigms.

To further investigate mixing cost in more naturalistic production settings, we introduce a constrained discourse paradigm, designed to bridge the gap between free speech and highly constrained switching tasks. Participants produced picture-based narratives in switched and non-switched conditions, with language choice guided by visual cues embedded in the stimuli, hence allowing partial experimental control over switching behavior while preserving participants' freedom in discourse planning.

Mixing costs were assessed using measures of speech disfluencies (pauses, repairs, repetitions) and lexical frequency and diversity, both introduced as novel potential cost markers. Drawing on accounts suggesting that increased production difficulty leads speakers to rely on simpler or more frequent lexical material (MacDonald, 2013), we hypothesized that mixing costs would manifest as increased disfluencies, reduced lexical diversity, and greater reliance on high-frequency items in mixed than unilingual conditions.

Exploratory analyses conducted with 15 advanced late sequential bilinguals (French-L1, English-L2) suggest that pseudo-ecological code-switching induces a moderate increase in disfluencies, consistent with a mixing cost. Lexical diversity tended to increase in mixed conditions, possibly reflecting compensatory strategies. Additional LMM analyses examining the impact of individual predictors on disfluency rates revealed no reliable effects at this stage, potentially due to limited sample size. Analyses of lexical frequency effects are ongoing and will be reported in the presentation, based on an expanded sample.

We will discuss the importance of measurement choices and the potential of this paradigm for gaining insight into language control in naturalistic contexts.

Keywords: language control, code switching, discourse task, ecological validity

# The Language Control Index: A New Tool to Assess Discourse Language Switching (2-4)

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When bi/multilingual speakers communicate in their daily lives, they adapt their language use to their interlocutor(s) and context. Different contexts imply varying levels of language control. This was described in the Adaptive Control Hypothesis (ACH), by Green and Abutalebi (2013), who determined three interactional contexts: single-language, dual-language and dense code-switching, used when communicating with a monolingual, two monolinguals or a similarly bilingual interlocutor, respectively. While this hypothesis has been extensively tested within language switching paradigms (LSP) on single words, little is known about more ecological discourse language control (Blanco-Elorrieta & Pyllkänen, 2018). In laboratory tasks, switch and mixing costs are assessed through reaction times. While discourse switch costs are still underexplored, some authors suggest to assess them based on hesitations and filled pauses (Sánchez et al., 2022) or code-switching frequency (Declerck, Grainger & Hartsuiker, 2021; Yim & Bialystok, 2012). However, control processes in discourse still need in-depth exploration.

In an attempt to fill this gap, we developed an experimental protocol, where participants were put in the three contexts proposed in the ACH with different interlocutors, and asked to perform several narrative tasks. The collected discourse data were transcribed and annotated in order to extract code-switching frequency and types, as well as speech rate and hesitation score. We then calculated a Language Control Index (LCI) based on a combination of those three measures, allowing to compute switch and mixing costs across the contexts of the ACH.

Participants were 24 Lebanese Arabic-French bilinguals residing in France and aged around 28.6 years. Lebanese speakers are known for relatively balanced bilingualism and frequent use of dense code-switching. Participants produced narratives describing videos of Tom & Jerry (Barbera, 1940) and telling personal events asked by monolingual Arabic, monolingual French and bilingual Arabic-French interlocutors, resulting in a total of 264 discourse samples (M= 85.35 seconds, 161.14 words). The LCI was computed and switch and mixing costs were calculated as the difference in LCI between interactional contexts. No significant differences were found between the three contexts, indicating an absence of switch and mixing costs for a population of frequent code-switchers. Nonetheless, stronger costs have been reported in classic LSPs for more compartmentalized bilinguals who use one language per context and do not code-switch (Meuter & Allport, 1999; Schwieter & Sunderman, 2008). This suggests that the LCI may be a promising tool to assess language control in the discourse for those bilinguals.

Keywords: bilingualism, language control, discourse, adaptive control hypothesis

# **Bilingual Language Control during L2 Reading under Domestic Immersion: An Eye-Tracking Study (2-5)**

*Parshina Olga, Schwarz Katrina Gail, Bui Daisy, Laramée René*

Middlebury College

The goal of this eye-tracking study is to examine how domestic L2 immersion affects bilingual language control during L2 reading in English-dominant learners of Russian ( $N = 34$ ) and Spanish ( $N = 19$ ). The proactive gain control account (Hoversten & Traxler, 2020) proposes that bilingual language control adapts to the global language environment. Under this account, increased exposure to the L2 is predicted to increase the activation threshold of the non-target language (L1 English), thus strengthening inhibition of L1 activation beginning at early stages of lexical processing. To test this prediction, we analyzed eye movements during L2 sentence reading at two time points: the first two weeks (Session 1) and the final two weeks (Session 2) of an eight-week domestic L2 immersion program. We predicted that intensive immersion would increase inhibition of L1 lexical access during L2 reading. This increased inhibition should reduce facilitation from L1 translational equivalents, observable in early eye-movement measures indexing lexical access, such as first fixation and gaze duration, and in later measures indexing reanalysis and integration, such as total reading time and regression probability (Rayner et al., 1989).

**Method:** Using an invisible boundary paradigm, sentences in L2 Russian or Spanish were initially displayed with an L1 English critical word (Figure 1). Upon crossing an invisible boundary, the English word was replaced with an L2 target word. The design was a  $2 \times 2$  within-participant manipulation of session (Session 1 vs. Session 2) and L1–L2 word relationship (translational equivalents vs. unrelated pairs, e.g., HAND –MANO vs. HAND –JEFE). The materials included 200 experimental sentences and 60 fillers. Linear mixed-effects models were fit separately for each eye-movement measure, with session, word relationship, and their interaction as fixed effects, along with word length, word frequency, target word position, and trial order.

**Analysis and preliminary results.** Contrary to our hypotheses, analyses revealed no facilitation or inhibition effects of translational equivalents on any eye-tracking measure, and no modulation of these effects across sessions. These null findings are discussed with respect to several factors that may limit observable evidence of bilingual language control during reading, including the absence of a cross-language semantic preview benefit, the relatively short duration of the immersion period, and the specific task demands of sentence reading. Taken together, we suggest that bilingual language control during reading may be not sensitive to short-term domestic immersion or that immersion-related effects emerge only under particular language-specific or task-specific conditions.

**Keywords:** eye-tracking, reading, Spanish, Russian, immersion

## **Bilingual Language Control During Sentence vs. Single Word Production (2-6)**

*Dalakoura Anna<sup>1</sup>, Kirk Neil W.<sup>2</sup>, Declerck Mathieu<sup>1</sup>*

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Bilingual speakers constantly regulate interference from the non-target language during language production. Despite sentences being the predominant linguistic entities used for daily communication, the process of language control has been studied with a stronger focus on single word production. The few studies that center on sentence production and its comparison to single word production have mostly relied on switch costs as a measure of language control (de Bruin & Shiron, 2023; Declerck & Philipp, 2015; Li & Gollan, 2021) and led to mixed conclusions.

In the present registered report, we relied on a different measure, namely the blocked language order effect, to examine potential differences between the mechanisms of language control in a single word versus a sentence context. To that end, 48 Greek-English bilinguals (21F; mean age= 30.98 years) completed three consecutive single language blocks in an L1-L2-L1 order. In Blocks 1 and 3, all participants performed a network description task in Greek (L1). In Block 2, half of the participants performed a picture naming task in English (L2), while the other half performed a sentence production task that involved describing the resizing of a picture (i.e., bigger, smaller, same) in English. The percentages of filled pauses, lexical errors, and language intrusions, which index difficulties in lexical selection and increased cognitive load, were measured and compared between Block 1 and Block 3.

Performance was consistently worse in Block 3 compared to Block 1, demonstrating a robust blocked language order effect. Critically, in contrast to our expectations, the effect did not significantly differ as a function of Block 2 context (single word vs. sentence production). This could indicate that the influence of prior L2 use in subsequent L1 production is not modulated by the linguistic complexity of the intervening task. Taken together, these findings could be pointing towards an overlap between the language control mechanisms enlisted during single word and sentence production.

**Keywords:** Bilingualism, Language Control, Sentence Production, Word Production

## **Exploring Language Co-Activation and Language Control Indices in Multilingual Speakers of Languages of High versus Low Proximity (2-7)**

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Multilinguals need to constantly choose between the labels corresponding to names in their first and second language. This effort is supported by language control mechanisms which help to resolve interference caused by a constant co-activation of the two (or more) languages. However, it is unclear whether dealing with the cross-linguistic competition is modulated by the proximity between the competing languages. In this study, we investigated whether language proximity alters the magnitude of language co-activation and language control in multilinguals. We tested three groups of multilinguals: one using languages of low proximity (Polish-Spanish, n=71) and two using languages of high proximity with the same script (Polish-Czech, n=41) and different scripts (Polish-Russian, n=71). Across three sessions, participants completed a series of linguistic tasks assessing language co-activation indices (cognate effect, homograph effect) and language control indices (L2 after-effect, switch costs, N-2 repetition costs).

For the language co-activation indices, we hypothesized that there should be more co-activation between languages of greater proximity. We based this assumption on previous research that showed facilitated language performance associated with greater cross-language overlap (at least when manipulated on the level of experimental material, see [1]-[5]). Our results demonstrate that indeed higher language proximity is related to increased language co-activation when operationalised as cognate facilitation effect and homograph facilitation effect.

For the language control indices, we hypothesize that multilinguals using languages of high proximity apply more language control than multilinguals using languages of low proximity. The logic of the argument is that greater co-activation between languages of greater proximity should result in stronger between-language competition, which in turn should set greater demands on language control. The data from the language control tasks are currently at the stage of statistical analysis with the results available at the time of the conference.

Study hypotheses, design and data analysis have been preregistered and are available at OSF (<https://osf.io/tsk8q>).

Keywords: language control, language proximity, language distance, language production, language co, activation

## Inhibitory Control in Trilingual Language Production (2-8)

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Multilingual language control (MLC) is a set of processes enabling a multilingual individual to select the contextually appropriate language by minimizing influences from other known languages. The Inhibitory Control Model (Green, 1998) proposes that initially all translation equivalents are activated, and non-target translations are inhibited only upon target selection. Less dominant languages are inhibited less strongly than dominant languages and are more likely to produce language-selection errors, or intrusions, when switching languages. Supporting this, de Bruin et al. conducted a speeded picture naming task in which they report significantly more intrusions from a third language (L3) than a first language (L1) when naming in a second (L2). In this study, we expand upon this by investigating whether this pattern of cross-linguistic influence persists when naming in L1 and L3.

We modified de Bruin and colleagues' (de Bruin et al., 2023) paradigm to examine interference between all languages (English/French/German, various ages of acquisition, AoA) of trilinguals. Forty participants (29 female, Mean  $\pm$  SD Age: 34 $\pm$ 8.45 Years) completed the LHQ3 (Li et al., 2020), a lexical decision task (LexTALE) to measure proficiency (Brybaert, 2013; Lemhöfer & Broersma, 2012), and a trilingual speeded picture naming task. The speeded picture naming task consisted of 648 experimental trials, with evenly distributed switch and nonswitch trials between each of the languages. Picture labels were matched across translation equivalents for number of letters, phonemes, orthographic Levenshtein distance, and lexical frequency. Responses were scored as correct/ incorrect/no response/intrusion (specified as from L1/2/3, defined by AoA).

Probability of intrusions were analyzed using linear mixed effects models, to test the impact of intruding language (L1/L2/L3) as a function of target language (Figure 1). In L2 target, there was no significant effect of language on probability of intrusion in nonswitch or switch trials contrary to de Bruin et al. (de Bruin et al., 2023). In L1 target, there were significantly more intrusions from L2 than L3 in both nonswitch ( $\beta=-.732$ ,  $F[1,39]=17.661$ ,  $p<.001$ ) and switch trials ( $\beta=-.619$ ,  $F [1,39]=35.408$ ,  $p<.001$ ). In L3 target, there were significantly more L2 than L1 intrusions in both nonswitch ( $\beta=.7587$ ,  $F[1,39]=22.769$ ,  $p<.001$ ) and switch trials ( $\beta=.780$ ,  $F [1,39]=54.372$ ,  $p<.001$ ).

Results suggest that during L3 naming L1 is less available to intrude than L2, as predicted by a hierarchical implementation of suppression according to language acquisition sequence. However, a higher number of intrusions from L2 than L3 in L1 naming suggests that relative proficiency also modulates ongoing accessibility of a language. Analysis of the full dataset will elucidate the driving factor behind this differing pattern of inhibition.

Keywords: Trilingualism, Inhibitory Control, Language Switching, Picture Naming, Intrusion

# **Interference Control in Self-Paced Bilingual Sentence Reading: The Role of Reading Task and Bilingual Experience (2-9)**

*Han Xuran*

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The Adaptive Control Hypothesis (ACH; Green & Abutalebi, 2013) and the control process model (CPM; Green & Li, 2014) propose that active engagement in different bilingual interactions leads to adaptive changes in cognitive control. While evidence has shown significant effects of bilingual interactions on cognitive control modulation in language production (e.g., Lai & O'Brien, 2020), it remains unclear whether such effects can be observed in bilingual language comprehension. The present study examined how bilingual switching practices affect cognitive control during bilingual sentence reading and the role of individual bilingual experience in this process. The study included 40 Chinese-English bilingual adults (mean age = 25.08 years, SD = 2.58). They completed a self-paced reading task with embedded flanker trials, adapted from Adler et al. (2020). The task comprised five sentence-reading blocks: Chinese monolingual, English monolingual, intra-sentential switching, inter-sentential switching, and dense code-switching. A flanker-only block served as the baseline condition. Participants' bilingual experience was assessed through the questionnaire (LSBQ; Anderson et al., 2018) and a behavioural code-switching judgement task (Hofweber et al., 2020), indexing their habitual code-switching practices and language-use contexts. Their L2 proficiency was also assessed through LexTALE (Lemhöfer & Broersma, 2012).

Linear mixed-effects models revealed participants' faster responses to flanker task trials in sentence reading than in the baseline block ( $ps < .05$ ). A significant block-congruency interaction was observed, showing a significant flanker effect in the baseline block ( $z = 4.79, p < .001$ ). Flanker effects were comparable across sentence-reading blocks ( $ps > .08$ ), but were all significantly smaller than in the baseline condition ( $|z|s \geq 4.15, ps < .001$ ). These results indicate that the additional cognitive demands imposed by sentence reading, regardless of sentence type, modulate domain-general interference control efficiency.

Bilingual experience-related factors (e.g., L2 proficiency, code-switching frequency) were included in LASSO-regularised mixed-effects models to examine their effects on interference control in bilingual sentence reading. Under the conservative one-standard-error criterion, no factors were retained to predict flanker effects, indicating no significant effects of bilingual experience on interference control in bilingual comprehension.

Together, these findings suggest that cognitive control in bilingual sentence reading is primarily influenced by reading-related task demands rather than habitual bilingual experience. While the present results do not provide evidence for ACH-or CPM-predicted cognitive control adaptations across bilingual interactions, they highlight the need to examine whether and how these frameworks extend to bilingual comprehension processes, and to explore measures that specifically index habitual bilingual comprehension experience.

**Keywords:** bilingual experience, self-paced reading, interference control, language comprehension, Adaptive Control Hypothesis

# Is Everything Under (Language) Control? The Influence of Language Control on L2 Vocabulary and Morphological Learning (2-10)

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Language control (i.e., the process that mitigates cross-language interference) has been recognized as essential for multilingual language processing, as it ultimately enables the selection of the intended language. Not surprisingly, therefore, language control has received increasing attention in multilingualism research in recent years (see Declerck & Koch, 2023 for a review). In contrast, its role in second language acquisition remains largely unclear, although cross-linguistic influence is known to affect various aspects of SLA (e.g., Jarvis & Pavlenko, 2008). To address this research gap, we report on two experimental studies examining the influence of language control on initial stages of second language acquisition.

Given that vocabulary acquisition is one of the first steps of SLA and since prior language control studies have mainly investigated lexical processing, our first study focused on the role of language control in L2 vocabulary acquisition. 65 monolingual English speakers acquired a set of Dutch words during three sessions over one month. Participants completed a picture-word learning task at each session, in which they named pictures in their L1 and new L2. During this task, each word was consistently presented in either a language switch or repetition trial, with the former requiring comparatively more language control. A subsequent vocabulary test measured participants' learning gains. Switch costs (i.e., longer reaction times in switch than repetition trials) were found across all three sessions, indicating the use of language control during the learning task. Crucially, the vocabulary test revealed lower learning gains for vocabulary learned in switch (i.e., high language control) than repetition trials (i.e., low language control).

While this finding shows that language control can hinder initial L2 vocabulary acquisition, other learning domains of SLA may not be affected in the same way, especially as several accounts suggest that L2 lexical and grammatical knowledge might be acquired and stored differently (e.g., Ullman 2001, see also Martin & Ellis, 2012). In a second study, we therefore test a new group of monolingual English speakers in their acquisition of Dutch plural and diminutive rules, using the same learning paradigm. A generalization task assesses participants' acquisition of the two rules. Data collection of this study is ongoing. In line with our previous findings, we expect learning gains to be lower for the rule acquired in language switch compared to repetition trials.

**Keywords:** language control, second language acquisition, multilingualism, switch costs, vocabulary learning, morphological learning

# Amount of Exposure, Self-Reported Proficiency, and Comfort Levels in Trilingual Children (2-11)

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Research on bilingualism shows a strong link between exposure and proficiency (Thordardottir, 2011; Cattani et al., 2014; Thordardottir, 2019), but evidence from trilingual acquisition is limited. Although amount of exposure to each language is typically determined by external factors (home, school), children may also make language choices based on their comfort level with each language. This study examines self-reported proficiency in relation to exposure, and self-rated comfort among trilingual children.

Participants were 60 children aged 8–12 years in Montreal, exposed to Farsi (home), French (school/society), and English (school classes/incidental). Parents reported cumulative exposure and children reported current exposure. Cumulative exposure was converted into hours using age in months  $\times$  proportion of exposure  $\times$  360 (Rioux and Thordardottir, 2023). Children completed a self-reported proficiency (SRP) questionnaire rated on a 1–9 scale, and a composite comfort-level (CL) measure (0 = never, 3 = always) based on comfort, insecurity, avoidance, and language choice.

Descriptive analyses showed that cumulative exposure was highest for Farsi, followed by French and English. In contrast, current exposure was highest for French followed by Farsi and English. SRP was high across all languages and was slightly higher in English ( $M = 7.60$ ) than in French ( $M = 7.37$ ) and Farsi ( $M = 7.01$ ). LC was relatively similar across languages, with slightly higher values in English ( $M = 2.59$ ) and Farsi ( $M = 2.54$ ) compared to French ( $M = 2.38$ ). Linear regression analyses showed that cumulative exposure significantly predicted SRP in Farsi ( $R^2 = .12$ ,  $p = .014$ ), French ( $R^2 = .18$ ,  $p = .001$ ), and English ( $R^2 = .24$ ,  $p < .001$ ). In contrast, current exposure was not a significant predictor in Farsi ( $R^2 = .04$ ,  $p = .339$ ) and French ( $R^2 = .04$ ,  $p = .260$ ) but significantly predicted SRP in English ( $R^2 = .12$ ,  $p = .009$ ). Further analyses indicated that SRP significantly predicted LC across all three languages (Farsi:  $R^2 = .12$ ,  $p = .005$ ; French:  $R^2 = .50$ ,  $p < .001$ ; English:  $R^2 = .24$ ,  $p < .001$ ). Although LC was associated with cumulative exposure in French ( $R^2 = .12$ ,  $p = .007$ ) and English ( $R^2 = .15$ ,  $p = .003$ ), these relationships did not remain when controlling for SRP.

The results may reveal the role of language-use context in shaping how trilingual children rate their SRP, as well as lower LC in languages more frequently used in evaluative and demanding settings.

Keywords: trilingual children, language exposure, self, reported proficiency, comfort level, multilingual development, language use context

# Exploring Parents' Experiences Raising Bilingual Children Born Preterm: A Mixed Methods Approach (2-12)

*A Q Nasser Hanan<sup>1</sup>, Jordan Gerald, Krott Andrea<sup>2</sup>*

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**Background-** Preterm birth, defined as occurring before 37 weeks of gestation is associated with increased risks of developmental delays in language, cognition, and overall development (Moreira et al., 2014; Yaari et al., 2018). A child's development is also influenced by social and environmental factors such as the family's socioeconomic status or parental education (Wolke et al, 2019). Another factor is bilingualism, which is increasing world-wide (Byers-Heinlein et al., 2019). In the U.K., the percentage of EAL children with English as an additional language at schools has reached 20% in 2023 (Lindorff et al., 2025). Parents of bilingual children feel unsure about how to manage two languages and often need more guidance (Howard et al., 2020; Lee et al., 2015). Similarly, parents of preterm children report concerns about their child's development and they don't receive enough emotional or practical support (Harvey et al., 2018; Millette et al., 2022). Importantly, the experiences of parents raising children who are both bilingual and born prematurely have not been explored.

**Methods-** This mixed-methods study adopted an exploratory sequential design, phase 1 involved interviews with nine parents of bilingual preterm children (born <37 weeks gestation; aged between 2 and 10 years). Participants came from linguistically diverse households (Arabic, Bengali, Danish, Gujrati, Hindi and Urdu). Interviews were transcribed and analysed using a reflexive thematic analysis. Phase 1 (qualitative) will inform Phase 2 (quantitative) which will examine whether findings generalise to the wider UK population.

**Results-** The following themes were generated from the qualitative data; (1) the importance of growing up bilingual; (2) adapting to the reality of preterm birth; (3) variability in development among bilingual preterm children; and (4) current realities and future directions. (1) Parents valued maintaining the home language and viewed bilingualism as a long-term strength, but the lack of guidance and community support had constraints on the families. (2) Parents stressed the importance of preparedness for a preterm birth and accurate use of corrected age. (3) Parent's associated bilingualism with early language challenges but better cognitive abilities, while prematurity was viewed through a health and medical lens. (4) Parents share that there is a lack of bilingual provision, support and services were delayed and inconsistent. Hence, parents emphasised the need for quicker and more thorough assessments as well as supportive bilingual environments.

**Conclusions-** This project is the first to closely examine how parents manage both bilingualism and prematurity. This offers practical implications for healthcare providers, educators, and policymakers to design inclusive and effective support systems.

**Keywords:** Bilingualism, preterm birth, child development, parental experiences, mixed methods, developmental variability, interventions, language development

## **Living Multilingualism (2-13)**

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This talk focuses on the L1 and French language development and attrition among long-term bilingual and multilingual first-generation immigrants aged 55-75 in French-speaking Switzerland. Drawing on data from 75 participants, the talk compares L1 Portuguese and L1 English speakers to examine (1) how typologically different language groups attrite in a context of immigration, and (2) how the lived multilingual experiences of L1 Portuguese and L1 English immigrants contribute to a holistic understanding of language attrition. Using a psycholinguistic test battery (C-test, verbal and letter fluency, Wug test) alongside in-depth sociolinguistic interviews on participant's lived experiences, diversity and balance of language use patterns, attitudes, and perceived group vitality, the presentation adopts a Systems Framework for Bilingualism that bridges individual multilingual experiences with community-level dynamics. Results indicate no overt attrition in the English bilinguals who performed at ceiling level and similarly to the English monolingual reference group. Moreover, the English bilinguals outperformed their Portuguese peers across all L1 and French tasks due to systematic differences in formal educational background, employment type, and perceived language prestige. Although the Portuguese bilinguals performed similarly to their monolingual reference group, they reported a stronger decrease in L1 performance and presented more overall crosslinguistic interaction than their English counterparts. These findings underscore the need (1) to move away from monolingual comparative norms in bilingualism research, (2) to combine quantitative and qualitative methods as well as more fine-grained measures such as neuroimaging and/or longitudinal approaches with behavioral measures and naturalistic data to capture the subtleties of attrition and overall language development, (3) to integrate socio-and psycholinguistic approaches to multilingual development studies of immigrant populations.

Keywords: Multilingualism, Systems framework for bilingualism, language attrition, crosslinguistic interaction, language and migration, language attitudes, language entropy

# **Lying about How You Feel: Multimodal Evidence from L1 Dutch – L2 English Bilingual, Dyadic Conversations (2-14)**

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How do bilingual speakers produce deception across languages, particularly when deception concerns emotional experience? Early accounts proposed that lying elicits emotional arousal that “leaks” through non-verbal channels (Ekman, 1985), yet extant research has not identified reliable non-verbal cues of deception, challenging the “leaky liar” assumption (DePaulo et al., 2003; Vrij et al., 2019). Current approaches instead argue that deception is more effortful than truth-telling, especially under increased task demands (Vrij et al., 2008). In bilingual speakers, deception may be shaped by language-dependent differences in emotional resonance and processing demands: reduced emotional resonance in a second language may attenuate emotion-driven deception cues (Dewaele, 2008), whereas increased cognitive load during L2 production may amplify differences between truth and lying (Caldwell-Harris & Ayçiçeği-Dinn, 2009). Importantly, bilingual emotional deception remains understudied, particularly from a multimodal perspective.

The present pilot study addresses this gap by investigating emotional deception in bilingual dyadic interactions via a Watch-and-Talk paradigm. Six L1 Dutch-L2 English sequential bilinguals with high L2 proficiency watched emotional movie scenes and engaged in semi-scripted truthful and deceptive conversations about the emotional impact of the videos. Deception was operationalised as pro-social and subjective, whereby speakers were instructed to misrepresent their own emotional experience by downplaying or upplaying their emotional experience to align with their conversation partner. Using a 2 × 2 within-participants design, this study examined the effects of Language (L1 vs. L2) and Veracity (truth-telling vs. deception) by asking whether 1) low-stakes deception scenarios may impact linguistic and behavioural output, 2) bilinguals’ verbal and non-verbal manifestations of deception would be (dis)similar across L1 and L2.

Data pre-processing and analyses are currently underway and three types of dependent variables were extracted from audio-visual recordings of speaker turns: (i) co-speech gestures; (ii) acoustic speech variables (e.g., pitch-derived measures, speech rate); (iii) linguistic and psychological word categories (e.g., affect, nonfluencies) obtained via text analysis mediated by LIWC-22 (Boyd et al., 2021). All variables will be analysed using linear mixed-effects models with random effects for participants and items (Bates et al., 2015). Deception is predicted to interact with bilinguals’ languages in two competing ways: increased cognitive load may amplify differences between deceptive and truthful speech in L2, whereas reduced emotional resonance in L2 may attenuate potential emotion-driven cues of deception (Ardila, 2003; Caldwell-Harris & Ayçiçeği-Dinn, 2009). Nevertheless, given the languages’ similarity and participants’ high L2 proficiency, deceptive behaviour may be broadly comparable across L1 and L2. Keywords: bilingualism, deception, emotion, multimodal communication, language production, dyadic interactions.

# **Social Networks, Multilingual Practices, and Second Language Development Among Syrian Refugees in France (2-15)**

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Research in second language (L2) acquisition has long emphasised the central role of interaction for L2 development, providing learners with comprehensible input, opportunities for meaning negotiation, and feedback (Long, 1996). In study abroad contexts, learners' social networks predominantly include L1-speaking contacts, with L2 use occurring less frequently and changing little over time (Coleman, 2015; Freed et al., 2004; McManus, 2019; Saddour & Leclercq, 2023). Evidence on the direct effect of social interaction on L2 development is mixed: some studies report a link between out-of-class language use and acquisition gains, while others find no systematic connection (cf. Dewey, 2017). Social and interactional experiences also vary considerably across learners (Isabelli-García et al., 2018).

This longitudinal study investigates multilingual interactional practices among 24 Syrian refugees in France (age 20–69 at T1), examining the structure and evolution of their social networks as determinants of language use and social language availability as well as the effects of interaction with French-using contacts on L2 French development measured by vocabulary diversity (VOCD) (Malvern et al., 2004). Self-reported data were collected at three time points over two years using adaptations of the Social Network Questionnaire (SNQ, McManus et al., 2014) and the Language Experience and Proficiency Questionnaire (LEAP-Q, Marian et al., 2007). We analysed network size, interaction frequency, and language use across informal and institutional contexts (home, organised/free time, social media, work, university, social services, and community spaces) to capture learners' access to interactional spaces, individual trajectories in multilingual practices, and the social availability of different languages. VOCD scores were calculated using CLAN (MacWhinney, 2000) in interviews administered at the three time points.

Our findings (Figure 1) show that Syrian refugees navigate multiplex social networks (Milroy, 2004) that foster both language maintenance and shift toward the host language. Participants maintain their L1(s) while simultaneously developing L2 proficiency and learning additional languages (Blom et al., 2021; Garcia-Vazquez et al., 2022). L2-speaking social networks positively influence L2 development (McManus, 2019; Strawbridge, 2023), with the effect of network size depending on interaction frequency: larger networks are most beneficial when interactions are frequent. Length of residence in the host environment further enhances vocabulary growth, and substantial individual variation (Coleman, 2013; Isabelli-García et al., 2018; Kinginger, 2009) suggests that personal factors modulate the effectiveness of social networks. These results underline the importance of active and diversified networks for fostering multilingual proficiency in refugee populations.

Keywords: Social networks, Syrian refugees, L2 French development

# Sorry, I Didn't Get It! It's the Emotion: Emotional Influences on L2 Reading Comprehension through Eye-Tracking and Physiological Measures (2-16)

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This research investigates how emotions influence the learning of reading comprehension in a foreign language, viewed both as an academic task and a complex cognitive skill. Although the interdependence of emotion and cognition is well established (Altmann et al., 2012; Pessoa, 2008) and studies have highlighted links between affect and text comprehension in L2 (Jian et al., 2025; Roch-Veiras, 2009, 2013, 2015, Ziqing et al., 2025), the nature and mechanisms of these relationships remain unclear. The present study aims to explore how positive and negative emotions affect L2 text comprehension and to what extent these effects can be observed through eye, pupil, and heart activity during reading.

The theoretical framework is based on the Resource Allocation Model (RAM) (Ellis & Ashbrook, 1988 ; Ellis & Moore, 1999), which posits that emotional states consume attentional and cognitive resources, potentially disrupting task focus through non-task-related thoughts such as rumination or stress. Within this model, emotions are expected to modulate attentional control and processing efficiency during reading. The central research question is: *Do positive (e.g., joy) and negative (e.g., sadness) emotions differentially influence the learning of L2 reading comprehension, and how can these influences be measured in eye-movement, pupillary, and cardiac behaviour during comprehension tasks?*

The experimental protocol involves 40 adult learners of French as a Foreign Language (B2 CEFR). Participants are exposed to four conditions combining music and reading: three emotional conditions (positive, negative, and neutral music excerpts) and one silent control condition. After listening to the assigned music, each participant reads a neutral narrative text generated with an AI-based text creation tool, which ensures controlled linguistic level, length, and semantic depth across conditions. Comprehension is assessed through multiple-choice questions and two written feedback tasks (immediate and delayed, one week later). Emotional responses are measured via a Likert-scale questionnaire (before and after reading) and through pupillary and cardiac measures. Eye-tracking data provide indicators of reading behaviour and processing effort.

The material has been validated through pre-tests and a pilot study. Data collection is currently in progress, and preliminary results are expected to be presented at the conference. Both qualitative and quantitative analyses will be conducted, comparing reading patterns, emotional ratings, and comprehension outcomes across conditions. This study seeks to contribute to a better understanding of the interplay between affect and cognitive processing in L2 reading, combining theoretical and experimental perspectives. This poster presents the methodology and pretests conducted to date, as well as the results of a pilot study.

Keywords: emotion, reading comprehension, L2, eye, tracking, embodied cognition

# **Beyond Task Demands: Affective and Motivational Modulation of Proactive Language Control in Bilinguals (2-17)**

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Bilingual language control involves continuous regulation of two co-activated language systems. Current models often treat this regulation as independent of the individual's affective and motivational state, a critical gap we address here. Notably, in the broader cognitive control literature, high trait anxiety has been shown to hinder attentional control efficiency and increase susceptibility to distraction (e.g., Edwards et al., 2015). By contrast, a motivational factor, need for cognitive closure—defined as the motivation to reduce uncertainty and resolve ambiguity, encompassing preferences for order, predictability, decisiveness, ambiguity avoidance, and closed-mindedness (NFC; Webster & Kruglanski, 1994), may be especially relevant in mixed-language contexts with uncertain upcoming demands, encouraging stronger proactive settings to minimise ambiguity. We test these hypotheses by examining whether anxiety and NFC differentially modulate language control cued and voluntary switching tasks, which vary in predictability and control demands (Gollan & Ferreira, 2009).

Eighty-nine high-proficiency Chinese–English bilinguals screened with the MINT (Gollan et al., 2012) completed picture-naming tasks comprising single-language blocks, cued switching blocks, and voluntary switching blocks. Participants also completed a Trait Anxiety Questionnaire (Spielberger & Sydeman, 1994) and an NFC questionnaire (Webster & Kruglanski, 1994). We examined two behavioural indices: (1) switching costs (slower responses on switch than repeat trials), indexing reactive control (i.e., trial-level control); and (2) the reversed language dominance effect, where the typical L1 advantage (e.g., faster reaction times) in single language blocks reverses in mixed-language contexts, indexing proactive control (i.e., anticipatory control).

The results revealed that the dominance reversal in mixed-language contexts was systematically trait-dependent: higher closed-mindedness predicted a larger reversed dominance effect, whereas higher decisiveness attenuated it. Crucially, this pattern is consistent with stable individual differences in proactive control-state—with some bilinguals adopting stronger sustained regulation of the dominant language than others—and it replicated across both cued and voluntary switching. In contrast, switching costs, irrespective of the switching paradigm, were unaffected by anxiety and need for closure. Finally, higher anxiety predicted a larger reversed dominance effect, albeit only in voluntary switching.

Together, these findings indicate a clear dissociation between proactive and reactive language control, with only proactive control systematically modulated by individual traits—a question that, critically, remains unexplored in the language control literature. Thus, the present study lays the ground for a model of language control in which proactive regulation varies across individuals as a function of stable affective and motivational traits.

Keywords: language control, affective and motivational factors, individual differences

# **Trilingualism Through Incidental English: Why Do Children Decide to Use English Rather the Language of Home or School? (2-18)**

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Research on bilingual children shows their proficiency in each language to be closely tied to the amount and richness of exposure to each such as at home and at school (e.g., Hoff et al., 2012; Thordardottir, 2011). Less is known about trilingual acquisition. In a digital world, linguistic landscapes are changing and incidental English (from on-line sources) represents a third language for many young L2 (second language) learners, in particular in countries with small national languages whose status is weakened by the high visibility of English. In Iceland (with a national language spoken by fewer than 400,000 people), both L1 and L2 children develop considerable English skills (Jóhannsdóttir, 2018). In recent years, Icelandic vocabulary sizes and reading outcomes of L1 students have been steadily declining (P álsdóttir et al., 2024) and L2 students evidence poor Icelandic uptake (e.g., Hafsteinsdóttir et al. 2022.). Recent research shows a negative relationship between English use and Icelandic proficiency in both L1 and L2 children (Thordardottir & Viðarsson, 2025). The reasons why children revert to English use has been the subject of much speculation, but limited systematic research. This study examines what factors might influence which language children use in different contexts.

Participants are L1 and L2 children in Iceland in grades 5 to 10, including, to date, 20 children (mean age 12;3, SD 1;3). Data collection is on-going; the presentation will include 50 children. Language exposure is documented through detailed parent report; language proficiency in Icelandic and English through formal tests. In addition, participants filled out a self-report questionnaire on their proficiency in each of their languages (LEAP-Q, Marian et al., 2007) and a questionnaire developed for this study with 66 questions in 5 categories on factors influencing language choice (comfort, situations, others' reactions, language learning strategies, language use in school). Preliminary results reveal that anxiety over having to speak Icelandic is overall low but is related to certain choices. Strong correlations are seen between Icelandic and English tested proficiency and several types of answers, including reported comfort versus anxiety speaking Icelandic and when speaking to teachers. L2 students are more likely to prefer situations that permit English use and to deliberately avoid using Icelandic in certain situations. Conflicting response patterns indicate that children are influenced by certain factors without being conscious of it. Detailed results will be presented and recommendations for actions that could be taken to increase comfort levels speaking Icelandic.

Keywords: trilingualism, incidental English, language choice, comfort, anxiety

## Associations Versus Grammatical Constraints in Bilingual Predictive Processing (2-19)

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We study how late bilingualism affects the integration of grammar in predictive processing in the context of current approaches to L2 prediction (Schlenter, 2023). Following the rationale in Hopp and Schmid (2013), we compare late L2 learners with potential L1 attriters to disentangle bilingualism from age-of-acquisition effects. Specifically, we test whether late bilinguals are affected by high-frequency associative gender mappings in real-time grammatical comprehension in German as either their L1 or L2.

Due to syncretism of case and gender in German articles, article forms can have different mappings. “Die” and “der” are the high-frequency nominative citation forms for feminine and masculine gender, respectively. However, “die” is ambiguous for gender in plural, and “der” maps exclusively to feminine in dative. Capitalizing on these multiple mappings, we test if listeners use associative form-function mappings in comprehension in cases of (a) genuine ambiguity (die-PLURAL) and (b) grammatically constrained mappings (der-DATIVE).

In an ongoing visual-world eye-tracking study, we have so far tested 96 advanced late L1 French or English L2 German learners and 89 L1 Germans who are long-time expats in France or the UK. All participants showed knowledge of form-function mappings of German articles in a pretest. They listened to sentences with postverbal article forms that are either ambiguous for gender (plural: “die” → fem or masc) or not (singular “der” → fem). All subsequent nouns were human referents, which ruled out any uncertainty regarding their gender.

For plurals, both groups made more predictive looks to prototypically associated (female) referents following ambiguous “die” (Figure 1, upper panels). This indicates that listeners rely on high-frequency form-associations in processing. For singulars, the L1 group did not make associative predictions for the masculine referent with “der”, which suggests that the grammatical context constrains form-based associations. Yet, the L2 group did not use the grammatical context to restrict looks solely to the feminine referent (Fig. 1, bottom right).

These differences suggest that L1 speakers, even after long-term bilingualism, integrate grammar to constrain associative mappings in processing. In contrast, L2 learners, despite having off-line grammatical knowledge, cannot fully integrate it to suppress high-frequency form-based associations in real-time comprehension. We will further explore effects of the contact language (French vs English), proficiency and dominance across and within the groups to assess the extent to which age of acquisition effects interact with cross-linguistic influence, proficiency and language use factors in constraining associations by the grammar in predictive processing.

Keywords: prediction, visual world eye, tracking, grammatical gender, surface forms, German, L2 learners, attriters, simultaneous bilinguals, language processing

# **‘That’s Wot I Heard’: The Perception of Vowel Contrasts by Francophone Learners of English (2-20)**

*Black Tacita*

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Second language (L2) acquisition requires learners to perceive and produce novel speech sounds and distinguish between contrastive categories that may not be present in their first language (L1). Some theories, such as the Perceptual Assimilation Model for L2 learners (PAM-L2; Best & Tyler, 2007) posit that non-native perceptual competence is determined by learners’ tendency to perceive unfamiliar L2 sounds as exemplars of L1 phonemes. Unlike monophthongal contrasts, diphthongs have received little attention in research on perception, particularly in learners whose L1 lacks phonemic diphthongs. Francophone learners frequently shift English diphthongs to monophthongs in production, calling into question whether this reflects inaccurate perceptual representations or difficulties in mapping perceptual cues onto articulatory targets. Seventeen L1 French students (aged 18-22) with no reported language-related impairments completed an ABX discrimination task using non-words containing 6 English vowel contrasts (Table 1). Reaction time (RT) and accuracy were analysed using mixed-effects models to assess contrast-specific perceptual difficulty. Though overall accuracy was near ceiling across contrasts (M = 92,6%), likely reflecting the advanced proficiency of the sample, mixed-effects models showed an effect of contrast on both accuracy ( $z = 2.03$ ,  $p = .042$ ) and on RT ( $t = -2.81$ ,  $p = .005$ ). Results suggested that learners experienced the greatest difficulty with /ʌ-ɒ/, with slowest RTs and relatively low accuracy, suggesting increased perceptual effort and less stable category separation, consistent with PAM-L2 predictions for overlapping assimilation patterns. In contrast, the /i:-ɪ/ contrast produced fast responses but the lowest accuracy, indicating quick but unreliable categorisation, possibly reflecting category overlap or category-goodness differences. Despite apparent asymmetries in production, learners discriminated between diphthongal contrasts relatively quickly and reliably, suggesting that production errors may result instead from difficulties at the (phono)lexical level (see Ellis, 2022) or from incomplete mapping between acoustic-perceptual representations and articulatory targets, compatible with accounts in which L2 perception precedes target-like production (e.g. Flege & Bohn, 2021).

Limitations of the present pilot study include the use of isolated non-words, which may facilitate auditory discrimination compared to real-word contexts. Ongoing work will examine whether these perceptual patterns extend to lexical processing and production, and may further explore L1-L2 category mappings through phonetic categorisation tasks in order to better understand how L2 models can be applied to cross-linguistic phenomena.

Keywords: perception, PAM, L2, L2, vowels, phonetics

## **Shifting Dominance: The Role of Early Life Factors vs. Community Immersion in Late German-English and German-French Bilinguals (2-21)**

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Early life experience is considered to have a strong impact on a bilingual speaker's language dominance profile, with earlier ages of acquisition leading to stronger dominance (Flege et al., 2002). However, the predominant community language may also impact dominance, and with extensive L2 immersion, a late bilingual's dominance may shift towards the L2 (Silva-Corvalán & Treffers-Daller, 2016). The Bilingual Language Profile (BLP, Birdsong et al., 2012) is one of the most used methods of assessing bilingual language dominance, combining both early life and current use factors alongside proficiency and attitudes. To investigate possible dominance shift among long-term immersed late bilinguals in the European context, and the role of early life experiences in language dominance, we use the BLP, and an adapted version with early life factors (age of acquisition, age of comfort, age of fluency, years spent in family) removed. We analysed data of 86 L1 German speakers (48 L2 English, 38 L2 French) living in the UK or France and 95 L2 German speakers (44 L1 English, 51 L1 French) living in Germany. All participants moved to their L2 environment after age 16, and had lived there for 5-38 years (mean: 19.25).

Results are shown in Figure 1. When including early life factors (as in the standard measure, darker dots), most participants are dominant in their L1 (blue dots), with only a few outliers more dominant in the L2 (red dots). These outliers are most likely to be participants with L2 English. For each group, there is a significant difference between the standard score and the score without early life measures (lighter dots), with scores shifting towards the L2 when early life measures are excluded. However, only in the L1 German/L2 English group does this translate to an overall shift towards L2 dominance, where 58% of participants then fall into the L2 dominant category.

Our results suggest that dominance shift, at least when measured through the BLP, is much less common than may be expected – even for highly proficient, long-term immersed bilinguals. This generally also remains the case if we remove early life experiences, suggesting that these do not have a special impact. Given the status of English as a lingua franca in the European context (Sherman, 2018), speakers with L2 English are more likely to shift in dominance than speakers with L2 French or German. L1 English speakers are least likely to shift towards L2 dominance.

Keywords: dominance, Bilingual Language Profile

# **Beyond Words: How Native Speakers Adapt Speech and Gestures to Non-Native Speakers (2-22)**

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Interactions between native and non-native speakers often prompt native speakers to adapt their speech through Foreigner-Directed Speech (FDS). This register is commonly characterized by a slower speech rate and vowel hyperarticulation, measured as a larger vowel space area between the three corner vowels (/a, i, u/) (Knoll et al., 2009; Uther et al., 2007). However, while acoustic adjustments of FDS are well-documented, communication is an inherently multimodal endeavor. Recent studies indicate that gestural behavior also adapts during interactions with non-native addressees (Tellier et al., 2021), yet there is currently a lack of direct empirical evidence on the integration of co-speech gestures with FDS.

The present study seeks to bridge this gap by investigating how native speakers adapt gestures during FDS and whether these adjustments are modulated by the addressee's proficiency. We employed a speech-gesture elicitation task where native Spanish speakers interacted with imaginary confederates across three conditions: a low-proficient non-native addressee, a high-proficient non-native addressee, and a native addressee. Participants guided addressees through a grid containing various objects. To ensure gesture elicitation, target objects were paired with modifiers to ensure detailed descriptions and the path was marked with arrows to elicit spatial directions. In this study, we focused particularly on the use of referential gestures (e.g., iconic gestures), as they convey semantic meaning (McNeill, 1992) and facilitate comprehension in a non-native language (Kelly, 2009).

Data collection is currently ongoing. Using ELAN software and the M3D annotation system (Rohrer et al., 2025), analyses will focus on three primary dependent variables: vowel space area (speech), and gesture rate and size. These measures will be submitted to separate linear mixed effects models, with addressee proficiency (native, low, high) as the independent variable. We expect participants to produce FDS when addressing non-native addressees and Native-Directed Speech (NDS) to the native addressee. We expect an increase in referential gestures in FDS than in NDS and that FDS will elicit more and larger referential gestures than NDS. Furthermore, if communicative intent varies by the addressee's language proficiency, we expect more pronounced adaptations of both FDS and gestures for low-proficient than for high-proficient addressees.

Furthermore, we expect a positive correlation between acoustic hyperarticulation and gesture features, suggesting a unified multimodal strategy to enhance communicative clarity. This study provides the first direct exploration of simultaneous speech – gesture adaptations and the specific impact of listener proficiency on these strategies.

Keywords: multimodal speech, speech production, gestures, FDS, multilingualism, L2

## **Bilingual Processing of Scalar Implicature: Resource Limitations and Pragmatic Preferences (2-23)**

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Research on pragmatic implicature concerning quantifiers such as some (interpreted pragmatically as some but not all) shows that bilinguals either prefer a pragmatic interpretation of some over its logical interpretation (some and possibly all), or have no preference (e.g., Dupuy et al., 2018; Feng and Cho, 2019). Slabakova (2010) proposed that bilinguals struggle to compute logical meanings due to processing limitations, as for this interpretation to arise, the pragmatic implicature that occurs first by default must be cancelled (Levinson, 2000). Thus, bilinguals may lack sufficient cognitive resources to cancel the logical reading, leading to a preference for pragmatic interpretation.

We assess this by testing implicature in two sentence types: Absolute Truth (Some/Many/All rainbows are colourful) and Stereotypical Truth (Some/Many/All knives are sharp). Reading some/many will generate a pragmatic interpretation, and when reaching the underlined critical word, in the Absolute sentence only, the logical reading is preferred (due to lack of alternatives). Therefore, at the critical word in Absolute, there should be a processing slowdown relative to Stereotypical due to the cancellation of the pragmatic reading to allow for a logical reading. Moreover, as compared against all, which does not generate an implicature, some/many should be read slower due to these processes occurring. If bilinguals have sufficient resources, then these effects should be present and have similar judgments to native speakers.

Participants were 78 Chinese speakers of English (CEFR B1–C1) and 27 English natives. In a self-paced reading experiment, they read sentences with spillover regions, and judged their truth. Reaction times (RT) for the critical and post-critical words were analyzed, alongside judgments and judgment RTs, using mixed-effects models. Working memory was included as a covariate. Table 1 shows descriptive statistics. Bilingual processing RTs show Absolute many is processed slower than Stereotypical only at post-critical word ( $p < .05$ ), whereas English natives within Absolute process many slower than all at critical word ( $p < .05$ ). This suggests pragmatic cancellation occurs in English natives at the critical word, whereas this appears weak and delayed in bilinguals. Judgment data importantly shows bilinguals rate Absolute some/many ( $p_s < .05$ ) higher than English natives, indicating a preference for pragmatic interpretation. Judgement RTs show English natives process Absolute some/many slower than Stereotypical ( $p_s < .001$ ), not found in bilinguals, suggesting bilingual minimal consideration of a logical interpretation.

Crucially, divergent processing and judgement behaviour between bilinguals and natives shows bilinguals prefer pragmatic interpretations within an Absolute logical environment, suggesting that generating logical interpretations is challenging.

Keywords: Bilingualism, pragmatics, scalar implicature, processing

# Disentangling Pragmatic and Structural Cues in L2 Relative Clause Processing: An Eye-Tracking Study of Mandarin-English Bilinguals (2-24)

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In English, subject-modifying relative clauses (RCs) create center-embedded (CE) structures (as exemplified in 1-2 below), whereas object-modifying RCs form right-branching (RB) structures (as in 3-4). Although the difficulty of object-extracted RCs (ORCs) over subject-extracted RCs (SRCs) is well-established, the syntactic complexity stemming from modification types and extraction sites—and how pragmatic cues interface with this structural complexity in L2 processing—remains under-explored.

- 1) CE-SRC: The student [who directly challenged the professor] trusted the principal.
- 2) CE-ORC: The student [who the professor directly challenged] trusted the principal.
- 3) RB-SRC: The principal trusted the student [who directly challenged the professor].
- 4) RB-ORC: The principal trusted the student [who the professor directly challenged].

The present study investigated how forty Mandarin-English bilinguals navigate these cues in an eye-tracking sentence-reading experiment. RC modification (CE vs. RB) and RC types (SRC vs. ORC) were manipulated. To ensure internal validity and address potential lexical interference, stimuli were strictly controlled for word frequency, length, and thematic-role-induced plausibility—all the nouns were human and formed reversible relationships with the verbs. Besides, given that Mandarin has prenominal RCs, direct transfer of L1-based procedures was not expected for these participants when reading English postnominal RCs (Witzel & Witzel, 2021).

The linear mixed-effects models were employed to analyze eye-movement indices at regions of interest (ROIs). Total viewing times on the RC region revealed that CE structures required greater effort than RB ones ( $t=-4.538, p<.001$ ), and ORCs took longer than SRCs ( $t=4.527, p<.001$ ), with no interaction found. Similar patterns were found in the rereading times at RC-internal NPs and also in the global fixation counts. These findings suggest that the late-stage integration is primarily driven by storage and integration loads, supporting memory-based hypotheses (e.g., Dependency Locality Theory in Gibson, 2000). However, unlike native speakers, who might prioritize pragmatic cues, such as old-new information chains, over memory loads in RB structures (Gibson et al., 2005), the L2 learners were more dominated by structural complexity during reanalysis.

Crucially, a significant interaction was found in the first-pass time at the RC-internal NPs ( $t=-2.156, p<.05$ ). CE-SRCs were easier to process than other conditions during the early stage, supporting the Perspective Shift Hypothesis (MacWhinney & Pléh, 1988): while CE-SRCs requires no perspective shift during initial integration, the other three conditions require 1 or 2 perspective shifts. However, as the interaction vanished in TVTs and rereading measures, it appears that while perspective shifts influence early-stage L2 processing, later-stage reanalysis is dominated by structural complexity.

In sum, L2 learners exhibit early sensitivity to syntactic cues but are ultimately limited by the cognitive demands of structural integration. Besides, while natives seem to be under the influence of pragmatic cues—such as old-new information chains, these findings highlight the dynamic resource allocation in bilingual sentence processing, where memory constraints eventually override discourse-functional cues during later stages of analysis.

Keywords: Bilingual / L2 Processing, Eye, tracking, Syntactic Processing, Language Control, Relative Clauses

# **Gender-Stereotypes Matter, but Maybe Not L1: Self-Paced Listening and Acceptability Ratings of English Pronouns in Adult Monolingual and Heritage Bilinguals (2-25)**

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Processing English gendered pronouns (he or she) referring to stereotypically-gendered nouns either results in faster reaction times (RT), or slower RT compared to processing “they” depending on methodologies (self-paced reading [1], eye-tracking [2]) and proficiency in English [3, 4]. Acceptability rating studies have similarly produced conflicting findings [2, 3].

Despite increased interest in referring to non-binary individuals with “they” pronouns [5], no studies to date have examined aural processing of singular “they”. Furthermore, little is understood about whether adult heritage bilinguals who speak different types of L1s might process and rate “they” differently.

Research Questions:

- 1) Are gendered pronouns and singular “they” processed or rated differently?
- 2) To what extent does speaker group (English monolingual vs. gendered-pronoun heritage bilingual [GP-HL] vs. Chinese heritage bilingual [Chinese-HL]) modulate processing and ratings of gendered pronouns and singular “they”?

Using self-paced listening (SPL) and acceptability judgment task (AJT), we studied processing and ratings of English pronouns (he, she, they) by Chinese-HL (N = 101) and GP-HL (N = 34), and English monolinguals (N = 49) from Canada. We fit linear mixed-effects models (response variable of log-transformed RT of the critical segment for SPL) and cumulative link mixed models (response variable of acceptability rating for AJT) with fixed effects of subject gender, pronoun, trial progress. All models included random effects of participant, pronoun, and item.

For male-stereotyped subjects, matching pronouns were processed faster than mismatching pronouns ( $p=.002$ ), and for female-stereotyped subjects matching pronouns were processed slower than “they” ( $p<.001$ ). “They” was always processed faster than mismatching pronouns ( $p<.001$ ). Matching pronouns were rated best ( $p<.001$ ), followed by “they” pronouns ( $p<.001$ ), and mismatching pronouns being rated worst ( $p<.001$ ). Then we added speaker group as an additional fixed effect to our models. Chinese-HL were the fastest in processing the pronoun segment ( $p<.001$ ), followed by monolingual English ( $p=.040$ ), and GP-HL ( $p=.033$ ). However, speaker group did not have an effect on acceptability ratings ( $p=.917$ ).

Aural pronoun processing is influenced by subject gender-stereotypes –male-stereotyped subjects are more associated with its stereotype-matching pronoun than female-stereotyped subjects. Contrastively, female-stereotyped subjects have such a loose association with stereotype-matching she that they are processed slower than “they”.

Although spoken Chinese lacks phonological cues to distinguish pronoun gender, Chinese-HL outpaced both monolingual English and GP-HL in processing pronouns, while providing similar acceptability

ratings. This suggests that cross-linguistic influence does not impact gendered pronoun processing in English-dominant heritage bilinguals.

Keywords: self-paced listening, acceptability judgment, processing, pronoun, gender, English, heritage bilingual, adult

## How Do L2-Learners Interpret More Complex Pronominal Forms? (2-26)

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**Background:** Previous research on L2 pronoun resolution has found that resolving more complex pronominal forms (e.g., overt pronouns in a pro-drop language) constitutes a major challenge for L2-learners, compared to more reduced counterparts (i.e., null pronouns). Learners often exhibit a target-deviant preference for a more salient antecedent for complex pronouns, which is often explained by L1-influence (Sorace & Filiaci, 2006). However, this observation is also compatible with an L1-independent general learner strategy of preferring the more accessible referent for all pronominal forms (Roberts et al., 2008; Schimke et al., 2018). The current study aimed to investigate the role of L1, general learner effects, and their interaction with individual differences, particularly L2-proficiency, in anaphoric pronoun resolution. We examined how Chinese and Spanish learners interpret more reduced personal pronouns (“er”/ “sie” he/she) and more complex demonstrative pronouns (“der”/ “die” that) in German.

**Method:** We recruited 34 German native speakers, 61 Spanish and 64 Chinese learners of German for an eye-tracking experiment using the Visual World Paradigm. Participants were viewing a picture, where two potential antecedents were presented, while listening to a sentence containing either a personal or a demonstrative pronoun (see Figure 1). After this sentence, participants heard a question that prompted them to resolve the pronoun to one of the two potential referents. In addition, participants were required to fill out a background questionnaire and take a LexTALE vocabulary test (Lemhöfer & Broersma, 2012) and a cloze grammar test.

**Results:** As Table 1 shows, online (1a), the proportional fixation on the subject referent suggests a default general learner effect. A linear mixed-effects model on log-odds transformed fixation data of both learner groups between 500 and 1000ms revealed no effect of the L1, but a main effect of pronominal form (1b). Offline (1c), a generalized linear mixed-effects model revealed a significant main effect of L1, pronominal form, and discourse relation realized by subordinating conjunctions (“before” vs. “while”). No significant interaction was found in online or offline processing. Moreover, high proficiency levels, as measured in the grammar task, were positively correlated with the target-like interpretation of demonstrative pronouns and the effect was stronger in forced choices than in real-time processing.

To conclude, demonstrative pronouns were extremely difficult to resolve. L2-learners tended to rely on a general learner strategy and place more weight on discourse information. However, learners could reduce the reliance on general learner effects and approach a target-like interpretation as the proficiency increased.

**Keywords:** second language acquisition, first language influence, general learner effects, language proficiency, German personal and demonstrative pronouns

# Individual Differences in the Processing of Present Perfect: An ERP Study with Polish-English and Welsh-English Bilinguals (2-27)

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Event-related potential (ERP) studies on language processing tend to assume homogeneity of responses across participants, with the N400 typically indexing semantic anomaly detection, and the P600, syntactic violations. In second language (L2) processing, N400 variations can be found in response to syntactic violations in low L2 proficiency learners or for structures non-existent in participants' native language (L1). However, studies increasingly demonstrate variability in N400 and P600 responses amongst L1 and L2 speakers (e.g., Grey, 2023; Tanner & Van Hell, 2014).

Here, we investigated individual differences in the processing of *present perfect* in highly proficient Polish-English and Welsh-English bilinguals. While Polish lacks an equivalent of *present perfect*, Welsh resembles English, making a distinction between *present perfect* and *past simple*. ERPs were recorded in participants (N = 32 per language group) making acceptability judgements on sentences that either were grammatically correct (e.g., *Recently students have written an essay*) or included tense violations between the time adverbial and the verb (e.g., *Last month students have written an essay*). Following Li et al. (2018), the analyses focused on the N400 (350-500 ms) and P600 (600-900 ms) time windows over centro-parietal electrodes.

Repeated-measures ANOVAs showed a significant group  $\times$  grammaticality interaction ( $p = .049$ ) in the N400 time window, with a significant N400 effect in Welsh-English ( $p = .023$ ), but not in Polish-English ( $p = .619$ ) bilinguals. P600 amplitudes were not significantly modulated by sentence grammaticality in either group ( $ps > .05$ ).

Participants were subsequently divided into two subgroups based on their Response Dominance Index (difference between P600 and N400 grammatical sensitivity; see Tanner & Van Hell, 2014). In the negativity-dominant subgroup ( $N_{\text{total}} = 35$ ,  $N_{\text{Polish-English}} = 20$ ,  $N_{\text{Welsh-English}} = 15$ ), there was an N400 effect both in Polish-English ( $p = .007$ ) and Welsh-English ( $p < .001$ ) bilinguals. Analogically, a P600 effect was observed in the positivity-dominant subgroup ( $N_{\text{total}} = 29$ ,  $N_{\text{Polish-English}} = 17$ ,  $N_{\text{Welsh-English}} = 12$ ), both in Polish-English ( $p < .001$ ) and Welsh-English ( $p = .003$ ) bilinguals. Furthermore, N400 and P600 amplitudes were negatively correlated ( $r = -.77$ ,  $p < .001$ ) across all individuals.

Overall, ERP responses elicited by tense violations varied along an N400-P600 continuum, irrespective of the existence of *present perfect* in the participants' other language. This variability masked out grand-mean effects, producing weak group-level ERP differences despite robust individual sensitivity. These findings contribute to growing evidence of individual variability in electrophysiological responses to syntactic violations, even at native-like proficiency levels.

Keywords: event related potentials, individual differences, syntactic processing, second language processing

## **Interaction between orthography and phonology in bilinguals: a psycholinguistic approach to word production in the picture-word interference paradigm (2-28)**

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Previous research has shown that in languages with alphabetic scripts, phonologically similar word forms have shared representations and may prime lexical access (Hermans et al., 1998; Sánchez-Casas & García-Albea, 2005). Moreover, even when bilinguals use languages with different alphabets, both are activated when using one language and cross-language priming effects are observed between items with phonological similarity (Kaushanskaya & Marian, 2007; Voga & Grainger, 2007). However, logographic scripts seem to be processed differently and their phonological priming effects remain unclear. In a Picture-Word Interference (PWI) task, Wang et al. (2025) found a facilitation effect from Mandarin Chinese distractor words phonologically related to the English picture name, while Hoshino et al. (2021) observed no such effect in Japanese-English bilinguals, arguing that access to phonological information is more indirect for logographic scripts than alphabets.

In this study, we examined the effect of two variables on oral word production: the presence of a visual logographic distractor, and the phonological similarity between a logographic distractor and the name of the image in a language with alphabetic script. Two PWI tasks were designed where participants had to name pictures in French, their L2, while ignoring a Mandarin (L1) distractor word, that they would either hear via headphones (auditive task) or see in logographic form together with the picture (visual task). In both tasks, each picture was paired with a phonologically similar distractor (false cognate condition) and a control word (control condition). None of the distractors was semantically related to the picture name.

Our hypotheses were as follows: first, the visual presence of non-target logographic character might facilitate prior inhibition of the non-target language and access to the target language for production, thereby reducing RTs. Second, the phonological representations of the Mandarin distractor were expected to be co-activated during picture naming in French entailing a facilitation effect when naming in the false cognate condition.

17 Mandarin-French late bilingual adults produced reliable results for analysis. The statistical models showed that the RTs were overall shorter in the visual task than in the auditive task, supporting our first hypothesis. However, significant facilitation of false cognates was observed only in the auditive task, indicating a co-activation of phonological information of the distractors but suggesting that logographic characters do not activate phonological information sufficiently to impact the naming process. In summary, this research provided further evidence in favor of differentiated processing of typologically distant scripts in bilingual lexical access.

Keywords: bilingual lexical access, logographic script processing, false cognates, picture word interference

## Language experience modulates infants' multisensory recognition of other-race faces: bilingualism or language exposure? (2-29)

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Nine- and twelve-month-olds recognize other-race faces when these are associated with their non-native language, but not when associated with their native language (Clerc et al., 2022). These results highlight the strong link between face and speech perception during infancy (see also Hillairet de Boisferon et al., 2021). D'Souza and D'Souza (2021) propose that key characteristics of bilingual environments —such as reduced exposure to each language and increased auditory variability and noise —pose specific challenges for infant development and require adaptive processes beyond language acquisition. Indeed, bilingual infants show better recognition abilities for individuals or words regardless of the familiarity with the language or the ethnicity of the stimuli, respectively (Fecher & Johnson, 2019; Singh et al., 2020). In the current study, nine-to twelve-month-olds were assigned to a monolingual (L1 exposure >75%) or bilingual group (L1≤75%; DeAnda et al., 2016). Using the same procedure and materials as Clerc et al. (2022), infants were shown still photographs of a non-native face while audio was played in either a native (N=29 monolinguals; N=26 bilinguals) or non-native language (N=27 monolinguals; N=27 bilinguals). During the recognition test, the familiar face and a novel one were displayed side by side. Proportion of total looking time toward the novel face was used as an indicator of novelty preference. Results revealed that infants in all four conditions exhibited recognition memory for the other-race face [all  $p < .05$ ], and no difference between groups was observed [ $F(3,105)=0.04$ ,  $p=.30$ ]. Importantly, unlike in Clerc et al. (2022), our monolingual groups performed similarly in the native condition [57% novelty preference,  $p < .001$ ] and the non-native condition [54.3%,  $p < .05$ ],  $t(54)=1.26$ ,  $p=.89$ . These contradictory results may reflect the multilingual environment to which our monolingual infants are exposed. In line with recent theoretical proposals (D'Souza & D'Souza, 2021; Bialystok, 2024), this exposure alone may entail adaptations in speech and face perception beyond language learning, such as increased attention to speakers in the background. Following this idea, additional analyses revealed that a monolingual subgroup whose parents spoke a different language between them than to their infants (N=15, L1>75%) outperformed [60.78%,  $p < .001$ ] their monolingual counterparts (N=15, L1>75%, matched by education level and age) whose parents did not change language [53.4%,  $p=.06$ ],  $t(28)=1.74$ ,  $p < .05$ . Furthermore, a stricter monolingual subgroup (N=14, L1>75%) — unlikely to be exposed to an L2 in the environment (based on sociodemographic data; Franquesa et al., 2018) and thus more equivalent to Clerc et al. (2022) sample — did not show recognition memory [51.5%,  $p=.36$ ]. These results may suggest that varying language exposure per se, rather than bilingual or monolingual language acquisition, modulates the multisensory association between speech and faces in infancy.

Keywords: Infancy, Language Exposure, Bilingualism, Face Recognition, Novelty Preference