**COM2020 POSTERS - ABSTRACTS**

**Poster session 1 (23rd June, 12-14; 16-16:30)**

**Jasmijn Bosch, Ianthi Tsimpli and Maria Teresa Guasti**

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

As in many other post-colonial countries, the language of education in the Maldives is English. Although the large majority of people in the Maldives only speak Dhivehi at home, English is the obligatory medium of instruction (MOI) in schools. This may be problematic for educational outcomes, since children are educated in a language they do not fully master, often by teachers whose proficiency is insufficient.
The statistics released by the Maldivian Ministry of Education, confirm that academic achievement in the Maldives is a reason for concern, with around 40% of students failing the National Assessment of Learning Outcomes in Grade 4 and Grade 7 (Education Sector Analysis, 2019). As suggested by Mohamed (2013), these poor results may at least partly stem from the fact that English is used as the MoI. Using a qualitative design, Mohamed found that while proficiency in English was deemed valuable for academic success, concerns were raised regarding the use of English as the only MoI, especially by educators. In fact, preliminary results of a large-scale study on academic achievement of children in India suggests that overall performance of children in Delhi is lower in English-medium schools than in schools that offer education in Hindi, even though no such differences were found in the more rural region of Hyderabad (Tsimpli et al, 2019; Marinis, 2019).
In order to investigate whether the poor educational outcomes in the Maldives are indeed related to insufficient proficiency in the language of instruction, we conducted a case study in which we examined the level of English, as well as literacy and numeracy outcomes, in 25 children attending the 5th and 6th grade of a public school on a small island in the Maldives. We aimed (1) to establish the level of proficiency (vocabulary and morphosyntax) after five to six years of education in English, (2) to examine whether reading abilities are related to the different components of English proficiency, and (3) to examine whether performance on different types of mathematical problems are related to language and reading skills.
Our results show that children strongly underperformed on all language, reading and mathematics tasks, while they performed normally on a nonverbal intelligence test. Furthermore, we found a significant correlation between English vocabulary and reading accuracy (r = .455, p = .04), and between mathematical word problems and vocabulary (r = .454, p = .03) as well as reading accuracy (r = .444, p = .04). By showing that language, literacy and mathematical abilities may indeed be inter-related, the present study contributes to a growing body of research that suggests that the imposed use of a second language as the only MoI may be detrimental to learning outcomes.

**Holly Joseph and Jeanine Treffers-Daller**

*Incidental word learning during reading in children who speak English as an additional language: Evidence from eye movements*

Background. Children who speak English as an Additional Language (EAL) generally have smaller vocabularies and poorer reading comprehension skill in English than their monolingual peers, yet they also make faster progress in literacy at school (Strand et al., 2015), suggesting that they may employ particular skills or strategies that enable their rapid improvement. While a number of previous studies have observed superior word learning in bilingual children using explicit learning tasks, incidental learning of novel words through reading has not been studied in EAL children. As reading is the primary medium through which older children encounter new words, it is important to see whether any bilingual advantage in word learning observed in explicit tasks is also seen during incidental learning during reading in EAL children.

Method. Two eye tracking experiments were conducted with EAL and monolingual children, aged 10-11 years. In both experiments, children read a series of sentences containing multiple presentations of low frequency unfamiliar words (Experiment 1) or nonwords (Experiment 2) over two or three exposure sessions while their eye movements were monitored. In Experiment 1, children also read the target words in neutral or informative sentences before and after exposure which served as pre- and post-test comparisons. In Experiment 2, after exposure children read sentences containing the target words which were consistent or inconsistent with the correct meaning. Number and distribution of exposures were also manipulated in Experiment 2. In both experiments, children were given three offline post-tests to measure their orthographic and semantic learning of the novel words/nonwords.

Results. Results across the two experiments showed that EAL children demonstrated evidence of more efficient learning (a larger difference between pre- and post-test reading times and a greater reduction in reading times over exposure), although there were no group differences in offline post-test performance. EAL children were also more sensitive to sentence context than monolingual children, showing a larger difference in reading times on neutral versus informative contexts earlier in the eye movement record than monolingual children. There was no effect of distribution of exposures (massed versus distributed).

Conclusions. EAL children’s relatively rapid incidental vocabulary learning under tightly controlled conditions may be due to their experience in learning new words with fewer encounters (by virtue of using each language only part of the time) and their experience encountering words in more diverse contexts (i.e. language environments). This is further supported by their greater sensitivity to the context in which a word is encountered. This may mean that reading for pleasure is a sensible recommendation for increasing vocabulary knowledge in EAL children.

**Joanna Porkert, Hanneke Loerts, Anja Schüppert and Merel Keijzer**

*Can a trucker be a woman? - On the effects of bilingualism and personal attitudes on cognitive flexibility and the processing of implicit gender stereotypes*

This brain activity study investigates the elicitation of implicit occupational gender stereotypes (i.e. the association between a specific occupation and a sex; e.g. a trucker is a man) in sequential and simultaneous bilinguals. Previous research has shown that these kinds of stereotypes are a common phenomenon in Western societies, but often difficult to investigate due to socially desirable responding. Fortunately, stereotypes can be disclosed with the ERP-technique showing mostly a negative deflection in brain activity (i.e., the N400) after a perceived gender stereotype mismatch (e.g. the trucker and her…).
It has been shown that the upbringing by parents affects gender stereotyping in children (Turner & Gervai, 1995). Furthermore, research found that the score on ambivalent sexism affects the ERP amplitudes of participants to stereotype-incongruent stimuli in the course of the experiment showing that less sexist attitudes lead to reduced electrophysiological responding to incongruent stimuli over time (Grant, Grey & Van Hell, 2020). The present study seeks to confirm these findings by demonstrating that personal attitudes with respect to gender equality and sexism, and upbringing influence the emergence and amplitude of implicit occupational gender stereotypes in a reading task.
We hypothesize that adapting to these stereotypes and showing reduced electrophysiological
response over time is correlated with greater cognitive flexibility. Previous research found
bilinguals to show higher cognitive flexibility (see Marzecova et al., 2013), and more flexibility to adapt to new social environments (see Ikizer & Ramirez-Esparza, 2018), which we hypothesize is greater in simultaneous than in sequential bilinguals. We argue that acquiring two languages and two cultures from birth onwards is a distinct way of upbringing that will lead to higher flexibility and openness to new social contexts in comparison to acquiring an L2 at an older age and will reflect in the emergence of implicit occupational gender stereotypes.

**Wenhsien Yang**

*Toward a bilingual country: Developing learners’ intercultural awareness in CLIL approach at Taiwan tertiary level*

Communicative skills, cognitive development, content achievements and cultural awareness are the four pillars of the CLIL approach. There has been extensive research on the former three, but little on how CLIL benefits learners’ cultivation of intercultural awareness, largely owing to the difficulty of identifying the contribution to acquiring cultural knowledge. This study demonstrates how university language teachers collaboratively produced a customised language-based CLIL course-book to develop learners’ cultural quotient (CQ) in four dimensions: motivational, cognitive, meta-cognitive and behavioural CQ in helping Taiwan become a bilingual country by 2030. Quantitative and qualitative methods were used, including a survey to evaluate the course-book, pre- and post-course CQ assessments, and interviews with learners and book writers to understand the learners’ progress and whether the book achieves its purpose of helping students acquire cultural knowledge. Forty-one university CLIL learners planning one-year industrial placements overseas or domestically participated and were explicitly instructed in intercultural knowledge for 18 weeks using the course-book. The results revealed that the learners highly agreed with the aims, achievements and teachability of the course-book, but had some concerns about the embedded fixed cultural representation. Female learners and those going overseas for placements exhibited more affirmative attitudes towards the indispensability and effectiveness of the explicit instruction. Those who took the course demonstrated significant improvement in the CQ scale after 18 weeks. Discrepancies by gender and placement destination shrank significantly compared to the beginning of the instruction. However, the learners and teacher interviewees held divided opinions about how cultural knowledge should be taught and assessed in CLIL classrooms, and who is more eligible to teach it. The research concludes that addressing cultural issues with the CLIL approach may increase learners’ cultural competence, but more investigations are needed on other critical issues such as the representative norms of cultures in highly homogeneous monolingual or pre-bilingual CLIL classrooms in many Asian contexts.

**Mariam Komeili, Theodoros Marinis and Parvaneh Tavakoli**

Effects of Internal and External Factors on the Language Skills of Farsi English Bilingual Children

Background: How and when bilingual children acquire and use their languages can significantly
differ from child to child. Internal (age at onset -AaO, length of exposure -LoE and age at testing - AaT) and external (total use of language, parental education and language richness) factors influence language development and acquisition in both a child’s languages. While some studies show correlations between levels of exposure and vocabulary size other studies show levels of exposure correlate more with grammatical knowledge in each of a bilingual child’s languages. Jia and Fuse (2007) found that internal factors, such as AaO and LoE, had an effect on morphosyntax, while Oller and Eliers (2002) found that aspects, such as parental education, use of English in the home, amount of input, and parents proficiency in the second language, each correlated to vocabulary acquisition.
Purpose: To investigate the language skills of heritage Farsi and English majority children in the first 3 years of primary school and identify what factors (internal and/or external) can predict their performance
Methodology: Thirty Seven typically developing Farsi-English bilingual children in Canada between the ages of 6 and 11 participated in this study. The children were living in an English majority community, attending school in English, and were English dominant. Baseline tasks included a parental questionnaire, a verbal working memory task, a non-verbal IQ task, and the LITMUS-CLT, while the experimental tasks were the LITMUS-SR and LITMUS-MAIN in English and Farsi.
Research Questions:
1) Is there a difference between the children’s proficiency in Farsi and English as measured by vocabulary, morphosyntax and narrative microstructure.
2) How do scores on the Baseline tasks predict scores on the experimental tasks for each language separately.
3) Which internal and external factors predict performance on morphosyntactic and microstructure tasks for each language?
Results: The participants demonstrated greater proficiency in English as measured by vocabulary and morphosyntax. Vocabulary was highly correlated and a significant predictor of sentence repetition scores and narrative microstructure scores in both English and Farsi. LoE to English was positively correlated and a significant predictor of sentence repetition and narrative microstructure performance in English but not in Farsi. Language richness was a significant predictor for sentence repetition performance in Farsi and narrative microstructure scores in English. Finally, non-verbal intelligence was correlated with English SR scores while verbal working memory was correlated with Farsi SR scores.
Conclusions: The results demonstrate that internal and external factors have varying effects on the morphosyntactic and narrative microstructure in Farsi and English. Internal factors, such as aptitude and working memory influence and can predict the development of morphosyntax in both English and Farsi. The quality of input (language richness) rather than the quantity of input (LoE or AaO) seems to have a greater impact on Farsi than on English. The lack of correlation between LoE and Farsi scores is likely due to LoE having an effect at an earlier stage of development in Farsi.

**Faidra Faitaki and Victoria Murphy**

*The linguistic outcomes of Greek children learning English as a Foreign Language at preschools*

Across the globe, the starting age of second language (L2) acquisition is decreasing, and children in various European countries are introduced to an L2 in preschool settings (Eurydice, 2017). Officially this is not the case in Greece, but numerous Greek children are known to encounter their first L2, English, at preschool as a result of attending private institutions. (Dendrinos, Zouganeli & Karavas, 2013). Such institutions are allowed to circumvent the national guidelines and include L2 teaching in their curricula. Private preschools in Greece operate one of three programmes: submersion (where 100% of the instruction takes place in English), immersion (where 50% of the instruction takes place in English) and enhanced English as a Foreign Language (EFL) programmes (where at least one hour of EFL per day is incorporated to the standard Greek national curriculum). Although all three programmes are popular with parents, little is known about them and about the linguistic outcomes of the children who attend them. This paper presents a study conducted in order to fill this attested knowledge gap. 194 children (40 in submersion, 42 in immersion, 38 in enhanced EFL, as well as 36 monolingual English and 38 monolingual Greek controls) between 4;0 and 6;0 completed a battery of measures including a vocabulary test, a grammar test and two novel language production tasks that investigated children’s use of specific linguistic constructions (i.e. subject pronouns and subordinate clause markers). Bilingual children completed the battery twice - once in English and once in Greek. At present, the collected data are being analysed statistically. However, it is predicted that bilingual children will perform in a gradient in both tests and tasks, with children in submersion outperforming the other groups in the English treatment and children in enhanced EFL outperforming the other groups in the Greek treatment. Moreover, it is expected that children in submersion will perform most like the monolingual English controls and children in enhanced EFL will perform most like the monolingual Greek controls. These predictions are based on the findings of previous studies on (sequential) bilingualism, which report that the amount of input children receive plays an important role in determining their linguistic proficiency and their crosslinguistic transfer patterns (Argyri & Sorace, 2007; Daskalaki, Chondrogianni, Blom, Argyri & Paradis, 2019; De Cat, 2019; Paradis, 2010). Given its background, design and findings, this paper will add a new perspective to existing research on sequential bilingualism and shed much needed light on the new (and largely unexplored) EFL educational programmes in Greece. The presentation will include the rationale for the study, an outline of its design and a discussion of its findings, such that will highlight the effects of different educational programmes on children’s linguistic outcomes in both their languages.

**Eloi Puig-Mayenco, Susagna Tubau and Jason Rothman**

*Language dominance: a factor modelling L3 developmental trajectories*

This study contributes to better understanding what factors shape the developmental trajectories in L3 acquisition. Recent work has started to explore how initial stages transfer shapes developmental trajectories for the L3, showing that non-facilitative transfer is easier to overcome when it comes from an adult acquired L2 as compared to the L1 (Cabrelli Amaro, Iverson, Giancaspro, & Halloran, 2018). Herein, we examine whether language dominance and order of acquisition shape developmental trajectories for L3 acquisition via a longitudinal study of L3 English by Catalan-Spanish bilinguals. We present data from a Picture-Sentence-Matching (PSM) task tapping into the semantic interpretation of English Negative Quantifiers (NQs) ‘nothing/nobody’ and Negative Polarity Items (NPIs) ‘anything/anybody’ by Catalan-Spanish bilinguals. Although they distribute differently as regards interpretation, Catalan and Spanish only have one corresponding lexical item, a Negative Concord Item (NCI), covering the English NPIs and NQs (nada-‘Sp’, res-‘Cat’: anything/nothing; Nadie-‘Sp’, Ningú-‘Cat’: anybody/nobody). Data from 8 conditions are presented involving either the NQs or NPIs in two control contexts where variation is not expected; and two critical contexts where variation in interpretation is expected if Catalan or Spanish are transferred due to entailed interpretive differences.
We tested 18 truly ab initio Catalan-Spanish bilinguals after an 8-week program of English and tested them again after 11 months of English classroom instruction to examine the developmental patterns for NQs and NPIs. Testing the same participants longitudinally allowed us to have a clear picture of (a) the initial transferred representation and (b) what the representation is after 11 months of exposure/instruction.
The statistical analysis consisted of a battery of generalized linear mixed effects logistic regressions with, among others, language dominance as a continuous variable measured by the Bilingualism Language Profile (Birdsong, et al. 2012). TIME 1 of testing shows that Catalan is the transferred source and that none of the factors we controlled for (order of acquisition, language dominance and language of instruction) were significant predictors. When we compare TIME 1 and TIME 2 to explore developmental patterns in L3 acquisition, the models showed an effect of language dominance (p .< 05) and a significant interaction of language dominance and TIME of testing (p .< 001). The results show that those speakers who are more dominant in Spanish are more likely to overcome non-facilitation from Catalan being the initial transferred language than those speakers who are more dominant in Catalan. We provide empirical evidence showing that language dominance does not have a role in determining the initial transferred representation, but indeed has some explanatory power to explain developmental trajectories in L3/Ln acquisition. We discuss the current results in line with recent proposals for L3 developmental patterns (Cabrelli and Iverson, Submitted).

**Carmen Hevia-Tuero, Sara Incera and Paz Suárez-Coalla**.

*Spanish children learning English: how do grapheme consistency and complexity influence letter detection?*

Grapheme complexity and consistency are characteristics which influence letter detection and sub-lexical orthographic representations formation. These effects already evidenced in monolinguals also impact visual word recognition in second language learners. Graphemes are sub-lexical units that can be shared across languages or specific to L2. When shared, graphemes are not always consistent with both L1 and L2 phonemic correspondences. Besides, some complex graphemes can be found in one language while not in the other.
The purpose of this study was to investigate how consistency and complexity of English graphemes had an influence letter detection in L2 learners. Specifically, we wanted to study if age and level of exposure to English of Spanish children determine the size of the influence of grapheme consistency and complexity. In order to do this, two different letter detection tasks were designed with MouseTracker software. This software allows the collection of performance measures like reaction time, errors and mouse trajectories. Participants were Spanish students of 2º, 4º and 6º grade of Primary Education, who attended to schools that differed in level of exposure to English language. Experiment 1, which was focused on consistency effect, examined congruency of grapheme-to-phoneme mappings across languages. English words containing (1) consistent or (2) inconsistent graphemes were selected. This is, words that are read either like (e.g., detect “A” in park) or unlike (e.g., detect “A” in name) what would be predicted by Spanish GPC conversion rules. In Experiment 2, grapheme complexity was assessed. Two conditions were compared: (1) simple grapheme (e.g., detect “A” in dark) and (2) complex English-specific grapheme (e.g., detect “A” in beach).
Differences in performance were found. Age and level of exposure to English had influence on the effect size. Our results provide information about sub-lexical units processing by Spanish children who are learning English. Furthermore, it contributes with new data on how shallow language speakers learn to read in a deep orthography language like English.

**Daisy Powell, Tze Peng Wong and Rachel Pye**

*Orthographic learning and decoding skills in Malay-English bilingual children*

Reading is essential for success at school, and research on reading in bilingual children has produced mixed results. While a relatively small vocabulary can lead them to lag behind monolinguals in reading comprehension, bilinguals have been shown to have an advantage in word learning over their monolingual peers (Hirosh & Degani, 2018). Moreover, bilingual children have been reported to have strong phonological awareness (PA; e.g. Kuo & Anderson, 2010), a metalinguistic sensitivity to the sound structure of words, which in turn is a good predictor of alphabetic decoding. Bilingual children have also been shown to show relatively strong word-level reading skills (Babayiğit, 2014). English has an opaque orthography, with many irregular words (e.g. yacht, was). As a result, alphabetic decoding is necessary but not sufficient for word level reading: orthographic learning, the ability to commit the written forms of words to memory, is also required. The current research sought to explore the effect of exposure to a consistent orthography on orthographic learning in a less consistent second language (L2), through a comparison between children in Malaysia, who learn to read concurrently in English and Malay, which has a highly consistent orthography, and monolingual English children. 69 bilingual Malay-English children in Malaysia (mean age = 9;02, SD = 4.80) and 39 monolingual English controls (mean age = 9;02, SD = 6.36) in the UK, participated. Children completed an orthographic learning task (Bowey & Muller, 2005), where children were first exposed to target nonwords (e.g. goab) in the context of a lexical decision task. Then, in test phases both immediately after exposure and again one week later, children were asked to select each target nonword, presented alongside three very similar foils (gobe, goak, goke). Detailed measures of word reading, as well as measures of phonological awareness (PA), rapid automatized naming (RAN) and English vocabulary, were also taken. Results showed that while the Malaysian children’s English vocabulary was much lower than the English children’s, and contrary to expectations they had poorer PA, the bilinguals’ orthographic learning was at least as strong as the monolinguals’. In terms of reading, the Malaysian children showed a strength in alphabetic decoding, with significantly higher non-word reading efficiency than UK controls, perhaps reflecting experience with the consistent Malay orthography. English children, however, read words with irregular spellings more accurately, perhaps reflecting their stronger vocabulary or more exposure to print. The novel finding of relatively strong orthographic learning may suggest a mechanism for bilingual’s enhanced word learning abilities, reported elsewhere. The interesting pattern of strengths and weaknesses in bilingual children’s reading and reading related skills is discussed in light of relevant theories of reading development.

**Joanna John, Gabriella Rundblad and Jill Hohenstein**

*Fine-grained patterns of language use contribute to variance in bilingual activation*

Research on bilingual activation over the last decades has achieved a strong degree of consensus that both a bilingual speaker’s languages are held in a state of readiness for use, even while only one is used, e.g. Colomé (2001), Colomé & Miozzo (2010), Spalek, Hoshino, Wu, Damian & Thierry (2014), or Kroll, Dussias, Bogulski & Valdes-Kroff (2012) for a review. While previous studies provide an important evidence base establishing joint activation, one element missing from this picture is consideration of the extent of variance in bilingual activation states. Research has tended to approach the issue of joint activation of the two languages as something of a binary. A complementary approach might additionally choose to assess the possibility that activation states within a single population of bilingual speakers may be subject to considerable variance.
In an adaptation of the phoneme monitoring paradigm used by Colomé (2001), British speakers of English as a dominant language and Punjabi as a heritage language completed an auditory phoneme monitoring experiment in which they monitored the phonemic content of English picture names. Distracter phonemes from the Punjabi name for the picture formed an experimental condition; if Punjabi was active to the lexeme level, participants would be expected to suffer interference as a result of hearing a phoneme from the Punjabi name for the picture. These experimental data were complemented by interviews and surveys yielding rich data on participants’ patterns of language use, particularly across interlocutor categories. Analysis explored whether fine-grained differences in patterns of language use (indexed through survey data) were able to account for some of the variance in bilingual processing (evident in response time differentials between experimental conditions).
Variables based on differences in Punjabi usage were able to account for a third of the variance in bilingual processing. Increased use of Punjabi in a number of specific interlocutor categories was associated with the speed with which Punjabi distracter phonemes could be dismissed. This finding suggests that processing variance in bilinguals is not random but can arise, at least partially, from different usage patterns. Among participants, Punjabi use was restricted to few sociolinguistic domains, mainly home and family. The most significant interlocutor category related to use of the language outside this domain, in speakers’ workplaces and local neighbourhoods. The data suggest that even small pockets of out-of-norm usage for a ‘squeezed’ language may be associated with shifts in activation patterns. Results are consistent with views of the language system as highly adaptive to external cues and requirements, adjusting levels of activation depending on linguistic context and socio-pragmatic landscape. In light of these results, the specificity and complexity of fine-grained language use is argued to be under-explored in studies of bilingual activation states.

**Francesca D'Angelo**

*The Additive Effects of Bilingualism on Third or Additional Language Acquisition: the Role Played by Metalinguistic Awareness*

Previous and current research on the positive effects of bilingualism on Third or additional Language Acquisition (TLA) relates the advantages evident in bilingual learners to the influence of bilingualism on cognitive development and, specifically, metalinguistic awareness (MLA) (Bialystok & Barac 2012, Cenoz 2003, Cenoz & Genesee 1998, Cummins 1978, Jaensch 2009, Jessner 2006).
Although it has been acknowledged that MLA is strongly affected by literacy and grammar related activities, only a few works have attended to the context and method of acquisition of the bilingual learners’ L2 (e.g. Cenoz 2013, Sanz 2000, Thomas 1988) to account for the positive effects shown in TLA.
The study compared the performance of 42 bilinguals, with different levels of instruction and MLA developed in German L2, in an artificial language task (Llama-F, Meara 2005). The influence of the following factors was considered: implicit and explicit MLA; number of languages mastered; typological proximity; level of proficiency, instruction, and age of acquisition of L2.
Correlation and multiple regression analysis were conducted to examine the relationship between performance in the TLA task and various potential predictors: years of instruction, explicit MLA, overall proficiency, and level of instruction in German L2. The results indicate that the level of explicit MLA has a significant positive regression weight (β = .660, t = 4,461, p < .000), suggesting that bilinguals with higher levels of explicit MLA are also expected to perform better in TLA, after controlling for the aforementioned variables in the model.
From a pedagogical point of view, these findings suggest that school curricula and teaching practices could benefit from putting the multilingual learners and their whole linguistic repertoire at the centre of the learning process itself rather than the target language. In particular, bilingual learners must be stimulated and assisted in the process of conscious reflection and manipulation of the language system(s), learning strategies, and processes developed in previous languages to observe a positive and significant outcome in additional language learning. The main aim of the current research is promoting linguistically responsive instruction programs by providing evidence that the formal instruction received in more than one language develops higher levels of MLA in the bilingual learner. That is to say, a fundamental cognitive skill which is necessary to fully exploit the benefits of bilingualism in additional language learning.

**Mathilde Chailleux, Jasmijn Bosch, Jia'En Yee, Maria Teresa Guasti and Fabrizio Arosio**

*Prediction on the basis of gender and number in Mandarin-Italian bilingual children*

Listeners process speech incrementally and they predict what is coming ahead on the basis of linguistic cues. In Italian, determiners are marked for gender and number, two features which monolingual children use efficiently for anticipating upcoming nouns (Robertson, Shi & Melançon, 2012; Lew-Williams & Fernald, 2007). However, linguistic prediction may be less efficient in a second language (L2) (Lew-Williams & Fernald, 2010). Moreover for L2 learners processing of gender marking may be more difficult than number marking, since gender is related to lexical knowledge (Dispaldro, Ruggiero & Scali, 2014). The present study addresses how Mandarin-speaking children acquiring Italian as an L2 use gender and number to anticipate upcoming nouns.
We tested 22 Mandarin-Italian bilingual children (MAge=9;8) and 28 age-matched monolingual controls, using a visual world eye-tracking paradigm. Participants listened to Italian sentences starting with Adesso trova la/il/le… (‘Now, find the…’) in front of a scenario depicting two pictures while their eye-movements were recorded. The pictures showed items that matched or mismatched either in gender or number, so that anticipatory eye-movements towards the noun could be observed during the determiner in the predictable conditions, but not in the unpredictable control condition (Figure 1).
We expected participants to anticipate looks at the target picture in the predictable conditions on the basis of the gender and number of the determiner. Hypothesizing that L2 processing is influenced by the L1, we predicted that anticipation effects would be weaker for Mandarin-Italian bilingual children than for monolingual controls, since their L1 does not offer the possibility of relying on grammatical information expressed by the determiner. Hypothesizing that grammatical gender is more difficult to acquire for L2 learners than number, we expected bilingual children to be more efficient when processing number as compared to gender.
Data were analyzed by means of generalized linear mixed-effect models on the proportion of fixations on the target as a function of condition, time region and group (monolinguals vs bilinguals). First, a significant interaction between condition (predictable/unpredictable) and time region (intro/determiner) revealed an increase of looks toward the target during the article in the predictable condition (Est. odds ratio=1.11, 95%CI=1.07..1.14, p<.0001). Second, this anticipation effect was significantly stronger for monolinguals than for bilinguals (Est. odds ratio=1.29, 95%CI=1.20..1.37, p<.0001). Third, monolinguals showed the same pattern for gender and number, while bilinguals were slower when processing gender (Figure 2,3).
The present study shows that Mandarin-speaking early L2 learners of Italian show predictive processing of number and gender features of the determiner, even though determiners are absent in their L1. However, they seem to be slower in comparison with monolinguals, in particular when processing gender. This suggests that linguistic prediction may be less efficient in L2 processing, especially when it requires reliance on lexical knowledge.

**Merel Muylle, Sarah Bernolet and Robert Hartsuiker**

*Are representations of frequent syntactic structures shared before less frequent ones? An artificial language learning study*

Hartsuiker and Bernolet’s (2017) developmental account of shared syntactic representations postulates that during second language (L2) acquisition the structural representations of that language evolve gradually from being item-specific to more abstract, and finally become shared with the native language. Such sharing may be reflected in the emergence of structural priming between two sentences. The sharing of representations is assumed to be faster for structures that occur frequently in the L2 compared to those that occur less frequently. This predicts earlier and stronger cross-linguistic priming for more frequent structures. Alternatively, less frequent structures are often found to elicit more priming than more frequent ones (i.e., the so-called inverse frequency effect) and it has been shown that frequency of a structure in one language might affect priming in the other language. In this experimental study, these contrasting hypotheses were tested using the artificial language (AL) learning paradigm that was used in other studies investigating structural priming (Muylle et al., in press).
Ninety-six native Dutch speakers came to the lab to learn an AL that either had a prepositional-object (PO) dative bias (i.e., PO datives appear 3 times more often than double object datives, or DO datives) or a DO dative bias (i.e., DOs appear 3 times more often than POs). Priming was assessed from the AL to Dutch (that has a strong PO bias). According to the developmental account, priming should be largest for the more frequent AL structure. In contrast, the inverse-frequency account predicts that DO priming should be larger in the PO bias condition, compared to the DO bias condition.
DO primes exerted a significant priming effect (compared to a baseline condition with a transitive or intransitive prime), but PO primes did not. Importantly, this effect did not differ across the two bias conditions, which indicates that short-term priming was only influenced by the L1 frequency distribution, but not by the AL frequency distribution. Additionally, participants in the DO bias group produced 20% more DO sentences in their L1 targets, compared to participants in the PO bias group. This indicates that – in contrast to short-term priming – long-term priming was influenced by the AL frequency distribution. In sum, these findings show that frequent AL structures are not shared with their L1 equivalents before less frequent ones, as would be predicted by the developmental theory, but less frequent L1 structures are more easily shared with their AL equivalents when these are more frequent in the AL. This suggests that the representations of less frequent L1 structures are more sensitive to the AL frequency distribution than those of well-established, more frequent L1 structures.

**Anna-Lena Scherger**

*Adult bilingual speakers’ production, comprehension and processing speed of German ditransitive structures*

Background:
In first and second language acquisition literature, there is a consensus that due to its high complexity, German case marking is acquired late compared to other acquisition phenomena (Schulz & Grimm 2019). However, there is an ongoing debate about the exact age of mastery of this complex morphosyntactic phenomenon in different types of acquisition (Ulrich et al. 2016, Lemmer 2018, Schulz & Grimm 2019, ‘Author of the present study 2016, 2018’) and about a possible fossilization in early L2 acquisition (‘Author of the present study 2019’). Dative case in ditransitive structures have shown to be most difficult to acquire in monolingual and bilingual children’s production (‘Author of the present study 2015). However, so far studies on bilingual speakers’ processing, comprehension and production of ditransitive structures are rare (for late L2 learners’ processing see Schlenter 2019). To the author’s knowledge, there are no studies on adult bilingual speakers so far investigating whether target-like ultimate attainment in all three domains in bilingual adults is possible.
Therefore, the present study investigates the questions whether upper-intermediate and advanced bilingual speakers of German with various L1s
a) are able to produce target-like ditransitive structures,
b) are able to comprehend ditransitive structures correctly and
c) are able to use the case marking cue of the first object for anticipating the thematic role of the second object.

Method:
In order to answer these research questions, N= 44 adult speakers (N=18 bilingual speakers, ages of onset between 0;0 and 13 years, various L1s; N=26 German L1 speakers) completed an elicited production task of ditransitive structures and a sentence-picture matching task where accuracy rates, reaction times and eye movements were recorded. The present study reports the behavioral data (accuracy rates and reaction times). The experiment comprised 56 items (N=20 ditransitive trials, N=36 fillers). The ditransitive trials were controlled for gender, number, word length, animacy, verb biases and word order.

Results:
Results show that bilingual speakers do not differ from L1 speakers with respect to native-like production (accusative, p=.546; dative, p=.749), native-like comprehension (accuracy rates; p=.750) and processing speed (reaction times; p=.878). In addition, we find bilingual speakers to respond even before the second object is heard (i.e. anticipating the second object) to the same extent as the L1 speakers (p=.547).

Conclusion:
As the results show clear native-like production, comprehension and processing abilities in bilingual adult speakers of German regardless of their L1 and their age of onset, it is concluded that at this advanced proficiency level, we do not find L1 and age of onset effects any more. With respect to ultimate attainment, this means that also after a relatively late age of onset (after 6 years), complex structures like ditransitives can be mastered in production and comprehension, i.e. we do not find a disadvantage for bilinguals.

**Hiroki Fujita and Ian Cunnings**

*Syntactic ambiguity and misinterpretation in non-native sentence processing: Evidence from structural priming*

Two issues examined in the non-native (L2) comprehension literature include how L2ers resolve syntactic ambiguity, and the extent to which L2ers are sensitive to structural priming, the phenomenon that processing of a structure is facilitated by repeated exposure [1]. In syntactic ambiguity, L2ers have difficulty revising garden-path sentences like (1), and may persist with the initially assigned misinterpretation (“Mary dressed Emma”) even after the sentence is disambiguated at “laughed” (“When Mary dressed, Emma laughed”) [2]. In structural priming, the extent to which priming in L2 comprehension is driven by lexical repetition compared to abstract structural representations is debated [3,5]. To examine these issues, we utilised structural priming in a comprehension task using eye-tracking while reading. If L2ers persist with the initial misinterpretation of garden-path sentences, sentences like (1), if used as a prime sentence, may not reduce reading times of subsequent garden- path sentences compared to an unambiguous prime sentence like “When Mary dressed, Emma laughed”. Lexical overlap between the two sentences (e.g. whether the same verb is used) may also influence any priming effects.

(1) When Mary dressed Emma laughed.

To test these issues, 48 L1ers and 48 L2ers (mean QPT 48/60; range 31–59) read sentences like (2) and answered questions like (3). To test lexical overlap, (2) manipulated whether the subordinate clause verb of target sentences was the same as that of prime sentences (“washed/called”). Prime sentences were either temporarily ambiguous (2c) or unambiguous (2a/b). Target sentences manipulated ambiguity likewise such that (2b/c) are temporarily ambiguous and (2a) is unambiguous. Comprehension questions, which were shown after target sentences, always tested the initial misinterpretation.
Reading times were significantly longer for temporarily ambiguous than unambiguous conditions at the disambiguating region (“waited”) in prime sentences. This indicates participants initially misinterpreted the ambiguous sentences. For target sentences, in addition to this ambiguity effect, there was a significant priming by lexical overlap interaction at the disambiguating region (“started”), as unambiguous, but not ambiguous, prime sentences reduced disambiguation cost, but only in “same verb” conditions. Priming did not affect offline language comprehension.
These results show that L2ers persist with the initial transitive misinterpretation of garden-path sentences after disambiguation. The absence of priming effects in different verb conditions is possibly attributed to comprehension priming being heavily lexically mediated [4].

(2a) Prime-Unambiguous, Target-Unambiguous
Prime: While James washed(called), his child waited in the bathroom. Target: After Mary washed, the dog started eating some food.

(2b) Prime-Unambiguous, Target-Ambiguous
Prime: While James washed(called), his child waited in the bathroom. Target: After Mary washed the dog started eating some food.

(2c) Prime-Ambiguous, Target-Ambiguous
Prime: While James washed(called) his child waited in the bathroom. Target: After Mary washed the dog started eating some food.

(3) Did the lady wash the dog?

**Anusha Balasubramanian and Arpita Bose**

*Does print exposure impact a bilingual’s narrative ability?*

Background. Research has shown that print exposure has an impact on language production both at the word level and connected speech in monolinguals (Ardila et al., 2010). Print exposure positively impacts connected speech in monolingual children (Katz et al., 2012).Bilingual children have shown to demonstrate a positive relationship between oral language skills such as narration and reading abili-ties (Miller et al., 2006), little is known about the relationship between print exposure and oral lan-guage production in adults. Importantly, the impact of print exposure on narrative characteristics have not been explored in Indian bi-literate bilingual adults. The aim of the present study was to examine the impact of print exposure on L2 (English) narrative production in bi-literate bilingual healthy adults exclusively in this population.
Methods. We recruited 34 bi-literate bilingual south Indians living in the UK, speaking English (L2) and Kannada/Tamil/Malayalam/Telugu (L1), healthy adults in the age range of 25-55 years. We quan-tified print exposure subjectively (self-report of reading and writing usage from participants in differ-ent contexts such as at work, home, formal and informal) and objectively (using a composite numeric score based on performance of these participants on grammaticality judgement and sentence verifica-tion tasks). These participants were grouped into two groups: high print exposure (HPE, n=22, mean age =34.5, SD=7.28) and low print exposure (LPE, n=12, mean age =33.41, SD=8.01). A wordless pic-ture book ‘Frog, where are you?’ story (Mayer, 1969) was used to elicit the oral narratives from the participants and the narratives were transcribed and analysed in CLAN (MacWhinney,2016). The two groups were matched on age, gender and years of education. Narrative measures derived were at the utterance level, morpho-syntactic, lexical and repair measures.
Findings. There was a significant group difference for verbs per utterance [ t (32) =2.20, p =.03, d=.79] with the HPE producing higher number of verbs per utterance than LPE (HPE: M =1.88, SD = .31; LPE: M = 1.61, SD= .36). There was a significant positive correlation between print exposure and Total Words and verbs per utterance. There was a significant negative correlation between print expo-sure and the percentage of repetitions. The findings suggest that increased print exposure in L2 is as-sociated with higher number of words in the narrative, higher verbs per utterance and fewer repetitions in L2 oral production.
Conclusions and Implications. Our study provides important quantification regarding the relationship between print exposure and narrative characteristics in bi-literate bilingual adults. In general, the re-sults support our hypothesis that print exposure has an impact on the narrative characteristics (total number of words, verbs per utterance and repetitions) in bi-literate bilinguals.

**Margreet Vogelzang, Anusha Balasubramanian, Ianthi Tsimpli, Lina Mukhopadhyay and Minati Panda**

*Multilingualism and Multiliteracy: Examining reading skills and reading comprehension in multilingual India*

India is one of the most multilingual countries in the world (Tsimpli et al., 2019), but several studies show poor learning outcomes in children for reasons related to multiple factors including education not being in the learner’s home language and/or underprivileged socio-economic or geographical attributes. A widely used tool to assess learning outcomes in India is the ASER basic reading skills test (Pratham, 2017), in which children read letters, words, a paragraph, and a story, and are subsequently categorized in one of five reading skill levels. However, this task assesses decoding rather than reading comprehension. To evaluate decoding and comprehension skills in reading, we added to the ASER task: 1) a count of correct letters/words/sentences and error information instead of the using ASER reading level classifications and 2) two novel comprehension questions ('How did the small plant grow near the tree?') following the story, to measure deeper understanding of the content. We additionally examine whether performance on the ASER task successfully predicts reading comprehension. 809 children from Delhi and Patna (age 7-15, mean age 9.1) performed the ASER task in both their regional language (Hindi) and English in school.
The results for Hindi show ≥ 60% score on both our new and the classical ASER measures. On the comprehension questions, the children scored an average of 67% correct. For English, the results paint a different picture, with only 27% of the sentences in the story being read correctly, and only 20% of the children being in the highest skill level (story level). Strikingly, more than half of the children fall into the category of letter reading (42%) or lower (beginner, 12%). The children showed an average comprehension accuracy of only 7%, which is much lower than the number of children that successfully read the story (20-27%). Thus, some children that are able to read English words and sentences, or even a story, are unable to understand what they are reading. Statistical analyses with random forests show that the comprehension data are better explained by our new measure of counts and errors compared to the classical ASER classification (variance explained 69% vs. 64% in Hindi, 11% vs. 7% in English).
In sum, we found that using the number of correctly read letters/words/sentences and errors provides valuable information about children's reading skills and comprehension. In Hindi, children that could read a story generally understood what they were reading, but some 30-40% of children were not able to read a simple story. In English, comprehension seems to lag behind reading ability. Overall, this shows that there is a need for developing appropriate tools to assess (multilingual) literacy and inform teaching pedagogy on the specific needs of multilingual learners.

**Christine Meng**

*The Moderating Roles of Executive Functioning and Socioeconomic Status in Kindergarten Readiness for Monolingual Children and Bilingual Children: Evidence from ECLS-K*

Bilingual advantages in executive functioning has been documented and debated. The questions of whether this cognitive advantage would be related to bilingual children’s kindergarten readiness and whether socioeconomic status played a role in this association remained to be unanswered. This study used the Early Childhood Longitudinal Study, Kindergarten Class of 2010-11, to test executive functioning and socioeconomic status as moderators for the association between bilingual status and kindergarten readiness. The analytical sample included monolingual children (n = 11,630) and bilingual children (n = 2,520) who attended kindergarten in fall 2010. Results of ordinary least squares regression showed that the kindergarten readiness gap in the academic domain, but not in the social-emotional domain, between monolingual children and bilingual children were moderated by executive functioning and socioeconomic status. Implications and future research are discussed.

**Cloe Zeidan and Eleonora Rossi**

*How individual difference measures inform event processing in monolingual and early and late bilingual speakers.*

Bilingual speakers’ two languages are highly coactivated and compete for selection even when speaking one language alone (Kroll et al., 2006; Blumenfeld &amp; Marian, 2007; Marian &amp; Spivey, 2003). The constant state of language coactivation has supported the hypothesis that bilingual speakers are highly skilled at managing competition and at resolving conflict in the linguistic domain (Blumenfeld &amp; Marian, 2011). Previous work has suggested that both monolinguals and bilinguals utilize inhibitory control to manage the competition between the two languages. What is less understood is how cognitive control ability may affect the earlier anticipation of upcoming words or events, and how this might be impacted by bilingual experience. Previous studies have shown that individuals anticipate the end state of an action when processing an event, such as “The chef will grab the onion and then chop the onion” (Hindy, Altmann, Kalenik, &amp; Thompson-Schill, 2012). In this project, we assessed how individual differences in executive functioning predict performance during event comprehension in monolinguals and bilinguals. In this study, participants completed a task while their eye-movements were recorded when processing sentences containing a change of state verb or not (i.e., “The chef will grab the onion and smell/chop the onion”). To measure goal maintenance and inhibitory control, participants completed the AX-Continuous Performance Task (AX-CPT) (Braver et al., 2001), and a pro- and anti- saccade task to measure attention and inhibition. The preliminary results reveal that bilingual speakers process events to the same extent as native speakers, but they engage cognitive control differentially.

**Silvia Sánchez Calderón and Raquel Fernández Fuertes**

*Child first language acquisition of English dative alternation from a biological gender approach*

This study examines whether English monolingual girls differ from English monolingual boys in the acquisition of English dative alternation (DA) structures (to/for-datives (1a) and double object constructions (DOCs) (1b)). While an order in the emergence and in the incidence of one of the two types of English DA constructions would entail a syntactic derivation of DOCs from to/for-datives (Larson 2014, 1990, 1988) or to/for-datives from DOCs (Aoun and Li 1989; Machonis 1985), analogous ages of onset and fairly similar frequency rates in the production could suggest the formation of two underived structures that share an underlying grammatical property (Snyder and Stromswold 1997; Snyder 1995, 2001) or two constructions that differ in the status of the head projected (Marantz 1993; Mulder 1992).

(1) a. John gave a book to Mary (to-dative)

b. John gave Mary a book (DOC)

[Larson 1988: 343-353]

Considering these predictions, English monolingual girls are expected to present an earlier emergence and, possibly higher frequency rates in the production of English DA, when compared to English monolingual boys’ data (Cornett 2014; Lovas 2011), regardless of the syntactic relation between DOCs and to/for-datives. We also investigate whether the exposure to English DA from the adult input shows differences in the girls’ output and in the boys’ output, as also attested in earlier acquisition works (Clearfield and Nelson 2006; Gleason 1990). In order to shed light on these issues, we analyze data from eight English monolingual girls and five English monolingual boys, and the adults that interact with them, as they appear in the CHILDES database (MacWhinney 2000).
Our findings reveal that monolingual girls (t(6) = -2.071, p = .077) do not differ from monolingual boys (t(3) = 2.231, p = .155) in the ages of onset of the two English DA constructions, which suggests the two biological gender groups have acquired the syntactic non-derivational relationship between DOCs and to/for-datives. Furthermore, biological gender differences are not seen in the acquisition of the additional properties required in the production of to/for-datives, given the later onset and the lower incidence of these constructions when compared to DOCs. These production patterns could also be explained by the frequency with which these structures are heard in the adult input in the two biological gender groups.

**Toms Voits, Holly Robson, Jason Rothman and Christos Pliatsikas**

*The effects of bilingualism on the structure of the hippocampus and on memory performance in ageing bilinguals*

Managing more than one language has been shown to lead to changes in cognition (Bialystok,2017) and brain structure (Pliatsikas,2019) in bi-multilinguals. In particular, the hippocampus, a bilateral structure implicated in learning and memory, has been shown to increase in volume (Mårtensson et al.,2012) and change in shape (DeLuca et al.2018) in bilingual young adults. Bilingualism also confers protective effects against cognitive and neural decline in older age (Perani & Abutalebi,2015). As the hippocampus is vulnerable to ageing (O’Shea et al.,2016), in this study we examined hippocampal structural changes associated with bilingualism and the associated memory performance in healthy ageing monolingual (Mage=65.2,SD=10.5) and long-term bilingual (Mage=58.5,SD=6.77) adults. We collected and analysed detailed language background data (Anderson et al.,2018), episodic memory measures (ACE-III; NIH Toolbox) and anatomical MRI scans. Results revealed larger volume for bilinguals in the right hippocampus only and marginally better memory performance. Notably, length of immersion in L2 environment significantly predicted the volume of the right hippocampus in bilinguals. These results suggest that bilingualism might counteract age-related deterioration of the right hippocampus, suggesting that bilingualism feeds into a neural reserve mechanism and acts as a neuroprotective factor in older age.

**Fraibet Aveledo, Yolanda Higueras, Arpita Bose, Christos Pliatsikas and Theo Marinis**

*Bilingualism effect on executive control in Multiple Sclerosis patients*

It has been suggested that bilingualism has a positive effect on cognition by enhancing the inhibition and attentional mechanisms. These effects could benefit the ageing brain and delay the onset of symptoms of degenerative illness (i.e. cognitive-reserve hypothesis), such as dementia. This investigation aimed to study the bilingual effect on multiple sclerosis (MS), a known neurodegenerative disease which commonly impacts patients’ cognitive, neuropsychological and physical abilities. Although variation among symptoms is usual in MS disease, common cognitive deficiencies are observed in executive control (EC) tasks such as attention, inhibition and shifting. Given that studies suggest that performance on EC tasks is enhanced in bilinguals, we aimed: to study whether being bilingual has an effect on the inhibitory control and attention abilities in MS patients. Following Costa et al.’s (2009) methodology, two groups of bilingual (matched by L2 proficiency) and monolingual young adults, one with MS and a second healthy control (matched by age and education) were tested. MS groups were balanced by cognitive impairment and controlled by MS characteristics. Participants performed two flankers with different attentional demands: one with high demands, and a second one with low demands. Participants’ indexes on inhibition (measured by the difference in reaction times (RT) and accuracy in responding to congruent and incongruent trials in the flanker task) and attention (measured by: i. the overall accuracy and RTs in the high-attention demand and low-attention demand tasks; and ii. the difference in RTs between high-attention demand and low-attention demand tasks, collapsed across congruent and incongruent trials) were analysed. Results showed that both bilingual MS patients and bilingual healthy controls had similar inhibitory control and attention abilities. Monolingual MS patients and monolingual healthy controls showed similar inhibitory control. However, monolingual MS patients exhibited significantly worse attention abilities than the other groups. We propose that the similar behaviour between bilingual groups could indicate that bilingualism might counteract cognitive deficits related to MS, especially with respect to attention. On the other hand, results in monolingual MS patients seem related to underlying deficits in attention and possibly switching, executive control abilities commonly impaired in MS patients from an early stage. Our findings provide for the first time some preliminary evidence for the cognitive reserve hypothesis in bilingual MS patients.

**Jean Mathieu Tsoumou**

*Politics, Language and Computer-Mediated Communication: Shaping Sociolinguistic Practices in Congo-Brazzaville*

The world today is more multilingual and multicultural than it seemingly appears. In Congo-Brazzaville for instance multilingualism is a real issue with over 60 living languages spoken across the country and a population of over 4.5 million, meaning that almost every Congolese person can speak at least two languages. The present study is indeed an analytical description of languages spoken in Congo-Brazzaville. The aim is to provide an understanding of the socio-cultural environment with its ramifications on both the sociolinguistic complexity as well as the national political discourse, especially when it comes to computer-mediated communication.
A joint application of three theoretical models (i.e. Communication Accommodation Theory, Markedness Theory and Minimal Action Game) helps offer an understanding of both the interactional motives as well as socio-cultural meanings surrounding codeswitching on Facebook. Specifically, we use communication accommodation theory to explore the patterns and occurrences of codeswitching in Facebook updates as opposed to Facebook comments. Markedness theory was applied in order to categorize languages used by Facebook users into groups. Minimal Action Game was applied to consider Facebook interaction as a set of actions and reactions performed by users in order to fulfil their communicative needs.
Netnography is a participant-observational method based on online interaction. It enables to obtain a cultural understanding of human online social interaction and content and to represent them as a form of research. It provides researchers with access to groups of people who may otherwise be difficult to reach out to. A dataset of 262 Facebook updates and 9330 comments make up the corpus to analyse.
The findings reveal that codeswitching on Facebook is an independent language choice made by users regardless of whether an update is monolingual or multilingual. Codeswitching is also a communicative strategy falling between the fundamental components of communication accommodation, namely convergence and divergence. The desire to reduce and/or magnify communicative differences based on extralinguistic factors (attitudes, beliefs and ideology) are among the reasons the users employ codeswitching to accommodate to each other.
Although ethnic languages are usually regarded as third-rated means of communication - their use in face-to-face communication is usually connected with either an expression of linguistic identity for their respective speakers or an expression of solidarity among members belonging to the same linguistic community - their presence on Facebook supports that Internet is certainly contributing to the maintenance of endangered and minority languages by providing a space for their documentation and literacy promotion. Congolese ethnic languages, which have long been struggling for survival against discrimination, stereotypes and, more importantly, the lack of institutional management, and the overwhelming increase of French and the two widespread lingua franca (Kituba and Lingala), might have found in the Internet a free public space for their maintenance.

**Matthew Sung**

*Multilingual language practices, ideologies and identities: The case of Mainland Chinese university students in Hong Kong*

Recent years have witnessed a growing number of mainland Chinese students studying in Hong Kong universities. While Putonghua is the national language in mainland China, Cantonese is the dominant community language in Hong Kong where English is the main medium of instruction in higher education. This paper investigates how mainland Chinese make sense of their multilingual experiences
during their cross-border studies in Hong Kong. Drawing on interview and observation data as part of an ethnographic study, the paper examines a group of mainland Chinese students’ ideologies about multilingualism, their identities associated with different languages, and their multilingual practices. Findings revealed that their perceptions towards different languages were markedly different and that they constructed different identities when speaking these different languages. While they saw the symbolic value of Cantonese in terms of integration into the local community, they expressed uncertainty about learning it for their imagined future, given its limited vitality beyond the local context. They also expressed their strong desire to acquire English, as a result of its instrumental and symbolic values, and associated it with the expression of their identity as a global identity. While they expressed pride in being speakers of Putonghua, a language with growing importance in the global world, they recognized its marginal status in the university and in the local community. It was also found that the participants expanded their multilingual repertoires during their cross-border studies, developed a flexible multilingualism ideology, and engaged in translanguaging practices during their studies in Hong Kong. While the university practiced a monolingual English-only policy in the classroom, they
were in favour of the use of multilingual language resources for pedagogical reasons. By acquiring Cantonese and improving their English proficiency in Hong Kong, the participants embraced empowered identities and affirmed the value of their multilingual ability for their future.

**Irina Stan**

*Effects of Bi-literacy on L3 Phonological Awareness and Reading Skills: The Case of Romanian Heritage Speakers in Italy*

The study examined the effects of literacy in a heritage language on bilingual children’s phonological and reading skills of English as a third language. More specifically, it tested the hypothesis that bi-literacy enhances L3 phonological awareness which in turn facilitates L3 reading skills. Participants were 22 Romanian-Italian bilinguals and 12 Italian monolinguals. The bilinguals were divided into bi-literates, with reading skills in both languages, and mono-literates, with reading skills in Italian only. All children received an English proficiency and literacy test, and English phonological awareness and reading tasks. Results indicated that bi-literates behaved similarly to mono-literate on all phonological measurements but they outperformed the monolingual group on the phoneme awareness and syllable deletion tasks while the mono-literates failed to do so. Furthermore, bi-literates performed better than both mono-literates and monolinguals on the pseudo-word reading testing but not on the word identification task. Mono-literates and monolinguals’ performances were not statistically different. Finally, only syllable deletion among all phonological scores significantly contributed on the pseudo-word reading. These results suggest that literacy skills in a heritage language enhance bilingual children’s L3 phonological awareness and certain reading skills. It also appears that specific enhanced phonological skills promote pseudo-word reading abilities.

**Poster session 2 (24th June, 12:30-14:30, 16-16:30)**

**Orsolya Bilgory-Fazakas and Sharon Armon-Lotem**

*The impact of parental sociolinguistic attitudes on family language policy*

Family as an entity was identified as a highly important domain for language survival (Fishman 1991), transmission and maintenance (Spolsky 2012). Family language policy considers what families do with those languages that are available for them in their daily interactions. Furthermore, it embraces parental beliefs and ideologies about language and language use; and their goals and efforts to shape language use and learning outcomes. The current study explores parental attitudes towards the acquisition of the societal language (SL), while maintaining the heritage language (HL), and investigates their effects on the family language policy.
Fifty parents, functionally bi-or multilinguals, who use their HL (Hungarian), the SL (Hebrew) and English in their everyday life, filled an online questionnaire. Their children belong to the second generation of HL speakers. The questionnaire (based on Dörnyei Z., Csizér 2002) was comprised of separate sections which elicited 1. biographical information (23 items); 2. self-reported first and second language use (44 items); 3. motivation and information towards immigration, second language learning, identity chances (51 items); 4. attitudes toward code switching (7 items), and 5. attitudes toward transmission of the heritage language (17 items).
The main findings of the parental self-reports indicated strong parental awareness and pragmatic reasons behind the necessity of bilingual education, especially in the heritage language at home (e.g. 78% of the parents want their children to use the HL with the relatives). The data showed significant correlation between the importance of HL knowledge and teaching literacy in home environment (r=0.8386, p<.0001). The traditional skill-based view of literacy definition – mastery of reading and writing – was the dominant among the participants. Moreover, parental language use played a role in intergenerational language transmission. The greater the input of minority language provided by the parent(s) and the expectation that the heritage language was used in the home (r=0.5371, p<.0001), the more it led to its use by children.
The study shows that as family language policy emerges, it deepens our understanding of home language maintenance processes as well as how heritage language learners are best supported (Altman et al. 2013).

**Jasmijn Bosch and Francesca Foppolo**

*The role of reading and vocabulary in bilingual children's linguistic prediction*

Previous research suggests that the ability to anticipate spoken language is related to literacy, as shown by differences between literates and illiterates (Mishra et al., 2012) and by the effect of word reading skills in children (Mani & Huettig, 2014). It has been argued that reading experience trains the core processes of anticipation (Huettig & Pickering, 2019), but it remains unclear to what extent this effect is modulated by secondary factors, such as vocabulary knowledge. The present study investigated the possible underpinnings of the effect, by focusing on Italian-German bilingual children formally educated in both languages. We tested 31 third-graders (MAge=8;6) in a visual world eye-tracking paradigm. Participants were presented with two pictures that either matched or mismatched in gender, accompanied by the Italian sentence Dov’è la/il…? ‘Where is the…?’, so that the target-noun could be anticipated during the (morpho-syntactically gender-marked) determiner in the mismatch but not in the match-condition (Figure 1-2). Standardized passage and word reading tests and vocabulary tests were administered in both languages.
We tested whether anticipatory abilities, i.e. the extent to which children anticipate the upcoming noun on the basis of the determiner, are modulated by children’s reading scores and/or their vocabulary knowledge. Hypothesizing that reading trains the core processes involved in prediction rather than vocabulary knowledge being the sole underlying source, we expected prediction during sentence processing in Italian to be related not only to reading abilities in Italian, but also to reading in German. Hypothesizing that the effect is bidirectional (i.e., reading experience trains anticipation, and anticipation skills support the efficiency of text reading), we expected the association between reading and prediction to be stronger for reading speed than for reading accuracy, and we expected it to be stronger for passage reading than for single word reading.
Data were analyzed by means of generalized linear mixed-effect models on the proportion of fixations on the target as a function of condition, time region and reading/vocabulary scores, using stepwise model comparison. The strongest model showed an interaction between condition, time region and Italian passage reading rate (Est. odds ratio=1.0033, 95%CI=1.002-1.004, p<.0001). However, all reading scores significantly modulated the anticipation effect, including passage reading rate in German (Est. odds ratio=1.0029, 95%CI=1.002-1.004, p<.0001). Overall, reading rate was a stronger predictor than reading accuracy, passage reading was a stronger predictor than single word reading, and reading scores were stronger predictors than vocabulary scores.
The results of this study suggest that it is the experience with reading itself rather than increased language-specific vocabulary that is responsible for improved predictive processing, supporting the notion that reading trains the core processes of prediction. The comparison of different reading measures also suggests bidirectionality, since strong predictive processing allows for faster reading of texts.

**Felicity Parry and Eirini Sanoudaki**

*Teachers’ recognition of language disorders in EAL pupils: Exploring perceptions*

Previous research has demonstrated the variable academic provision afforded to English as an Additional Language (EAL) pupils with and without language disorders, depending on teachers’ expectations (Bedore & Peña, 2008; Jankowska, 2014), language status (Conteh, 2007; Flores & Smith, 2008), and EAL teaching experience (Crutchley, 1999; Greenfield, 2013). However, very few studies have investigated teachers’ role in the early identification of language disorders in their EAL pupils. Without clear guidelines to establish a distinction between typically developing EAL children and EAL children with language disorders (Law et al., 2000), what factors affect teachers’ decision-making regarding this group?
To address these issues, this study aims firstly, to examine factors that influence perceptions held towards bilingualism by primary school teachers in England; secondly, to investigate if teachers’ perceptions affect their recognition of signs of language disorders in EAL children. Forty-eight England-based mainstream primary school teachers completed an online questionnaire: they responded to statements relating to vignettes describing EAL children with and without signs of language disorders, completed an adaptation of the Language Attitudes of Teachers Scale (LATS) (Byrnes & Kiger, 1994), and reported their demographic information.
Firstly, all teachers exhibited varying degrees of positive perceptions towards bilingualism on the LATS. Teachers who reported having more EAL teaching experience, and those who identified as bilingual, held the most positive perceptions. Secondly, the positivity of perceptions had no effect on teachers’ recognition of typically developing EAL children and EAL children with language disorders in the vignettes. However, EAL teaching experience was found to directly and independently promote accurate recognition of typically developing EAL children only, bypassing perceptions’ influence.
This study finds that positive perceptions towards bilingualism do not influence, nor are a barrier to, teachers’ recognition of signs of language disorders in EAL pupils. It also suggests that EAL teaching experience may have a stronger impact on teachers’ decision-making than their perceptions towards bilingualism, and therefore positive perceptions may not be a necessary intermediary for determining EAL pupils’ needs.
The next steps for this area of inquiry, as a PhD project, are twofold. Firstly, Byrnes and Kiger’s (1994) survey will be further adapted to improve its robustness and construct validity for use with UK teachers, broadening its scope as a data collection tool. Secondly, both quantitative and qualitative data collection methods will be implemented to expand on the depth and breadth of teachers’ perceptions towards bilingualism, but also towards special educational needs, classroom practices etc. This will allow for triangulation of findings, to achieve a more holistic picture of teachers’ perspectives, and if and how they inform the latter’s actions. Ultimately, knowing what affects language disorder recognition will encourage teachers to develop self-awareness and to help them ensure positive outcomes for all EAL children.

**Karen Rose and Elinor Saiegh-Haddad**

*Factors Influencing Parental Satisfaction of School Support for Bilingual Children with Dyslexia*

Bilingual children with developmental dyslexia (DD) are exposed to a unique set of challenges and may face barriers to adequate school support. Bilingual children’s needs may be disregarded as literacy difficulties may be presumed to reflect a lack of exposure to the societal language. Learning to read bilingually may also result in different literacy outcomes from their monolingual peers as the two systems may interact (Lallier, Thierry, Barr, Carrieras & Tainturier, 2018). Moreover, parents of bilingual children may experience challenges speaking the societal language, impacting on their ability to communicate with school and access services.
To enable children with DD to access the curriculum and achieve academic success, they need additional educational support including, inter alia, appropriate assessment, interventions and accommodations. The evaluation of the additional educational services is necessary to ensure that children with DD are receiving the support they need, and to identify any gaps in the service. To achieve this goal, many studies focus on obtaining information from parents (e.g. Armstrong, Kane, O’Sullivan & Kelly, 2010; Haws, 2017). These studies highlight the views and concerns of parents and make recommendations for improvement. However, there is no mention of bilingual children with DD.
This study aims to evaluate parents’ perspectives of current services that bilingual children with DD experience in school. Parental satisfaction of school support and a multitude of factors expected to influence their satisfaction levels are considered. Parents of 14 English-Hebrew speaking bilingual children aged 6-17 years old (M = 12, SD = 4.02) filled in an online questionnaire specifically designed for this study. In contrast to previous research on parental satisfaction that indicates that parents are typically positive about school support, the parents in this study present with mixed satisfaction rates. 21.43% of parents strongly agreed that they were satisfied with the support that their child received at school and 28.57% strongly disagreed with the statement. 42.86% either disagreed or strongly disagreed that their child was in the right educational setting. Three factors most strongly associated with satisfaction levels were identified. Firstly, teacher’s management of DD, including the ability to support the child in class and motivate the child to succeed (rs 0.79). Secondly, school’s management of DD, including the availability of sufficient resources and the use of appropriate intervention techniques (rs 0.68). Thirdly, child’s proficiency of the societal language, Hebrew (rs 0.75). In contrast, child’s chronological age, English proficiency, severity of DD, and factors regarding the identification of DD (e.g. age suspected of DD, and age diagnosed with DD) were very weakly or weakly correlated with satisfaction levels. Findings contribute to the literature on educational services for bilingual children with DD. They have implications for the education system and the services provided in schools for bilingual children with DD.

**Zakiyah Alsiddiqi and Vesna Stojanovik**

*The Relationship Between the Oral Language Skills and Emergent Literacy Skills in Saudi Arabic Speaking Preschoolers*

In order to be successful readers, children must use both word-level cues (i.e., during the decoding process) and sentence level cues (i.e., during the comprehension process) to competently comprehend the written script. Strong linguistic skills thus are linked with literacy development (e.g., Muter, Hulme, Snowling, & Stevenson, 2004; Storch & Whitehurst, 2002). Research on English has shown that language impairments, speech sound disorders, and/or a combination of both may hinder the acquisition of literacy in children due to the possible link between language and literacy skills (e.g., Bishop & Adams, 1990; Catts, Fey, Zhang, & Tomblin, 1999).The nature of the language-literacy relationship in Arabic-speaking preschool children is unclear. The present study aims to provide an initial investigation on the relationship between different language domains (i.e., semantic, morphology, syntax, and comprehension) and different emergent literacy skills (i.e., phonological awareness, phonemic awareness, letter knowledge, and decoding) and create linguistic and literacy profiles for Saudi Arabic preschool children. The study examined the interaction between different language skills: vocabulary knowledge, morphosyntax, and comprehension, and different emergent literacy skills: phonological awareness, phonemic awareness, letter knowledge, and decoding using a comprehensive language assessment and emergent literacy assessment. Further, questionnaire items were used to identify background information, socioeconomic status, and home-literacy experiences. Preliminary findings of have been collected from 38 typically developing Arabic speaking children aged between 4 – 6-year old. Despite the variation in performance, findings showed some evidence of significant correlations between some linguistic and emergent literacy tasks. These findings are discussed in the light of previous studies. In conclusion, these preliminary findings raise the need for further in-depth investigation

**Suzanne Dekker**

*Who Really Speaks Like That? Students’ Implicit and Explicit Attitudes Towards Multilingualism in Education*

The successful implementation of alternative approaches for multilingual education requires positive attitudes towards the home languages of students and multilingualism in general (Cummins, 2000; Fürstenau 2016; Hélot 2012). For students acquiring the language of schooling, positive attitudes towards the learning itself can strengthen motivation and facilitate learning, while negative attitudes can have the opposite effect (Oxford, 2001). Previous research has shown that teachers’ attitudes towards migrant and minority languages in education can be positively influenced by minimal instruction on multilingual education (Ellis 2004; Lee & Oxelson 2006). The question this paper will address is whether these evolving teacher attitudes are paired with noticeable differences in student attitudes as well.
The present study is part of the 3M project: More opportunities with Multilingualism, which aims to implement school pedagogies that include the students’ home languages as a resource to support pupils with migrant and minority languages. The current research examines both the implicit and explicit attitudes of teachers and students within this project over time. I will measure how various didactic approaches in primary schools have a positive and durable effect on language attitudes of teachers and pupils towards migrant and minority languages (Pulinx, Agirdag & Van Avermaet, 2015). I will employ a triangulation methodology to map implicit and explicit attitudes towards multilingualism and multilingual education (cf. Pantos & Perkins, 2012). Explicit attitudes will be measured via interviews with teachers and questionnaires with students. Implicit attitudes towards migrant and minority languages will be measured via an Implicit Association Test (IAT), a reaction-time experiment designed to show relative strengths of association that are either positive or negative (Greenwald et al., 1998; Pantos & Perkins, 2012). In this paper I will focus on the development of students’ explicit and implicit language attitudes after participating in project 3M for a year.

**Hiroki Fujita, Yesi Cheng and Ian Cunnings**

*Structural constraints and prediction in non-native sentence processing: Evidence from pronoun resolution*

So-called “crossover” constructions like (1a) provide an interesting test-case of the roles of prediction and structural constraints during non-native (L2) processing. In (1a), the pronoun ‘he’ cannot co-refer with ‘the man’ [6]. Coreference here is ruled out by Binding Principle C [1]. However, Principle C is only operable if the reader predicts that ‘the man’ is to be interpreted as the direct object of the upcoming verb [3,5]. Given this sensitivity to prediction and structural constraints, crossover provides a unique way of testing hypotheses that L2ers have difficulty making predictions [4] or utilising syntactic information [2] during processing. If L2ers have difficulty in either issue, they may violate crossover during processing. To test these issues, we conducted two experiments.
In Experiment 1 (Ex1), 48 native (L1) speakers and 48 proficient L2ers (mean QPT 49/60; range 40–58) read 24 sentences like (1) while their eye-movements were monitored. The critical pronoun ‘he’ either matched (1a/c) or mismatched (1b/d) in gender with the prior antecedent (man/woman). Coreference between the pronoun and this antecedent should not be possible in (1a/b) due to crossover but is possible in the no-crossover conditions (1c/d). Longer reading times are thus expected at the pronoun in (1d) than (1c) due to gender mismatch, but not in (1a/b) if crossover immediately restricts online pronoun resolution [5]. However, if crossover is violated by L2ers, gender mismatch effects should be observed in (1c/d) and (1a/b). A second experiment (Ex2) tested offline knowledge of crossover.
In Ex1, reading times indicated significant crossover by gender interactions at and after the pronoun. Here, reading times were longer in (1d) compared to (1c), indicating gender mismatch in the no-crossover conditions. Gender mismatch effects were not found in crossover conditions, though reading times were longer in gender match (1a) than gender mismatch (1b). Neither of these effects significantly interacted with group. L2ers also did not behave significantly differently to L1ers in crossover constructions in Ex2.
These results suggest crossover guides L1 and L2 pronoun resolution. The gender match effect in crossover constructions was unexpected (cf [3,5]), but the contrasting results in crossover and no-crossover conditions suggest sensitivity to crossover during processing. We did not find significant L1/L2 differences during processing, which might have been expected if L2ers have difficulty predicting or utilising structural information [2,4]. Our results suggest L2ers utilise prediction and structural constraints to guide pronoun resolution.

(1a) It was the man at work who he phoned, but Tom didn’t talk much.

(1b) It was the woman at work who he phoned...

(1c) It was the man at work who said that he phoned, but Tom didn’t talk much.

(1d) It was the woman at work who said that he phoned...

**Antje Stoehr and Clara D. Martin**

*L1 grapheme-to-phoneme mappings influence L2 speech sound learning in production and perception*

Orthography is omnipresent in instructed L2 learning, and an increasing research pool investigates its effect on speech production and perception [1]. While orthography has facilitative effects on word learning and phonological accuracy [2], it may be detrimental on phonetic aspects of speech production and perception [3-4]. In classroom environments, students are frequently exposed to non-native speech through peers and teachers, which makes it difficult to ascribe non-native productions to orthographic influence alone.
This study investigates if the presence and type of orthography affect phonetic properties of speech sound learning in production and perception. Seventy L1-Spanish speakers participated in a three-day vowel learning study. Participants were exposed to two unfamiliar vowels, /y/ and /ɛ/. Participants were assigned to three groups: The Conflicting Orthography group was exposed to the vowels in presence of the L1 graphemes <u> (corresponding to L1 /u/) and <e> (corresponding to L1 /e/), respectively. The Novel Orthography group was exposed to the same auditory stimuli in combination with grapheme-like symbols. The Auditory-only group was not exposed to any visual information. During exposure, participants listened to each vowel 1800 times and produced each vowel 600 times. On day 3, participants were tested on vowel production and perception.
We hypothesized that conflicting orthography hinders successful learning of new speech sounds, while novel orthographic symbols improve learning outcomes. Moreover, given the acoustic similarity between /ɛ/ and L1 /e/, we expected learners in all groups to be more successful at learning /y/ than /ɛ/.
The Conflicting Orthography group produced significantly lower F2 for /y/ than the Auditory-only group (p=0.0255), while the Novel Orthography group fell in between the other two groups. In perception, the Conflicting Orthography group categorized tokens with lower F2 as /y/ in comparison to the other two groups (p=0.002). The groups neither differed on their production nor perception of /ɛ/.
Taken together, the results suggest that the presence of the grapheme <u> corresponding to L1-/u/, interfered with participants’ learning of /y/ in production and perception, while the presence of orthography did not influence learning outcomes for /ɛ/. These findings have important implications for current models of L2 speech production and perception. First, the results suggest that inconsistencies in grapheme-phoneme mappings in L1 and L2 can modulate phonetic aspects of speech production and perception in the earliest stages of L2 learning. Second, the results suggest that there is no one-fits-all effect of orthography on speech production and perception. While /y/ was affected by orthography in production and perception, no between-group differences were observed for /ɛ/. Moreover, only conflicting, but not novel orthography, influenced learning outcomes. These findings suggest that careful evaluation of sound contrasts and inconsistencies in L1-L2 grapheme-to-phoneme mappings are crucial in understanding L2 learning outcomes.

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

*Bilinguals’ orthographic representations: How does cognate knowledge contribute to accurate English word spelling?*

Compared to the reading literature, much less work has been published on identifying factors that predict spelling ability, particularly in undergraduate university students. Accurate word spelling likely depends on the orthography’s transparency and the speller’s fully specified orthographic representation available (Perfetti, 1992; Treiman & Kessler, 2014). Developmental studies in children suggest that spelling in opaque orthographies (e.g.., English) is particularly dependent on a child possessing high quality precise orthographic representations (Perfetti, 1997), whereas in transparent languages (e.g., Spanish) representational quality is considered less crucial since correct spelling can be recovered from phonological analysis of the word (Geva et al., 1993). Thus, English is considered an outlier due to its extreme ambiguity in spelling–sound correspondences (Share, 2008). We explore whether Spanish-English bilingual students can draw upon transparent orthographic representations in Spanish to aid in spelling opaque English words. Little is currently known about English spelling in bilingual individuals who speak, read, and write in a language (e.g., Spanish). that shares orthographic features, such as cognates (i.e., words that share similar spelling patterns across orthographies) with English. Our working hypothesis is that Spanish-English bilingual adults form orthographic representations in both spelling systems and therefore, orthographic cognates should allow Spanish representations to aid English spelling.
This study examined the role of word-level predictors including word frequency and shared linguistic roots with Spanish (i.e. cognate words), and person-level predictors in monolingual (English) and bilingual (Spanish-English) university students. We were most interested in examining whether bilingual participants showed higher spelling accuracy of complex English words that were orthographic cognates when prompted to consider Spanish spelling as compared to unprompted participants.
Crossed-random effects models were used to explain both person (N=120) and word (N=40) level predictors related to spelling. Bilingual participants were randomly assigned to either prompting of Spanish word spelling or no prompting. The words in this study varied in morphological complexity, word length, frequency, and age-appropriate spelling difficulty.
Results show a significant crossover interaction (p<.001) between bilingual status and a word’s categorization as a cognate, indicating that bilingual participants had a higher probability of spelling the complex cognate words accurately than monolingual participants. A separate model comparing prompted (N=40) and unprompted bilingual participants (N=40) shows a statistically insignificant effect of prompting p=0.087).
Findings suggest that presence of shared linguistic features (as in cognate words) can be a significant predictor of the strength of orthographic representations, especially among bilingual students. One can interpret the lack of evidence for a prompting effect as a display of bilingual adults' ability to automatically and unconsciously access Spanish word representations when encountering complex, unfamiliar English words. This interpretation may also encourage further exploration of how one can quantify the strength of a word's lexical representation using experimental design.

**Marie-France Champoux-Larsson and Alexandra S Dylman**

*Emotionality of Taboo Words in Swedish-English Bilingual Young and Older Adults*

There is a consistent body of research showing a larger emotionality when one’s first language is used compared to when a second language is used in various areas. One of these areas concerns taboo words. Studies show that taboo words are rated as more emotional in one’s first language and that they lead to a larger cognitive load when they are used in an emotional Stroop task. However, it is not established whether this effect is true for all adults since most studies focus on general populations of adults or students.
In this study, we investigated whether young adults (18-25 years) and older adults (58-65 years) show a similar emotional response to taboo words in their first language (Swedish) and in their second language (English). We used an emotional Stroop paradigm to test 45 participants (26 young, 19 older) in Swedish and English using neutral and taboo words. During the task, four blocks with either neutral or taboo words in either Swedish or English were presented. Each block contained 32 words presented in either blue, red, yellow or green. The participants’ task was to indicate in which colour the word was presented by pressing the corresponding colour key on the keyboard.
Our preliminary results replicate earlier findings suggesting that taboo words in one’s first language are more emotionally arousing than taboo words in one’s second language. Namely, a mixed ANOVA revealed a main interaction effect between type of word (neutral vs taboo) and language (first vs second) on reaction times where taboo words in Swedish led to significantly slower responses than neutral words in Swedish, but where reaction times did not differ significantly between taboo and neutral words in English. However, although older adults were more accurate than younger adults in general, but also slower, no interaction was found between age, type of words, and language.
Although still preliminary due to the small sample size, our results suggest that adults experience taboo words as more emotionally arousing in their first language compared to their second language, regardless of their age. This is important as many psychological processes change across the lifespan and in particular during adulthood. Our results also suggest that the effect found with taboo words is consistent across generations. However, additional analyses are necessary in order to determine the effect of proficiency in the second language and of the second language’s learning context on the perceived emotionality of taboo words in a second language.

**Adel Chaouch-Orozco, Jorge González Alonso and Jason Rothman**

*Potential proxies of subjective word frequency and its effects on masked translation priming*

In studies of masked translation priming with lexical decision tasks (LDT), an asymmetry is commonly observed: L1 translation equivalent primes can robustly activate their L2 targets, whereas priming effects tends to be smaller for L2 related primes (Wen & Van Heuven, 2017).
The Revised Hierarchical Model (RHM; Kroll and Stewart, 2010) may explain the asymmetry by assuming differential access to the semantic information for L1 and L2 words (i.e., L2 lexico-semantic links are comparatively weaker, at least at lower proficiencies). This would hinder L2 words’ ability to access shared conceptual nodes, resulting in L2 translation primes being unable to activate their L1 equivalents in masked translation priming experiments. Enhanced L2-L1 priming effects are predicted with increased L2 development (e.g., higher L2 proficiency, more exposure to the L2). Under the Multilink model (Dijkstra et al., 2019), how often a word is encountered/used by each individual (i.e., subjective frequency) determines lexical processing speed. Comparatively lower processing speed prevents L2 primes to be successfully processed under masked priming conditions. Certain individual- and stimulus-level factors (e.g., L2 proficiency, L2 exposure/use, or L2 word frequency) might proxy subjective frequency and predict modulations in translation priming effects.
To examine these claims, we tested 60 late sequential L1 Spanish-L2 English bilinguals living in an L2-environment in a masked translation priming LDT. A 500 ms mask was followed by a 60 ms display of the prime, immediately followed by the target. Two individual-level factors (L2 proficiency and amount of L2 exposure/use) and a stimulus-level predictor (word frequency) were examined and treated as continuous variables in linear mixed-effects models (Baayen, 2008). This design attempted to weigh the role that these factors have in translation priming effects, both individually and in interaction with each other, contributing to the dearth of studies on the priming asymmetry treating these variables continuously.
Our results do not replicate the asymmetry (L1-L2: 39 ms priming; L2-L1: 50 ms priming; difference not significant). Response times in the critical condition were significantly faster than in the unrelated condition in both translation directions, suggesting that the related primes in both languages were processed efficiently and activated their targets. Crucially, the L2-L1 priming effects were modulated by a significant effect of L1 target frequency, whereby priming was larger with less frequent targets. Two additional trending effects of L2 prime frequency and amount of L2 exposure/use were observed in this direction. Unexpectedly, L2 proficiency did not modulate the priming effects in any direction.
These results provide support for the Multilink model only, as the RHM is agnostic which respect to the role of (subjective) word frequency. The present findings call for more research on how this crucial variable might be efficiently proxied through both stimulus- and individual-level factors.

**Anamaria Bentea and Theodoros Marinis**

*Processing and Production of Multiple Wh-Questions in Romanian Heritage Children*

Multiple wh-questions (MWHs) provide a learnability issue: children need to acquire their specific syntactic and semantic properties despite little evidence in the input for using and interpreting such structures overall [1-3], and even less in heritage children. In this novel study, we compare the processing and production of MWHs in Romanian monolingual and heritage children with English as an additional language. We aimed to examine whether (i) heritage children show similar processing patterns to monolingual children for MWHs in Romanian; (ii) who and which MWHs are equally difficult for comprehension; (iii) quantitative and/or qualitative differences appear between monolingual and heritage children in MWH production.
Fourteen heritage children (MA:8;0) and thirty-two monolingual children (MA:8;3) participated in two tasks: self-paced listening (SPL) and elicited production. For SPL, children listened to forty embedded questions with two extracted wh-phrases (1), varying WhType (cine/‘who’ vs. care/‘which’) and WhOrder (Subject-Object vs. Object-Subject). Romanian, contrary to English, exhibits obligatory multiple wh-movement. Wh-objects are case-marked and which-objects are doubled by a clitic. Which-objects (1d), but not who-objects (1b), can be fronted over wh-subjects.

1. Paddington wants to know...

(a)cine /pe cine /fugărește /... (who-SO)

who /ACC.who /chases /...

(b)\*pe cine /cine /fugărește /... (who-OS)

ACC who /who /chases /...

(c)care urs /pe care supererouj /îlj /fugărește /... (which-SO)

which bear /ACC.which superheroj /himj /chases /...

(d)pe care ursj /care supererou /îlj /fugărește /... (which-OS)

ACC which bearj /which superhero /himj /chases /...

After each sentence, a picture appeared on the screen and participants had to identify the correct actions/characters. For production, children played a guessing game with Paddington, in which they had to ask 24 questions of the type in (1a-d).
For SPL, we fitted residual reaction times by segment to a LMER and accuracy scores to a GLMER. Our findings revealed no difference in processing between monolingual and heritage children, as well as a speed-accuracy trade-off for comprehension. Children were more accurate with who-MWH than which-MWH, but they slowed down when processing who- as compared to which-phrases. In which-questions, both groups showed a slowdown at the retrieval region (i.e. the clitic). This may be linked to the lower accuracy scores obtained for which-MWH vs who-MWH. A GLMER for the production data revealed (i) an effect of group (p<0.001): heritage children, contrary to monolinguals, produced very few MWHs with multiple wh-movement); (ii) an interaction between group and WhType (p<0.001), showing that heritage children produced significantly more MWHs with a fronted wh-subject and a wh-object in-situ for all the types of elicited questions, while monolingual children mainly produced such questions, albeit to a lesser extent, in the conditions with two which-elements (1c-d). This indicates that language production in Romanian heritage children is affected by L2 properties, under cross-linguistic influence [4-7].

**Angela de Bruin, Liv J. Hoversten and Clara D. Martin**

*Why does a trilingual’s second language experience more interference from a third than first language? Examining cross-language intrusions and inhibition during trilingual production*

Most research on multilingual language control during production has focused on control of interference between the first (L1) and second language (L2). Inhibition (especially of the L1) has been proposed as one of the mechanisms used to manage cross-language interference (Green, 1998). When it comes to acquiring a third language (L3), studies have suggested that the L3 experiences more L2 than L1 interference (e.g., Cenoz, Hufeisen, & Jessner, 2001). Still, little is known about A) how potential interference between two non-native languages affects trilingual language production, and B) why there might be more interference between non-native languages than interference from the more proficient, native language. This study examined these questions in thirty Spanish-Basque-English trilinguals with an intermediate proficiency in their L2 and L3.
First, participants completed a speeded trilingual picture-naming task to measure the number of L1 and L3 intrusions during L2 production. During L2 production, more L3 intrusions were made than L1 intrusions, suggesting more interference from the non-native than native language. In a second session, participants completed a rhyme task in L1 and L3 before and after a naming task in the L2. In the rhyme task, participants had to produce a rhyme word in response to a probe. Probes were constructed to rhyme with the L1 and L3 translation equivalents of the words used in the L2 naming task (e.g., for the concept “moon” named in L2, the probe “spoon” was used for the L3 English rhyme task). We then compared the number of translation equivalents produced in the rhyme task before and after naming to test the hypothesis that trilinguals inhibit their L1 more than their L3 during L2 production. If so, fewer L1 than L3 translation equivalents should be produced as rhyme words after (but not before) the L2 naming task. As control measures, participants also named pictures in their L1 and L3. For these words, both languages showed a similar increase in target-rhyme production in the post-naming rhyme task compared to the pre-naming rhyme task. For the words produced in L2, L3 translation equivalents were used more often than L1 equivalents after (but not before!) the naming task. This implies that producing words in the L2 reduced access to L1 equivalents while L3 equivalents were unaffected, suggesting that L1 translation equivalents were inhibited more strongly.
Together, these data suggest that trilinguals experience more interference and cross-language intrusions between two non-native languages than between a native and non-native language during language production. The underlying mechanism of this interference appears to be related to more (successful) L1 than L3 inhibition during L2 production.

**Nadine Kolb and Marit Westergaard**

*Investigating early stages of L3 acquisition*

This study investigates factors leading to cross-linguistic influence (CLI) in third language (L3) acquisition. We examine whether CLI occurs property by property, as argued by the Linguistic Proximity Model (LPM) (Westergaard et al. 2017, Westergaard 2019), or wholesale from only one of the previously acquired languages (e.g., Rothman 2015). Our research also adds to the debate on whether morpho-syntactic properties are transferred based on superficial typological (lexical) primacy (Rothman 2015) or linguistic proximity. Previous research has shown that lexical similarity is an important factor at early stages of acquisition (e.g., Rothman & Cabrelli Amaro 2010). Our main research question is whether structural similarity can override this strong factor, potentially leading to property-by-property transfer.
 The participants (N=27) are 15-17-year-old native speakers of Norwegian with a high proficiency in L2 English who are beginner L3 German learners They are tested at two stages: after 6 and 16 weeks of exposure in a classroom setting.
 We conducted an acceptability judgment task (AJT) with five conditions, two of which are structurally similar to Norwegian (adverb placement in subject-initial declaratives, V2 in non-subject initial declaratives), one to English (obligatory articles in generic contexts that allow article omission in Norwegian), one to both English and Norwegian (prenominal placement of possessive determiners), and one to none of the two languages (object-verb word order).
 We included six ungrammatical and six grammatical items per condition. We created two lists, with lexical items matching either Norwegian or English (to the extent possible), testing whether lexical cues lead to stronger CLI. Proficiency was assessed with the German version of the British Picture Vocabulary Scale. A mini-AJT with the five conditions was conducted in L2 English. According to the LPM, the two previously acquired languages are expected to lead to facilitative and non-facilitative influence depending on the property.
 Our findings in L3 German suggest that structural similarity overrides typological similarity as CLI occurs property by property. At both stages, the property with the highest accuracy is the possessive determiner placement (1. 75,92%, 2. 83,65%), which patterns with English and is a possible option in Norwegian, while the property with the lowest accuracy is object-verb word order (1. 36,42%, 2. 40,38%), which differs from both previously acquired languages, in contrast to the three properties with both facilitative AND non-facilitative influence, i.e., facilitative influence from Norwegian and non-facilitative influence from English for adverb placement (1. 57,10%, 2. 62,82%) and V2 (1. 47,84%, 2. 50,00%) and vice versa for generics (1. 67,28%, 2. 77,88%). Lexical cues did not lead to stronger CLI. The increase in accuracy per condition is in line with increasing general proficiency. Our findings indicate that there is no wholesale transfer from only one of the previously acquired languages at early stages.

**Enikő Biró**

*Individualised multilingualism online – hidden principles of Facebook language practices*

The focus of this paper is on individual language choices and practices in the digital world, where multilingualism includes the combination of separate languages and facilitates hybrid practices from code-switching to translanguaging. Social media users adopt linguistic resources and use their linguistic repertoires to create their individualized multilingualism which may be very distant from their offline mono-, bi- or multilingual practices, especially in case of people with a minority background.
Unlimited number of languages are offered in the digital world, and “technological and ideological shifts have resulted in a kind of hyper-differentiation in relation to language, whereby more and more languages are achieving their own bounded spaces and places of use on the web and in other digital contexts” and “this has given way to a focus on satisfying individual rather than collective needs” (Kelly-Holmes 2019: 31-33).
The paper explores hidden principles of individualized multilingualism of bilingual (Hungarian-Romanian) university students in Romania. Data collection follows an online ethnography approach, which refers to a four-week observation of online activities, collection and analysis of online data, combined with data provided by interviews of six participants of the research. My research question refers to how their individual linguistic needs shape the multi- and hyperlingualism presented on Facebook profiles. In this paper I first examine code-switching and translingual practices of the participants’ on Facebook. Secondly, I analyse the interviews with the same participants in order to deepen the insights gained from the analysis of Facebook data. I argue that individualized multilingualism practiced in the social media is not necessarily connected to language knowledge but presents well-grounded, although sometimes conflicting language preferences in case of minority speakers.

**Sarah von Grebmer zu Wolfsthurn, Leticia Pablos Robles and Niels Schiller**

*Cross-Linguistic Interference of Grammatical Gender in German and Italian late Learners of Spanish: The Role of Gender Congruency and Cognate Status*

The current study explored cross-linguistic interference (CLI) during grammatical gender processing in the comprehension domain. The gender-congruency effect (Klassen, 2016) and the cognate facilitation effect (Costa, Caramazza & Sebastian-Galles, 2000) are used as indices for CLI, the former for the interaction of grammatical gender systems and the latter for the overall interaction of two languages.
To explore both effects in the context of CLI, we manipulated gender-congruency and cognate status to examine their modulating role in two populations with differing degrees of overall typological distance: native German speakers and native Italian speakers, who were late learners of Spanish with a B1/B2 level (corresponding to the Common European Framework of Reference for Languages, CEFR).
We tested a syntactic violation paradigm in Spanish while recording participants’ EEG. We measured P600 amplitudes indexing syntactic violations, and response latencies from the onset of a noun-phrase (e.g. la mesa) to quantify the interplay of gender-congruency and cognate status during grammatical gender processing. We expected shorter response latencies for gender-congruent items and cognates as a result of the interaction between the gender-congruency effect and the cognate facilitation effect (Lemhöfer, Spalek & Schriefers, 2008). Furthermore, we hypothesized a P600 effect modulation as a function of condition (Foucart & Frenck-Mestre, 2011). Lastly, we expected an effect of typological distance, i.e. more pronounced CLI effects for Italian speakers than for German speakers due to lower typological distance.
For the German speakers, we found evidence for CLI of the grammatical gender systems of German and Spanish in late learners at the behavioural and electrophysiological level. Response latencies differed as a function of condition: participants were faster at processing congruent cognate nouns compared to incongruent non-cognates. Furthermore, the P600 effect was largest for congruent cognates. In sum, for German speakers, interference effects were modulated by both gender-congruency and cognate status. For Italian speakers, whose data is currently being analyzed, we hypothesized larger gender system interference effects due to overall lower typological distance, i.e. even faster response latencies and a larger P600 effect for the congruent cognate nouns. This would provide evidence for the modulating effects of typological distance. The results are highly relevant for the conceptualization of grammatical gender and language acquisition mechanisms in late learners and are complementary to existing knowledge about (early) bilinguals.

**Leigh Fernandez and Shanley Allen**

*Word skipping by late L2 speakers of English: The effects of word length, predictability, spelling skills, and proficiency.*

About one third of all words are skipped during reading (Rayner 1998). The greatest factor contributing to whether a word is skipped is word length, with shorter words being skipped more frequently than longer words (e.g., Rayner, 1979). When matched for length, predictable words within a sentence context are more likely to be skipped than unpredictable words (e.g., Balota et al., 1985). Models of L1 eye-movement-while-reading models such as the E-Z reader model (Reichle, Pollatsek, Fisher, & Rayner, 1998) and the SWIFT model (Engbert, Nuthmann, Richter, & Kliegl, 2005) make different predictions about the reasons that skips occur. The majority of what we know about skipping behavior comes from monolingual speakers, and it remains unclear whether these models can explain L2 skipping behavior. It may even be that L2 skipping behavior can help elucidate between these models by supporting one over the other. Research investigating L2 reading behavior often reports skipping rate in conjunction with other typical eye movement measurements. It is generally assumed that L2 speakers skip less words in their L2 than L1 speakers reading in their L1 (e.g., Cop, Drieghe, & Duyck, 2015), however, to the knowledge of the authors no study has systematically investigated skipping behavior in L2 speakers. Therefore, in the current ongoing eye-tracking-while-reading study we test skipping behavior by late L2 speakers of English with a German L1 using the materials from Rayner, Slattery et al. (2011) and Slattery and Yates (2018). We measured skipping rate and reading durations of a critical word that was varied by length (4-12 letters in length) and predictability (either high or low predictability based on sentence context). Additionally, we include a measure of quality of lexical representation (via spelling skill) and of English proficiency (via English morphosyntax knowledge). For L1 speakers, Slattery and Yates found that spelling skill impacted skipping rate (with the likelihood of skipping the critical word increasing with spelling score) but not gaze duration, and reading skill impacted gaze duration (with durations decreasing as reading score increased) but not skipping rate. Using LMER, our data thus far (n=16, expected=50) show a decrease in skipping rate as word length increases, and an increase in first fixation and gaze duration as word length increases (in line with L1 speakers). We also see longer first fixation duration for less predictable words than more predictable words. At present, we find no impact of predictability on skipping rate, and no impact of spelling or proficiency, but believe that with more participants interesting patterns will emerge. L1 models of eye-movement-behavior-while-reading do not take into account L2 reading behavior, and we believe this research will have important implications for both L1 models of eye-movement-behavior-while reading and for L2 reading models.

**Yesi Cheng, Jason Rothman, Ian Cunnings, Zoe Schlueter and David Miller**

*On the electrophysiological basis of L1 and L2 processing: ERP evidence from unquantified vs. quantified non-local agreement violations*

In research on native (L1) and non-native (L2) comprehension, some have claimed that L2ers cannot acquire morphological features absent in the L1 in a nativelike way [4], while others argue that L2ers have difficulty computing non-local dependencies [3]. [1] offered ERP evidence suggesting that Chinese L2ers process local agreement errors like (1) in a native-like way. However, [2] found that Chinese speakers in a non-immersion setting process agreement violations in a qualitatively different way when an intervening noun phase (NP) is embedded between the subject and the verb as in (2). This process has been shown to be modulated by lexical-level information in both L1 and L2 processing. [5] showed that quantified subjects facilitate natives’ sensitivity to local agreement violations in sentences like (3), whereas [1] found the opposite in Chinese L2ers using the same materials. To extend on these previous studies, we tested the extent to which ERP responses to non-local agreement violations in English natives and Chinese speakers of English, whose L1 lacks number agreement, are similar, and whether lexical-based cues from quantification regulate this process in both groups.
We tested 32 L1 English natives and 32 Chinese L2 speakers of English studying at a university in the UK. They read 160 experimental sentences in a 2x2 design manipulating quantification and grammaticality as in (4-7). The subject was either singular (4&6) or plural (5&7), and the intervening NP and verb were always singular, meaning half the sentences were grammatical and half ungrammatical. Quantification was also manipulated: half of the subjects were unquantified (4-5) and half were quantified (6-7).
Results from a midline analysis show a significant grammaticality effect with no group interaction: sentences containing agreement violations elicited a larger positivity with a posterior distribution in the P600 time window for both L1 and L2 speakers, see Figure 1. Also, we observed a significant grammaticality by quantification interaction: the P600 effect for agreement violations was larger with quantified than unquantified subjects. Again, this did not significantly differ between groups. Our findings suggest that both groups processed non-local agreement violations in a qualitatively similar way, and that the direction of effects related to lexical information from quantification, with larger P600 effects for quantified subjects, was the same in both groups (contra [1,2]). This suggests that Chinese speakers of English, at least in an immersion setting, are able to employ the same underlying mechanisms as L1 speakers for both syntactic and lexical processing. Although our L2ers were tested in an English immersion setting, they varied in proficiency (mean 40/60, range 24-54) and length of immersion experience (mean 17.7 months, range 2-48 months), indicating that processing of the relevant syntactic features is not as formidable a task as some theories predict.

**Brittany Blankinship and Thomas Bak**

*Language Changes in Later Life*

Traditional language attrition, that is the loss or shift of L1 in an L2 environment, is a relatively well-studied phenomenon (Herman, 2012; de Bot & Weltens, 1995; Schmid & Dusseldorp, 2010; Wei, 2014). However, few studies have systematically studied so-called language reversion, that is L2 loss or short by aging migrants in an L2 environment. The experience of reverting to L1 in an L2 environment is a more widely accepted phenomenon among migrant communities and multilingual families, but the empirical backing and foundation are lacking and what does exist is inconclusive (Keijzer, 2011; de Bot & Weltens, 1995). Some research has suggested that the experience of language reversion is driven by social phenomena such as nostalgia, factors in the acquisition of L2, or is strongly linked to neuropathology such as dementia (Costa, 2012; Creeze, 2008; de Bot & Clyne, 1989; Hyltenstam & Stroud, 1993; Schmid & Keijzer, 2009; Tipping & Whiteside, 2015).
In order to systematically investigate if the frequency of the phenomena of second/foreign language attrition and if it is a result of neuropsychological, social, or acquisitional factors, we have developed an online questionnaire allowing for varied response types with four respondent types either by self-report or proxy. The proxy respondents include carers reporting on behalf of a care-receiver, family/friends reporting on behalf of a family member or close friend who experience(d) language changes in later life, and medical practitioners reporting on the frequency of which they have experienced or heard about patients reverting to their first language. Overall, a return to the use of the first language seems to be the most common, but not the only pattern observed. Language changes in old age can be influenced by biological as well as psychological and social factors.

**Nusrat Begum and Sweta Sinha**

*Multilingualism and Language Attitudes: A Case Study of Linguistic Hegemony in India*

India is certainly one of the multilingual nations in the world today, where people display a high degree of diversity in their languages and dialects. Bihar, located in the eastern part of India, is one of the largest states of the country where different languages like Hindi, Urdu, Magahi, Maithili, Surjapuri, and Bhojpuri are predominantly spoken. This paper aims to solicit the attitudes of the native inhabitants of Bihar towards the languages in the linguistic landscape of Patna, the capital city of Bihar and their preference of languages in public spaces of the city. A random sampling method has been employed to collect data from 336 respondents through a questionnaire survey. Based on a quantitative analysis of the research, it explores the ‘experiential dimension’ of the space that is the ‘space of inhabitants.’ The analysis has been done concerning mother tongues, age and educational qualifications of the respondents to find out the differences in responses due to these demographic factors. Despite belonging to the diverse linguistic background, diversity is less reflected in the attitudes and choices of language display in the city. The findings are supported by the Bourdieusian approach of language and symbolic power and linguistic capital. Using this approach, the study explains the marginalization of mother tongues spoken in Bihar since the native speakers of the state consider Hindi, the official language of the state as their linguistic capital which symbolizes power and prestige for them.

**Christiana Themistocleous and Çise Çavuşoğlu**

*Experiencing multilingualism in the Linguistic Landscape of borderline communities affected by conflict: An ethnographic approach*

This sociolinguistic study explores the significance of language in enhancing social cohesion, collaboration and trust in conflict-ridden borderline communities. Cyprus has been divided since the Greek/Turkish-Cypriot war in 1974, resulting in the decline of multilingualism in Greek and Turkish. However, the ease of cross-border movements in 2003 interjected a new dynamic into bi-communal life, re-shaping multilingual practices.
Although there have been some bi-communal initiatives, because of the long-term conflict limited linguistic research has been conducted to explore multilingualism among the two communities. Collaborations among Cypriot-based researchers from the two communities is not always possible, as this is often frowned upon by their respective institutions for political reasons. This project is important because not only it investigates this under-explored area but also it forms such partnership by bringing together Greek- and Turkish-Cypriot researchers and participants, setting an example of bi-communal research collaboration.
By building on previous work on the visibility of Greek and Turkish in the public space near the Greek/Turkish-Cypriot border in Nicosia (Themistocleous, 2019; forthcoming), this study uses an ethnographically-informed approach to Linguistic Landscape research to investigate how Greek- and Turkish-Cypriot residents of Nicosia experience and evaluate multilingualism in public space.
Data was collected using an innovative method, namely walking-tour semi-structured interviews (Lou, 2016). Thirty-six Greek- and Turkish-Cypriot participants representing three generations (60+; 30-40; 18-23) walked along Ledras street, the main commercial street in Nicosia which is divided by a UN-controlled buffer zone since 1974. In pairs, participants observed the languages displayed around them and, as they moved across communities, discussed with the researcher their thoughts, feelings, attitudes and language practices.
Data was analysed qualitatively both comparing responses of the participants within each community across generations and across the Greek- and Turkish-Cypriot participant groups to understand whether language practices and ideological stances have been changing 17 years after the opening of the border. The analysis revealed that language stances differ among the participants, not so much based on generational differences but more on political and linguistic ideologies they held. It was also revealed that nationalist ideologies are still prominent but at the same time new ideologies of unification and peace slowly start to surface.

**Poster session 3, 25th June 9-10, 13-14:30**

**Theodora Papastefanou, Theodoros Marinis and Daisy Powell**

*Language and word-level reading development in Greek-English bilingual children at primary school: a cross-sequential study*

Background: There are more than a million children aged between 5 and 18 in UK schools who speak in excess of 360 languages (National Association for Language Development in the Curriculum, www.naldic.org.uk). Therefore, these children learn two languages, the dominant language of the larger society and their family’s heritage language. Two topics relating to the language development of children growing up in such environments have long been investigated. The first relates to how children develop and maintain their heritage language and the second to how they develop the majority language (Tsai, Park, Liu, & Lau, 2012; Winsler, Díaz, Espinosa, & Rodríguez, 1999). Several previous studies have investigated how children develop their dominant language (Chondrogianni & Marinis, 2011, 2012; Gutierrez-Clellen, Simon-Cereijido, & Wagner, 2008; Hoff et al., 2012). In contrast, a smaller number of studies have carried out in depth examinations of how children develop and maintain their heritage language (Cavallaro, 2005; Gathercole & Thomas, 2009; Hoff, 2013; Winsler et al., 1999).
Aims: The first aim of the study was to investigate bilingual children’s performance in objective measures of language and word-level reading skills at two testing points, drawing comparisons between the heritage (Greek) and majority language (English) and between the two age groups in the first four years of primary school. The second aim was to investigate the relationship between language use, environmental factors and language and reading development. The third aim was to address whether there is a relationship between the heritage and majority language at the first time point and word-level reading skills at the second time point within and across languages.
Methodology: Forty Greek-English bilingual children attending Years 1 and 3 of primary school were assessed in vocabulary, phonological awareness, morphological awareness, and decoding skills, and then reassessed in both languages one year later when in Years 2 and 4. The parents completed the LITMUS-PABIQ questionnaire (Tuller, 2015) to obtain language history/use data.
Results-Conclusions: The results showed that overall scores were higher in the majority language (English) than the heritage language (Greek), but there were differences between tasks in the developmental trajectory of the two languages (Kuo & Anderson, 2006). The results also showed more associations between contextual factors and the scores in the heritage language compared to the majority language, which suggests that heritage language benefits from additional exposure, use, and environmental support (De Houwer, 2007; Gathercole & Thomas, 2009). Finally, findings showed both a concurrent and longitudinal relationship between phonological awareness and word reading skills, both within and between languages, supporting the view that learning a first language with more transparent orthography could enhance skills in the second language with more opaque orthography and vice versa (Durgunoğlu, 2002; Lafrance & Gottardo, 2005).

**Aleksandra Syczewska and Ulla Licandro**

*Second Language Acquisition in Early Child Education and Care: The Role of Children’s Initiatives*

Background
In recent years, many children have immigrated to Germany and are now attending German early education and care centers (BAMF, 2019; BMFSFJ, 2017). The successful second language acquisition (SLA) is crucial for those children (Massumi et al., 2015). With regard to second language development, numerous studies demonstrated that preschoolers’ participation in picture book reading situations may lead to improvements in vocabulary, and early literacy skills (Tsybina & Eriks-Brophy, 2010; Aarts, Demir-Vegter, Kurvers & Henrichs, 2015).

While various studies focused on the quality of teacher-child interactions by evaluating teachers’ use of strategies that prompt child talk, much less is known about the children’s side of interactions, for example, child initiation skills and reactions to teachers’ strategies (Egert, Quehenberger, Dederer & Wirts, 2018).

Child initiatives are crucial for language development, as „children who initiate frequently and engage their teachers in social interactions create the ideal conditions for their own language learning” (Weitzman & Greenberg, 2002, p. 66). However, nonverbal or indistinct initiatives are at risk to be overlooked or ignored by teachers (Syrjämäki, Pihlaja & Sajaniemi, 2019).

Goals
The first goal of this study is to identify, how preschool children in the early stages of SLA initiate conversations with their teachers during shared picture book readings and to examine possible variations of child language complexity in self-initiated and teacher-initiated conversations. The second goal is to identify, if the number and type (nonverbal or verbal) of child initiations is related to current and later vocabulary skills.

Methods
The sample consists of 20 3-6-year-old children in the early stages of SLA (systematic L2 contact less than 6 months). For every child, 15 minutes of dialogical picture book reading with an teacher were videotaped, transcribed via CHAT format (MacWhinney, 2000), and analysed with regard to language complexity via CLAN as well as coded and analysed for verbal and nonverbal initiations. To identify relations of child initiations and vocabulary skills, the results will be correlated with children’s receptive vocabulary skills assessed at the time of the picture book readings as well as one year later via the German version of the PPVT-4 (Lenhard, Lenhard, Segerer & Suggate, 2015).

Expected outcomes
The outcomes of the study will contribute to our understanding of interactions between bilingual children and teachers in preschool settings and help to identify the factors, which may support child SLA.

**Haifa Alhumaid, Jane Setter and Daisy Powell**

*The role of phonemic coding and orthography in learning novel phonemes in Arabic as a second language*

This study aimed to measure the effects of two factors in the performance of a group of participants in their perceptual discrimination ability based on Brown’s (1998) Feature-based model (FBM). The FBM states that first language (L1) phonological knowledge plays an essential role in acquiring second language (L2) phonemes and that learners depend largely on the distinctive features of L2 sounds in L2 phonological development. In this study, learning of one distinctive feature in Arabic phonology was investigated, namely the “emphatic/non-emphatic”, in a group of thirty-eight non-native speakers of Arabic (29 female, 9 male, with age of M=29.5 and SD=71.73). 76% (n = 29) of them were L1 English speakers and 24% (n = 9) had different L1s including Cantonese, Mandarin, Hindi, Bengali, Russian, Serbian and Polish. However, 44% (n = 4) of the non-English participants used English at home. Participants’ discrimination ability between the emphatic Arabic phonemes /sˤ/ and /ðˤ/ and their non-emphatic counterparts /s/ and /ð/ was investigated. These four Arabic phonemes have only two English equivalents /s/ and /ð/, and thus that the former pair are novel phonemes to English speakers.
The role of two factors thought to be important for learning was also considered: phonemic coding ability and orthography availability. Phonemic coding ability refers to the ability to analyse and retain unfamiliar sounds (Sparks et al., 2011), and to link phonemes to their corresponding graphemes (Hu et al., 2012). Thus, this study had two phases: an aptitude pre-test phase that examined the participants’ phonemic coding ability, and an experimental phase that examined the influence of the orthography availability on acquiring the four phonemes. After taking the aptitude pre-test (Llama-E) (Meara, 2005) and being allocated to two different groups (orthography-presence and orthography-absence), participants underwent different activities in the experimental phase. These activities required them to discriminate Arabic fricatives, learn Arabic non-words that include the target sounds initially along with non-object pictures, and identify the differences between the emphatic and non-emphatic forms perceptually.
Findings showed that there was no significant effect of either orthography or phonemic coding ability in differentiating between the non-emphatic consonants and their emphatic counterparts. In addition, results show that there was no interaction between orthography availability and phonemic coding ability.
Possible reasons for the lack of effect are various. Among these is the opaqueness of the participants’ L1 writing systems which trained the users of the language not to depend on the orthographic input in acquiring phonology (Simon et al., 2010). Also, it might be the novelty of Arabic script as it has different symbols and different directionality from those of Romance languages (Mathieu, 2014; Showalter & Hayes-Harb, 2015), Finally, the difficulty of the target phonemes could have played a role; this finding is in line with Flege’s speech learning model (1995) as it claims that phonemes in the L2 which are similar to existing L1 phonemes are the most difficult to acquire.

**Mara van der Ploeg, Louisa Richter, Tom Koole and Merel Keijzer**

*Describing the third-age language learning classroom*

In this talk we present the findings of a third-age language classroom interaction study. With average life expectancy increasing, ageing is considered one of the greatest social and economic challenges of the 21st century (He, Goodkind, & Kowal, 2016) and healthy ageing is placed high on the agenda. Recently, studies have looked at potential cognitive benefits of late onset language training studies for senior monolinguals (Bak, Long, Vega-Mendoza, & Sorace, 2016; Pfenninger & Polz, 2018; Ramos, García, Antón, Casaponsa, & Dunabeitia, 2017). However, both lines of research find mixed results. In language training studies this is partly because seniors’ language learning needs remain unclear (Ramírez-Gómez, 2016). Additionally, what happens within the third-age language learning classroom has never been investigated. To overcome both gaps in knowledge, two groups of Dutch seniors (N=4 and N=3) were provided with a four-week speaking- and listening-focussed English course. These 1,5-hour lessons were video-recorded. In this study we zoom in on one of the lessons to provide a detailed overview of the third-age language classroom. The analysis of the videos was twofold: a time analysis was conducted and recruitments of assistance were identified and analysed. The time analysis comprised an examination of the amount of time spent on different components during the lessons, including speaking times of teacher and learner, and the time spent on different (parts of) exercises. This provides an overview of the structure of the third-age language classroom and results show, for instance, that learners spent the majority of their time in class speaking. In addition to the time analysis, recruitments of assistance were analysed, the various ways someone asks for or seeks help from another person (Kendrick & Drew, 2016). These calls for assistance can include many things such as asking for a word, asking for elaboration or asking for clarification; and they can be voiced both verbally and non-verbally. Taking a conversation analytical approach allowed us a detailed look at the interactions that take place within the third-age classroom between teachers and learners, and learners reciprocally, a novelty in the field. Seniors employ specific tactics to recruit assistance and do so both verbally and non-verbally. As a general conclusion, analysis of these recruitments of assistance shows that older learners are clear owners of their learning process.

**Naomi Flynn, Annela Teemant and Kara Mitchell Viesca**

*Teachers’ successful practices for multilingual learners in the UK and the US: Finding common ground*

The USA and the UK are English-speaking countries with long histories of migration and multilingualism. English is the language of education in both,and therefore a gatekeeper of social and economic well-being. Both the US and the UK have increasing school populations of multilingual learners (MLLs) whose home languages are not English, and a shared need to enhance teachers’ practice to give all pupils the best chances of academic achievement regardless of their language background (Strand, Malmberg and Hall, 2015; Takanishi, & Le Menestrel, 2017). Furthermore, both countries have a problem with under-preparation of teachers to teach MLLs (Flynn, 2019; López & Santibañez, 2018) and a need to understand more about the ‘instructional space’ between teachers and students in multilingual classrooms (Teemant, 2018).
In addressing the issues described above, US academics have created and refined professional development materials for mainstream school teachers around a proven-successful framework–The Standards for Effective Pedagogy (hereinafter referred to as The Standards)-for preparing coaches,and coaching teachers,in multilingual classrooms (Teemant, 2014). The Standards are an evidence-informed teaching approach that supports the raised academic attainment and the English proficiency of both MLLs and monolingual English-speaking children (Teemant, Leland, & Berghoff, 2014; Teemant & Hausman, 2013). They consist of a set of principles of learning that promote teaching that is collaborative, cognitively challenging, language rich and contextually grounded. These are described in detail on a rubric called The Standards Performance Continuum Plus that underpins professional learning and is the classroom observation tool against which teachers’ practice is assessed and scored.
Using a coding taxonomy of key concepts from The Standards, in this paper we compare observational data, from both countries, of the lessons of successful teachers working in primary school multilingual classrooms. We take a qualitative lens and unpick the detail of practice underlying the quantitative scores awarded to excellent teachers whose craft embodied The Standards. Applying a socio-cultural approach to data interpretation, analysis throws light on the dialogic instruction (Mercer & Howe, 2012) common to their teaching, and on the ways in which this language-oriented pedagogy exemplifies excellent practice for MLLs. Moreover, it shows how these practitioners’ linguistically responsive approach to teaching incorporated high expectations that raised the aspirations of and advocated for their MLLs (Lucas, 2011).
Our analysis of the nuances of these teachers’ practices demonstrates how the instructional space between teachers and their students is manifested. We reveal how The Standards’ domains of Language and Literacy Development (LLD), Challenging Activities (CA) and Modelling (M) are actioned productively but differently by practitioners in different contexts, and we share evidence that this observational rubric can illuminate excellent teaching for MLLs across countries. Importantly, we contribute much needed evidence towards understanding how teachers’ ‘intentional’ practice for MLLs can transcend prescribed curriculum frameworks but remain sensitive to local need.

**Vincent Boswijk, Hanneke Loerts, Matt Coler and Nanna Hilton**

*The Cognate Facilitation Effect in Frisian-Dutch Bilinguals*

Recent research into the processing of words has advanced our understanding of factors that affect how words are processed. An example is the word frequency effect, which tells us that high frequent words are easier to process than low frequency words (Brysbaert, Mandera, & Keuleers, 2018). Furthermore, according to the cognate facilitation effect, people respond faster and more accurately to cognates than to non cognates (Bosma, Blom, Hoekstra, & Versloot, 2019). Bice and Kroll (2015) showed this effect is not only present in highly proficient speakers, but emerges at an early stage during the process of language acquisition.
In this paper we studied the frequency and cognate effects in the setting of the bilingual Dutch province of Fryslân. In practice, all inhabitants of the region speak Dutch. Apart from that, just under 60 percent of the Frisian population identifies Frisian as their mother tongue, while around 70% of the Frisians report to speak the language well (Provinsje Fryslân, 2015).
To investigate the frequency and cognate effects, we conducted an auditory lexical decision task in which 60 participants responded to Dutch words and pseudo words. We compared how 30 speakers of Dutch, and 30 Frisian-Dutch bilinguals responded to the stimuli, which were selected based on their frequency (high vs. low), and were either a cognate between Frisian and Dutch, or not. During the task, we measured Event Related Potentials (ERPs) using Electroencephalography (EEG).
We hypothesized that the effect of word frequency would result in a larger N400 component for the low frequent words than for the high frequent words. We further hypothesized that bilingual Frisian-Dutch speakers would show a cognate facilitation effect, apart from the word frequency effect. That is, we expected that the N400 would be smaller for the cognates than for the non-cognates.
As expected, the effect of word frequency resulted in a larger N400 component for the low frequent words than for the high frequent words. Furthermore, the processing of cognates was indeed facilitated in Frisians, as visible in a reduced N400. Interestingly, the N400 within the Frisian group in response to non cognates was reduced as compared to the N400 in response to cognates. These results are contradictory to what was expected based on the literature. We will further discuss our results in the presentation.

**Shatha Alaskar**

*Feature Reassembly of Morphosyntactic and Semantic Features in L2 Acquisition of Aspect by Arabic and English Speakers: A Bidirectional Study*

This bidirectional study investigates whether Arabic learners of English (ESL) and English learners of Arabic (AFL) at different proficiency levels can acquire the aspectual/temporal distinction between the present simple and present progressive and between the simple past and present perfect. Previous L2 research on L2 acquisition of morphosyntactic and semantic features sought to explain divergent L2 grammar on the grounds of representational impairment accounts that focus on feature selection and parameterized features; however, this study tests Lardiere’s (2008) Feature Reassembly Hypothesis (FRH) exploiting the fact that the relevant features to express aspectual notions are encoded differently in Arabic and English and, therefore, reassembling the set of features into new configurations as required by the L2 is needed for successful acquisition as per the (FRH) that goes beyond the issue of parameterized features showing that the picture is more complex as L2 learners need not only to select relevant features (if not selected in the L1) but to reassemble the existing L1 features into different configurations and this different arrangement of features can cause a learnability problem. Arabic’s imperfect verbal form (e.g. yaktubu “writes/is writing”) denotes both habitual and progressive interpretation and the perfect verbal form (e.g. katab “wrote/has written”) is used to convey both the preterite and present perfect meaning, revealing that Arabic does not discriminate between them at the morphological level and the intended reading can be conveyed through contextual clues and adverbials. However, English has a distinct form for each aspectual meaning.
Two tasks were administered: an acceptability judgment task for Arabic ESL learners and an aspectual interpretation task for English AFL learners and each L2 group worked as a control group for the other L2 group. The findings revealed that L1 representations have a long-lasting effect on Arabic ESL learners as they found difficulty in assigning target-like interpretations to their morphosyntactic forms even at advanced level. However, advanced English AFL learners could establish the aspectual contrast to a target-like level and the intermediate group also showed that in preterite contexts, but they were statistically different from native speakers in the other contexts though most of their responses were accurate. Thus, a target-like behavior is predicted to be ultimately achieved as their development proceeds. These results support the predictions of the FRH which appears to be a promising explanatory account of the attested problems in L2 acquisition. The implication of these findings is that the reassembly process is not instantaneous, but it appears that reassembling different features into different forms is more challenging than reassembling different features into one form.

**Anna Mitrowska, Aleksandra Siemieniuk and Natalia Banasik-Jemielniak**

*What language should we speak at home? Challenges in establishing family language policies faced by Polish-speaking mothers living in the United States*

Almost one-third of children in the United States under five years old have contact with a language other than English at home (Child Trends 2014; Pompa, Park, and Fix, 2017). However, many of these children turn towards English monolingualism at the beginning of their school education (Kan and Kohnert 2005; Wong Fillmore 1991). The Family Language Policy model (Spolsky, 2004) claims that it is necessary to understand parents’ opinions about languages and socio-political influences to interpret the language’s function of children in a multilingual environment. Schwartz (2010) emphasized that there are many factors of parents’ decision to abandon or strengthen their children’s knowledge of their native language. (Some parents try to visit their homeland as frequently as possible. Others decide to use only one language allowed in conversations between them and children, read books in their native language or enroll them in bilingual schools or schools specially dedicated to a particular minority where they mainly use this minority language. Some decide to remit the learning of their native language.)
Considering previous research about this subject, especially Surrain (2018) who was interested in the Spanish diaspora, we focused on families living in the United States where one of the parents is a native speaker of Polish. Our aim was to answer the following questions: 1) Why is it (or is not) important for the parent to maintain her native language by her children? 2) What are the main challenges faced by the family in terms of family language policies?
We conducted 16 in-depth qualitative interviews with Polish-speaking parents to preschool and early school-aged children in the USA. Preliminary analysis shows that mothers want their children to know Polish in order for them to be able to communicate with their grandparents and relatives in Poland. They also talk of language as the carrier of cultural values and a part of identity. Some of them stress the fact that Polish is a difficult language and believe that having acquired it at young age brings certain cognitive benefits.
Also, mothers who switched to English while communicating with her children refer to the lack of their ability to raise a bilingual child, point that speaking Polish only to their children would exclude their partners who do not speak Polish from conversations and mention children’s resistance to speak heritage language soon after they enter the school system.

**George Pontikas, Ian Cunnings and Theodoros Marinis**

*Language processing in bilingual children: evidence from garden-path sentences*

Online processing in bilingual children is an understudied field of research. The limited number of studies to date indicate that bilingual children are sensitive to grammatical errors during processing (Chondrogianni & Marinis, 2012; Blom & Vasić 2011), although they may be slower at detecting them compared to monolinguals. However, the processing of more complex structures remains largely unexplored.
Trueswell et al. (1999) examined how monolingual children process garden-path sentences like (1) vs (2).

(1) Put the frog on the napkin on the table.
(2) Peter put the apple (that’s) on the plate in the bag.

Here, “on the napkin” is temporarily ambiguous, as it may be the destination of ‘put’ or a modifier of ‘the frog’. Trueswell et al. found that monolingual children initially interpreted this phrase as a destination despite ultimately being a modifier. Additionally, monolingual children had difficulty revising this initial misinterpretation, and failed to use contextual information to guide ambiguity resolution. Although garden-path effects have been studied in adult bilinguals (e.g. Pozzan & Trueswell, 2016), how bilingual children process garden-path sentences is unknown.
The present study expands this research into sentence processing in bilingual children. We asked: 1) Do bilingual children process temporarily ambiguous sentences incrementally and thus experience garden-path effects as monolinguals? 2) Is recovery from misinterpretation similar in bilingual and monolingual children? 3) Are bilingual children more sensitive to referential context than monolinguals?
37 8-11-year-old monolingual and 31 age-matched bilingual children of mixed linguistic backgrounds, but highly proficient in English, listened to sentences like (1) and (2) while they viewed displays depicting the different sentence interpretations. Sentence ambiguity and contextual information were manipulated to examine how monolingual and bilingual children process garden-path sentences. We analysed participant looks to the “incorrect destination” (the part of the display indicating garden-path effects, i.e. “the plate”) over time, by fitting a polynomial regression model (Mirman et al. 2008), and accuracy to comprehension questions (Where did Peter put the apple?).
Looks to the incorrect destination in ambiguous sentences increased significantly faster for the monolinguals relative to the bilinguals. For comprehension accuracy, there was a main effect of ambiguity, with lower accuracy in garden-path sentences than unambiguous sentences, but no effects of referential context or group and no interactions. These results suggest both groups experienced garden-path effects but that the misinterpretation was slower in bilinguals. Both groups had difficulty recovering from garden-path effects, as indicated by lower comprehension accuracy to garden-path sentences, but this was not significantly more pronounced in the bilingual children. Neither group showed sensitivity to referential context either in real-time processing or in comprehension accuracy.
Taken together, the results support previous work which report similar processing patterns in monolingual and bilingual children, but that the latter are slower. This suggests that bilingual children process not only simple but also complex syntactic structures in a similar way to monolingual children.

**Megan Hutto**

*Press Rightward-Facing Triangle: Metaphor and Cross-cultural Semiotics in Phone Applications*

Though the digital divide still exists in many respects, smart phones and phone applications have become a nearly ubiquitous part of modern life around the globe (Edmundson, 2007). Mobile phone users interact with applications ( 'apps') through user interfaces (UIs) in a manner analogous to natural languages in which there are lexemes (shapes, colors, etc.), morphemes (symbols), lexical items (action and symbol), and phrases (the command path). Additionally, the phrases required to interact with the UI should approximate the user's mental model of language in order to facilitate the most natural flow of interaction. Previous work has shown that individuals from different cultural/linguistic backgrounds have different expectations and preferences about the elements they will be encountering when interacting with an app (Brejcha, 2015). Furthermore, mobile phone apps often use symbols with no obvious linguistic element to indicate actions a user might take such as the rightward-facing triangle to mean 'start the indicated media' (Batu, 2012). Given these facts, we can infer that users will be utilizing their cultural/linguistic repertoire to evaluate non-linguistic symbols in apps.
The current work is part of a larger project exploring a number of related research questions within the domain of the linguistic perception of non-linguistic symbols by individuals from differing linguistic and cultural backgrounds. One such question is how can we ensure that non-linguistic symbols are sufficiently salient to users from a wide variety of cultural backgrounds, if at all possible? In order to investigate this area it is important to first establish a method by which individuals' understanding of the symbols they encounter may be measured. Therefore, the present study aims to investigate delays/error in perception when participants are presented with a symbol which conflicts with their cultural metaphor.
A set of symbols derived from work on pictography by Lesnevskay (2018) and consumer perception studies by Carrillo et al. (2014) were developed and placed into a model phone screen. Participants then completed a survey in which these symbols were manipulated in a number of ways to ensure that they both conflicted with and aligned to the dominant cultural metaphor (Salgado et al., 2013). The survey consisted of three types of questions: task (given the symbol in context, what task would you expect to accomplish), image (given a desired task, which symbol would you select), and preference (given no specific task, which of a set of images is the most preferred). There were a total of 40 participants, all of whom were native speakers of American English. The results align with expectations; respondents took a statistically significant longer amount of time to respond when the presented with a symbol which conflicted with their cultural metaphor (i.e. when given the task 'advance to the next screen' and an arrow facing to the left).

**Yanling Zhou**.

*The importance of oral language skills at the onset of biliteracy (Chinese-English) learning in L1 and L2 Chinese speaking kindergarteners in Hong Kong*

L1 and L2 Chinese speaking children acquire Chinese and English simultaneously at age 3 in Hong Kong. The literacy practice has been primarily focused on the children reading and writing skills. The current research examined and compared three year old L1 and L2 Chinese speaking children on a range of their Chinese and English literacy related skills, including vocabulary knowledge, phonological processing skills, visual skills, Chinese orthographic memory and visual-motor skills. Those skills were showed previously as important componential skills for learning to read Chinese. After controlling for children's age and gender, the results showed that L1 Chinese speaking children were significantly stronger than L2 children on oral language skills, receptive and expressive Chinese word reading skills, on the other hand, L2 Chinese speaking children represented by a variety of south Asian languages speaking children, performed significantly better than L1 Chinese speaking children on English literacy related measures, including vocabulary knowledge and English RAN. While the two groups did not differ on basic visual detection skills, L1 performed significantly better than L2 Chinese speaking children on speed of visual processing skills. Regression analysis demonstrated the significant effect of oral language skills in predicting both Chinese and English word reading skills at the start of the Hong Kong kindergarten year.

**Odelya Ohana and Sharon Armon-Lotem**

*Using a Multicultural Questionnaire to Assess the Language of Bilingual English-Hebrew Speakers*

Background: The lexica knowledge of bilingual children should be tested in both languages to get a comprehensive picture, but this is not always feasible due to lack of access to the home language (HL). The availability of the MacArthur-Bates CDI: Words and Sentences [1] in many languages has a potential of overcoming this challenge. The present study explores an alternative by comparing the use of one multicultural questionnaire in the societal language (SL) to the use of two monolingual questionnaires (in the SL and the HL), to explore the potential of such a tool for assessing bilingual children.

Method: MacArthur-Bates CDI: Words and Sentences and its Hebrew adaptation [2] were used for testing 38 English-Hebrew bilingual children ages 24-48 months. A multicultural adaptation of the Hebrew CDI developed for this study was tested with additional 30 English-Hebrew bilingual children ages 24-48 months. In the multicultural adaptation parents were asked about both languages. For all children English is the HL and Hebrew is the SL. Both production and comprehension were tested. For each child a calculation of the words he/she produced and comprehended in each language was done, as well as conceptual vocabulary from both languages.

Results: A MANOVA performed on the data showed no significant differences between the mean percentage of words of the two samples in English for both production and comprehension abilities. Similar results, with no significant differences between the two samples, were demonstrated for Hebrew production and comprehension. Similarly, there was no significant difference between the two samples in conceptual vocabulary.

Discussion: The similar vocabulary levels demonstrated both samples can serve as a validation tool for the method of using a single multicultural questionnaire to report on two languages and to enable further use of this questionnaire to assess the vocabulary of children in other bilingual communities.

**Raffaele Dicataldo and Maja Roch**

*Are the effects of variation in Bilingual Exposure and Socioeconomic Status on language and cognitive abilities independent in preschool children?*

Bilingual Exposure and Socioeconomic status impact children’s cognitive and linguistic developmental trajectories, however, their specific and unique effects are still not clear. In the current work, we analyzed the specific and unique contribution of these environmental factors on a large set of cognitive and linguistic abilities in preschool children to disentangle their effects. One hundred-eleven preschool children completed a large assessment of linguistic (vocabulary, grammar and narrative comprehension, lexical access) and cognitive abilities (Theory of Mind, inhibition, shifting and working memory). Background measures about bilingual exposure and socioeconomic status were collected through a questionnaire filled by parents.
We carried out a series of hierarchical regression analyses having as predictors the variation in Bilingual Exposure (both Cumulative and Daily) and SES, on each linguistic and cognitive ability. We found a unique contribution of variation in SES, after controlling for differences in BE, in vocabulary, grammar, and working memory and a unique contribution of variation in BE, over and above the effect of the SES differences, in vocabulary, narrative comprehension, and working memory. Finally, we found an interaction between these factors in predicting performance on the ToM task. Variations in bilingual exposure and SES contribute to individual differences in a large number of linguistic and cognitive skills during preschool age, and their contribution, are independent, unique and specific.

**Dimitra Lazaridou-Chatzigoga and Petros Karatsareas**

*L1 attrition and linguistic purism among highly educated Greek speakers in London*

Following the 2008 economic crisis, the UK’s Greek diaspora doubled in size and is currently estimated to total 70,000 people, 78% of whom are university graduates (SEESOX Diaspora Project) and – it can be safely assumed – also proficient speakers of English, given the emphasis that is placed in Greece on obtaining English language qualifications to the highest possible level (Sifakis, 2008).
In this paper, we report results from a sociolinguistic investigation of L1 attrition based on an earlier psycholinguistic study (ANONYMOUS). The psycholinguistic study investigated attrition among 32 highly educated Greek-English bilingual speakers living and working in London, aiming to assess the impact of English on participants’ use of Greek. It measured (a) participants’ verbal fluency in Greek and (b) their use of the anaphoric and generic functions of the definite article in the language. Preliminary results showed no differences in the use of the definite article between bilingual participants and a matching group of monolingual Greek speakers living in Greece. There were, however, significant differences in verbal fluency with the monolinguals outperforming the bilinguals. This was in line with qualitative comments by the bilinguals themselves who often complained about having lexical retrieval difficulties in Greek.
The participants’ qualitative complaints provided the motivation for the sociolinguistic study. Our aim was to gain insights into participants’ lived experiences of attrition. We conducted semi-structured interviews with a selected subgroup of 14 participants, exploring their views and perspectives on attrition, their feelings about their competence in and use of Greek, possible changes they may have observed in their language, and English-Greek language mixing.
Thematic analysis of interview transcripts revealed a strong sense of “shame” caused by what participants perceived to be the bad state of their Greek. Feelings of inadequacy and loss were reported, engendered by the stigmatising reactions of other Greek speakers towards participants’ way of speech – especially speakers who live permanently in Greece including family members and close friends. Stigmatisation specifically targeted the use of (a) English lexical material in otherwise Greek utterances, and (b) expressions which, although containing exclusively Greek lexical material, have been calqued on English. This seemed to play on participants’ experiences of the hellenocentric form that linguistic purism takes in Greece, which does not simply promote a form of Standard Greek but one that is as complex and elaborate as possible, incorporating as many Ancient Greek(-sounding) elements and as few elements from ‘foreign’ languages as possible (Thomas, 1991; Delveroudi & Moschonas, 2003; Mackridge, 2009; Moschonas, 2009).
This study highlights a less-studied dimension in the relationship between attitudes and attrition: while previous work has examined attitudes as a factor facilitating or impeding attrition (Schmid, 2011), we investigate attitudes towards attrited speech by attriters and non-attriters alike.

**Anna Jessen, Lara Schwarz and Claudia Felser**

*Resolving number agreement conflicts with pseudopartitives in L2 German*

We investigated Turkish-German bilingual speakers’ judgement and production of verbal agreement with pseudopartitive subjects as in eine Tüte Bonbons ist/sind… (‘a bag of sweets is/are…’), where both singular and plural verb forms are acceptable (e.g. Grestenberger, 2015; Wegerer, 2012). Verb number choice may be constrained by syntactic, semantic and/or surface-level factors such as a noun phrase's linear proximity to the verb. We combined the results of the judgement task with Gradient Symbolic Computation modelling (Smolensky et al., 2014; Goldrick et al., 2016) to capture the relative strength of the constraints that determine speakers' agreement preferences, and subsequently tested whether these models could correctly predict speakers' verb choices in a production task.
Forty bilinguals and 40 monolingual German speakers with no knowledge of Turkish participated in Experiment 1. They were asked to rate German sentences containing pseudopartitive subjects and either a singular or a plural auxiliary on a five-point Likert scale. Manipulating the grammatical number of both the first noun phrase (a container phrase, henceforth NP1) and the second one (the containee, henceforth NP2) as well as verb number (singular/plural) resulted in a total of eight experimental conditions.
Note that in Turkish, our bilingual participants' first or heritage language, no number marking conflict exists for the translation equivalents of our materials due to the lack of grammatical plural marking on both NP1 and NP2.
In Experiment 2 we used a timed binary-choice sentence completion task (Staub, 2009) to examine participants' agreement preferences in production. 48 German monolinguals and 52 bilinguals were asked to complete sentence fragments containing pseudopartitive subjects by choosing either a singular or plural auxiliary.
For both participant groups, number match between the container noun phrase and the verb was the strongest determinant of both acceptability and production choices. The relative ranking of the constraints that we identified was the same for both groups, and a lack of age-of-acquisition effects suggests that constraints on variable subject-verb agreement, and their relative strength, are acquirable by both early and later learners of German. Group differences were seen in the absolute constraint weightings, however, with the bilinguals' agreement preferences being more strongly influenced by number match with the containee phrase, indicating a comparatively greater reliance on surface-level cues to agreement (such as noun proximity) among the bilingual group.

**Hanneke Loerts and Jelle Brouwer**

*Blind Auditions: Measuring Implicit Accent Stereotypes at the Neural Level*

We all categorize people based on their ethnic background, regional membership, or social class. Even a blind audition would not prevent this from happening: Someone’s accent, i.e., their manner of pronunciation, provides more than enough information to infer implicit stereotypical associations concerning, for example, the speaker’s status (e.g. wealth, intelligence) and their perceived solidarity or social skills (e.g., kindness, trustworthiness). As opposed to explicit associations, of which we are aware, implicit associations may lead to prejudiced behaviour without us even noticing it. Although it is a frequent phenomenon, little is still known about the influence of implicit stereotypical associations on the processing of language.
Instead of using the more traditional measures for explicit and implicit bias, the present study measured the real-time interplay between perception and belief at the neural level by using Event-Related Potentials (ERPs). ERPs are neural changes in response to stimuli and, as they require no overt response from the subject, constitute a particularly powerful tool to examine implicit processes.
Based on the existing literature, four accents were selected with clearly defined and separable associations with respect to the well-established dimensions of perceived status and solidarity. The four accents and the matching status and solidarity ratings are outlined in the table below.

Accent Status rating Solidarity rating

Upper-class ‘Randstad’ accent high low

Regional Frisian-Dutch accent low high

Foreign British-Dutch accent high high

Foreign Polish-Dutch accent low low

ERPs were recorded while native Dutch participants (n=32) listened to Dutch sentences spoken by speakers with the various Dutch accents outlined above. The sentence content either fully matched or violated expectations of the speaker’s perceived status and/or solidarity. Example sentences in English would be:

Status: I have been working as a lawyer/teacher for 20 years now.

Solidarity: I generally arrive at work too early/late, but I like it that way.

As was hypothesized, a mismatch between the listener’s associations and the speaker’s message, such as hearing someone with a low-status accent speak about their job as a lawyer, elicited an N400-like effect. The N400 is a negative jump in brain activity around 400 milliseconds that is generally found after a semantically incongruous or unexpected stimulus. The amplitude of the N400 is thought to reflect the relative ease of retrieving word meanings and the present study suggests that this process is additionally affected by the (mis)match between message content and the implicit associations with the accented speaker’s identity. These results shed more light on the rapid integration of linguistic and social context and suggest ERPs to be extremely well suited to investigate the different dimensions and the strength of implicit associations as well as their predictive power during sentence processing.

**Jeanine Treffers-Daller, Zehra Ongun, Julia Hofweber and Michal Korenar**

*The impact of code-switching on executive functions: a study among Turkish-English bilinguals*

In this paper we aim to provide further evidence for the fact that intrasentential code-switching affects bilinguals’ performance on executive functions (EF) tasks, as shown by Hofweber, Marinis & Treffers-Daller (2016, 2019). One of the reasons why a bilingual advantage on EF tasks is not always found is that variability in informants’code-switching behaviour has not been taken into account. We studied code-switching and EFs among two groups of UK-based Turkish-English bilinguals who differed in terms of the amount of contact they had had with English. While the first group consisted of 30 first generation Turkish immigrants from mainland Turkey, the 30 Turkish Cypriots belonged to a group who had spoken English and Turkish for generations. On the basis of Muysken’s (2000; 2013) typology of code-switching, the two groups were expected to engage to different degrees in different types of code-switching (insertion versus congruent lexicalisation). Following Hofweber et al. (2016) we expected bilinguals who engaged more often in the most intimate form of code-switching (congruent lexicalisation) to display smaller conflict effects on a high monitoring Flanker task.
We developed a 98-item Turkish-English code-switching frequency judgement task based on Hofweber et al. (2016) containing different types of code-switching as distinguished by Muysken (2013). Informants were asked to assess the frequency with which they encountered the different types of code-switching in their environment on a Visual Analogue Scale (LLamas & Watt, 2014). To measure informants’ executive performance we administered a 100 item Flankers task with 50% congruent and 50% incongruent items. Participants also took digit span tasks to measure their working memory and two tests from the WAIS IV which measure non-verbal intelligence, and filled in questionnaires about their language learning history.
While the differences in code-switching patterns failed to reach significance, we found that there was a trend for informants from the Turkish mainland to engage more in insertion of English words into Turkish (t= 1.19, df=58, p =0.06), and another trend for informants from Cyprus to engage more in congruent lexicalisation (t = 1.72; df = 58; p = 0.091), as expected on the basis of Muysken (2000). In addition, informants who engaged more in code-switching (all types combined) demonstrated reduced conflict effects on the flanker task (r=-0.281, p = 0.036) after controlling for intelligence, digit span, age and years of use of English. The fact that code-switching does indeed impact on EFs clearly emerged from a hierarchical regression analysis where intelligence scores and the code-switching frequency were the only significant predictors of the conflict effect on the flankers task (F(5,54) =3.143, p = 0.015; Adjusted R2 =.154; R2 change for code-switching = 0.066).We conclude that code-switching needs to be taken into account in studies of the impact of bilingualism on EFs.