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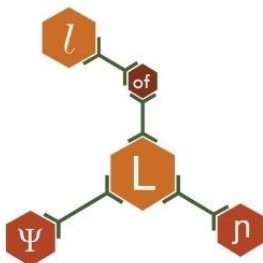**23 & 24 September 2024**

Language Disorders in Greek 9

Main session
Vesna Stojanovik, University of Reading
Ianthi Tsimpli, University of Cambridge

Thematic symposium
'Bi/multilingualism and language disorders'
Eleni Peristeri, Aristotle University of Thessaloniki
Eirini Sanoudaki, Bangor University

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What can lexical errors tell us about linguistic and cognitive biases in autistic children?

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The assessment of lexical knowledge in neurotypical and neurodiverse individuals can be a rich source of evidence regarding linguistic and cognitive skills. This is because lexical entries include semantic, phonological, syntactic and morphological features which are acquired gradually or in clusters during the process of lexical development. Psycholinguistically, lexical development and lexical errors have been shown to reveal linguistic and cognitive biases in neurotypical development. For instance, visual errors focusing on the detail of an object rather than the whole object (i.e. the tree rather than the forest) are viewed from a 'weak central coherence' perspective, which is related to a neurodiverse Theory of Mind. Phonological errors and neologisms, on the other hand, point to more linguistically-based sources. Furthermore, lexical knowledge is strongly linked to (child-directed) input, often described in terms of parental education levels, as well as bilingualism, as another 'nurture' factor. Specifically, exposure to two languages has been argued to compromise vocabulary size while, at the same time, improve metalinguistic skills, a higher-level cognitive ability. Although lexical measures, expressive and receptive, have regularly been used in studies on neurodiverse populations, it is usually the overall accuracy score that is referred to as a baseline measure of language ability. The aim of this presentation is to focus on evidence a) from a longitudinal study of lexical errors in object naming and b) morphological biases in the processing of inflection and derivation by autistic children with Greek as their first or second language to gain some insight into qualitative differences that can inform our understanding of the nature of neurodiversity in autism. The data will be analysed in terms of sex differences (boys, girls) and age on one hand, and SES and bilingualism, as nurture factors, on the other. The relationship between metalinguistic skills, Theory of Mind and accuracy in object naming will also be considered as cognitive skills closely interfacing with lexical performance.

Optimising early language development in children with Down syndrome: Theory meets practice

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Down syndrome is the most common cause of learning disability, affecting approximately 1 in 700-800 live birth. Children with Down syndrome have particular difficulties with speech, language and communication which are often disproportionately lower than expected for their level of general cognitive development. This is different from typical development and prompts the question of which prelinguistic skills may be relevant to support language acquisition in children with Down syndrome and whether it is possible to optimise early language outcomes. The talk will provide an overview of a research programme which explored early predictors of language development in young children with Down syndrome, followed by a discussion of the findings of a feasibility randomised controlled trial which explored whether an early intervention focusing on early social communication skills may promote early language acquisition in young children with Down syndrome.

Intellectual profiles of bilingual and monolingual children with Autism Spectrum Disorder and Developmental Language Disorder: Identification of verbal and nonverbal subscales affected by bilingualism in children with neurodevelopmental disorders

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Intellectual functioning and asymmetric patterns observed across verbal and nonverbal (also known as performance) IQ domains in gold-standard, intelligence assessment tools have long been identified as markers for the early detection or diagnosis of neurodevelopmental disorders. Explanations of recurring asymmetry patterns in the intellectual functioning of children with neurodevelopmental disorders are usually oriented towards the division of processing into domain-general and linguistic: disorders whose hallmark symptoms lie in language exhibit higher performance IQ than verbal IQ scores, while the reserve pattern is observed in disorders primarily characterized by executive dysfunctions. Though studies so far have extensively integrated IQ performance in delineating the profiles of children with neurodevelopmental disorders, most of them have focused on monolingual individuals sharing similar socioeconomic characteristics and experiences (mostly living in middle-to-high income settings). Furthermore, asymmetries in the intellectual performance of atypical child populations have been consistently derived from coarse information conveyed by the two general verbal and performance IQ metrics, which may have camouflaged fine-grained information about (a) children's performance in the individual subtests comprising the verbal and performance IQ scales of intelligence assessment tools, and (b) different profiles of atypical patterns that have been 'lost' by treating experimental samples as homogeneous groups. The aim of this presentation is to examine the intelligence profiles of monolingual and bilingual children with Autism Spectrum Disorder and Developmental Language Disorder using the Wechsler Intelligence Scales for Children, by tracking cluster profiles across children and by modelling verbal and performance IQ in each cluster as a function of language experience (monolinguals vs. bilinguals) and socioeconomic status (low vs. middle vs. high). The relationship between individual IQ subtests and general verbal IQ and performance IQ indexes will also be discussed to pinpoint the loadings of the subtests on the verbal and performance IQ constructs that are assumed to measure, i.e., language and domain-general cognitive functioning, respectively.

Mutlilingualism and neurodiversity: Insights from Wales

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Research in the field of bi/multilingualism has made significant strides in recent decades, as it is now common knowledge that exposure to two languages is not a disadvantage and does not have a negative impact on language development. However, research has tended to focus on neurotypical children, while little is known about bilingual development in children with neurological differences or developmental conditions. This talk will present latest developments in the field and introduce some of the work of the Child Bilingualism Lab, a body of work examining language in bilingual children with and without developmental conditions. Based in bilingual Wales, an ideal environment in which to investigate the spectrum of bilingualism in relation to the spectrum of neurodiversity, our insights help allay fears about multiple language exposure.

Narrative skills of children with Developmental Language Disorder (DLD): Focus on Macrostructure

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Developmental Language Disorder is a common developmental disorder that affects 7% of the population. Children with DLD typically demonstrate simpler syntax, higher rates of grammatical errors and greater difficulty acquiring new vocabulary in comparison to typically developing (TD) children. Research has shown that children with DLD have significant language difficulties that result in poor narrative performance. The discourse abilities of children with DLD have been examined in two different ways: (1) focusing on the information content and information structure in the discourse and (2) focusing on the language content in the discourse. The first approach is referred in the literature as macrostructure analysis whereas the second is referred as microstructure analysis. In this paper, the narrative skills of monolingual children with DLD and typically developing (TD) children are examined at the macrostructural level, using one of the most common methods of assessing narrative skills, picture retelling. The sample consists of 50 preschool and school-aged children (25 with DLD and 25 TD), aged 5 to 11 years, who were matched according to chronological age. The parameters measured are story structure and structural complexity. Our research hypothesis is that the narrative abilities of children with DLD are more affected at the level of macrostructure than those of TA children. The results confirmed the above hypothesis, regarding the parameters of story structure and structural complexity in picture retelling. More specifically the narrations of children with DLD included fewer complete episodes, poorer coherence, more off-topic comments and disordered sequences of events in comparison to those of TD peers, indicating deficits in the narrative skills in DLD.
Keywords: Developmental Language Disorder, Narrative Skills, Macrostructure

Non-active voice in Greek children with Developmental Language Disorder: Evidence from sentence repetition

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Background: Non-active voice in languages such as Greek is acquired (relatively) late, mainly due to its ambiguity, i.e., the same non-active morphological form (NACT) corresponds to multiple meanings (e.g., passive, reflexive, anticausative). For this reason, NACT has been argued to cause great difficulties in children with Developmental Language Disorder (DLD).

Aim: The present study tests this hypothesis with the aim to explore a) whether NACT poses a major challenge in Greek children with DLD and b) whether potential differences are related to a language delay or a language deficit by testing not only Typically Developing (TD) age-matched peers but also chronologically younger TD children.

Methods: A Sentence Repetition task (SR) including sentences with NACT verbs (see Fig.1 for the structures tested) was conducted along with a series of baseline tasks (non-verbal intelligence, verbal working memory, phonological memory, expressive and receptive vocabulary as well as morphosyntax). Sixty participants took part, 20 children with DLD (mean age: 75 months), 20 TD children of the same age and 20 TD younger children (mean age: 63 months).

Results: children with DLD scored significantly lower than both TD groups across all baseline tasks but importantly, their non-verbal intelligence did not differ from their TD peers, as expected. In SR, children with DLD scored significantly lower compared to their TD age-matched peers. They also scored lower compared to TD younger children except for reflexives and passives with inanimate subjects.

Conclusions: The present results confirm the greater vulnerability of NACT in Greek children with DLD compared to the TD groups. Moreover, 6-year-old TD children have not reached acquisition levels (90%) for NACT except for reflexives. This may better accommodate a delay account in DLD, even though not all structures are equally affected in DLD (i.e., selective major discrepancies).

Keywords: Developmental Language Disorder, non-active voice, Greek

When the language of the tool does not affect DLD children's performance on ToM

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Introduction Research in Developmental Language Disorder (DLD) has shown a mixed picture regarding children's Theory of Mind (ToM) abilities, e.g. difficulties in French (Durrleman & Delage, 2020), Greek (Σπανούδης & Παπαδόπουλος 2020), and Spanish (Andrés-Roqueta et al. 2013), but not in Italian (Bulgarelli et al., 2022) and Dutch (Schaeffer, 2018). Given the nature of DLD, it is unclear whether the former studies reveal genuine ToM difficulties or are due to language difficulties related to the language of the tools that assessed ToM. The present study assesses ToM in two versions, verbal and non-verbal, in order to discern the role of language employed by that tool assesses the ToM abilities of DLD children.

Methodology Fifty 9-11 y.o. (mean age=10;0, SD=0.72) native Greek-speaking children participated in the study: 25 children with DLD, 25 neurotypical (NT) age-matched children, alongside 25 18-35 y.o. NT adult controls. Participants were administered a battery of baseline tasks: receptive (LEXIS) and expressive vocabulary (MAIN: type frequency), morphosyntax (Sentence Repetition and MAIN: MLU), story retelling (MAIN), non-verbal intelligence (Raven's CPM) and working memory (Digit Backward). The MiLA ToM task (Marinis et al. 2023) assessed ToM. It consists of a number of scenarios in the form of short video clips, and participants had to choose one out of two endings of the scenarios as most plausible. We recorded participants' percentage of correct answers as a dependent variable for analyses. The scenarios assessed 1st order (i.e. what participants think about what a character in the story thinks), and 2nd order (what participants think about what an observer thinks about what a character in the story thinks), and true belief (TB) and false belief (FB). The video clips were administered in verbal (V) and non-verbal (NV) mode: in the V mode the video clip was accompanied by verbal description of the story, while the NV mode had no verbal description. Verbal descriptions employed simple sentences with frequent and early-acquired words.

Results Two sample t-tests revealed a significant difference on sentence repetition [$t(48) = -6.05$, $p < 0.001$] between DLD children (M=40.32, SD=11.61) and their age-matched controls NT (M=55.12, SD=3.88), and on receptive vocabulary [$t(48) = -3.79$, $p < 0.001$], DLD (M=126.08, SD=15.04) vs. NT (M=139.08, SD=8.28). On ToM performance, generalized linear mixed model (GLMM) showed a significant main effect of group: Adults-NT (z=2.38, p <0.01), Adults-DLD (z=3.82, p <0.001) and DLD-NT (z= -1.44, p < 0.1). We performed planned analyses for each group separately in another GLMMs with main effects and full interactions of ORDER ($1^{st}/2^{nd}$), BELIEF (TB/FB) and LANGUAGE (V/NV) as fixed effects, PARTICIPANT and SCENARIO as random intercepts, and main effects and interactions of BELIEF and ORDER as random slopes for both random intercepts. No significant main effects or interactions were found for adults and NT children. For DLD children, there was a significant main effect of BELIEF, with better

performance in TB than FB conditions ($z=2.35$, $p < 0.05$). This effect did not interact with ORDER, and importantly neither with LANGUAGE.

Discussion Hence, children with DLD at this age do not have difficulties with TB (1st order=87%, 2nd order=83%). In contrast, their ability to understand that other people have beliefs different from their own (FB), drops sharply (1st order=58%, 2nd order=43%), although no significant difference was found between the V vs. NV version of the ToM task. This is not meant to say that any V ToM tool would similarly have no impact on assessing the ToM abilities of children with DLD as a consequence of the language it employs. In the MiLA tool, special care has been taken for all sentences to be simple. There were only 3 sentences of the type "He realizes that he forgot his sketch pad and leaves." In a total of 9 scenarios, and no other instance of subordination. All remaining bi-clausal sentences involved coordination, e.g. "He looks in the pencil case and sees the colored pencils." Future analyses will show if and which aspects of DLD children's language abilities predict their low performance on ToM.

The longitudinal effects of vocabulary, morphosyntax, and home literacy activities on Greek-English bilingual and bi-literate children's reading comprehension

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Background: Reading comprehension is a complex process that requires various abilities, such as decoding and oral language skills, and can be influenced by environmental factors, such as the home literacy environment. Previous studies have shown that bilingual children perform lower on vocabulary tasks than their monolingual peers (Bialystok et al., 2010), but they perform similarly or better on decoding skills than monolinguals. Although the significant contribution of vocabulary in reading comprehension among monolinguals has been extensively shown (Oakhill et al., 2012), its contribution among bilinguals is less clear. Furthermore, few studies have investigated the contribution of morpho-syntax in reading comprehension skills in bilingual children (Peets et al., 2022). Importantly, morpho-syntax is a significant factor for reading comprehension, specifically in the later stages of reading in monolinguals (Bellochi et al., 2017). The home literacy environment has also been shown to be a significant predictor in monolinguals' reading comprehension (Sénéchal, 2006), although its contribution among bilinguals to reading comprehension has not been extensively examined.

Aims: The present study aimed to investigate the performance of primary school Greek-English bilingual and bi-literate children on language and literacy measures. Specifically, our study explored the effects of vocabulary, morphosyntax, and home literacy activities on children's development of reading comprehension in both of their spoken languages (Peets et al., 2022). Based on the Simple View of Reading framework and home literacy environment model, we hypothesized that decoding and oral language skills, specifically morphosyntax along with home literacy activities could predict children's reading comprehension in each language separately. Moreover, we hypothesized that the amount of home literacy activities would benefit children's reading performance in each language separately (De Houwer, 2007) (Scheele et al., 2010).

Methodology: Forty children attending Years 1 and 3 of English primary school in the UK were assessed in language and decoding skills. After one school year, they were assessed in oral language skills, decoding, and reading comprehension in Year 2 and 4 respectively. The PABIQ questionnaire (Tuller, 2015) was used to obtain data on the children's language history, quantity and quality of input, and use.

Results: The results showed that the children performed better on all tasks in Time 2 than in Time 1 and the older children performed better than the younger ones. Their performance was also better in English than in Greek tasks. This demonstrates that children were English-dominant. The results also showed that Greek morphosyntax and home literacy activities were significant predictors of Greek reading comprehension, suggesting that bilinguals may use their morphosyntactic knowledge to support their reading comprehension in their heritage language. Moreover, heritage language exposure through home literacy activities may benefit reading comprehension of that language.

Conclusions/Implications: This study is one of the few longitudinal studies examining the development of bilingual and bi-literate children's performance in language and reading skills considering the effects of home literacy activities. The results of the present study expand our current understanding by providing evidence concerning the home literacy environment among

bilingual children who speak Greek as their heritage language and English as their majority language. Supporting heritage language and literacy skills could also promote the dominant language because several language skills are considered transferable across languages.

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Thematic hierarchy cannot explain children's difficulties with Object Relatives and Passives

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Introduction: Sentences whose order of arguments does not follow the thematic hierarchy Agent-Theme/Patient (Grimshaw 1990 et seq.) have been found to pose difficulties for both children and populations with language impairments crosslinguistically. Object Relative clauses and Passives are two such types of sentence, known to be acquired late by children. Monolingual English-speaking children do not seem to master Passives before the age of 6 (Maratsos et al. 1985; Borer & Wexler 1987, a.o.), and Greek-speaking children may do so even later (Terzi & Wexler 2002; Terzi 2021; Tsimpli 2014; Paspali et al. 2024, a.o). Object Relatives cause difficulties crosslinguistically as well (Friedmann et al. 2009; Belletti et al. 2012; Varlokosta et al. 2015; Angelopoulos et al. 2022, a.o). Although the difficulties in the two sentence types have been attributed to different causes, not all of which resort to violations of the thematic hierarchy, the two types have not been assessed on the same population to our knowledge, let alone with the same tool.

Methodology: The current study involves a group of 36 typically developing Greek-speaking children aged 4;5-4;9 years old (mean age 4;9). A picture-matching comprehension task was administered, covering Actives, Passives (Pass), Subject Relative clauses (SRCs), and Object Relative clauses (ORCs). Children were shown sets of three pictures, depicting: a) the target sentence, b) a sentence with the same characters but reversed theta-roles, and c) a sentence containing one of the characters in a)/b) and a third character.

Additionally, general language skills were assessed with the Renfrew Action Pictures and the Expressive Vocabulary Test, to ensure scoring within the norms (Table 1).

Results: The findings revealed that children performed best in comprehending Active sentences (87.5% accuracy), followed by SRCs (79.75%) and ORCs (69.1%), with comprehension of Pass scoring the lowest (54.17%), Figure 1. Errors consisted of choosing the picture with reversed roles, with distractor choice being at a minimum (actives 0.8%; SRCs 0.8%; ORCs 1.3%; Pass 0.9%). Paired samples t-tests demonstrated that passive sentences were the most challenging, i.e., significant differences in performance accuracy were observed between Pass vs. Actives ($t_{(35)}$ = 12.81, p < .001); SRCs ($t_{(35)}$ = 8.23, p < .001); ORCs ($t_{(35)}$ = 6.41, p < .001).

Table 1: Group performance on baseline tasks

Task	n	Total Score	Mean	SD
Action Picture Test Information Score	36	50	25,08	7,71
Action Picture Test Grammar Score	36	66	29,08	9,61
Word Finding Test	36	50	26,16	8,04
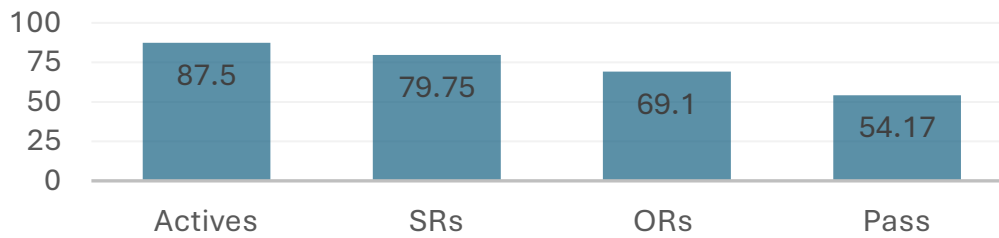
Figure 1: Performance accuracy across sentence types

Discussion: Findings demonstrate that passive sentences pose particular challenges for Greek-speaking preschoolers, leaving ORCs far behind. Obviously, the cause cannot be violation of thematic hierarchy alone. We attribute the difficulty with Pass to the manner in which it is formed in Greek (synthetic). In particular, we suggest that it takes time for children to master the role of the Pass morpheme, while the relative easiness on Ors is arguably due to the robust case morphology of Greek.

Kindergarten retention in Greece: Exploring speech, language, and cognitive skills

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Preschoolers with speech and language difficulties face increased risks of developing literacy problems (Nathan et al., 2004). In Greece, preschoolers experiencing significant challenges in transitioning to primary school may undergo kindergarten retention for an extra year. This strategy, known as grade repetition, aims to address inadequate preparation or academic underachievement (Anderson, 2008). The aim of this study is to profile the speech, language, and cognitive skills of Greek-speaking children retained in kindergarten, identifying potential weaknesses compared to age and educationally matched controls.

The study involved three groups: Group 1 (n=20) consisted of children progressing through kindergarten as expected; Group 2 (n=13) included children retained for an additional year in kindergarten; and Group 3 (n=10) comprised children in their first year of primary school. The children underwent a comprehensive assessment using a battery of tasks. Language abilities were assessed with DVIQ subtests (Stavrakaki & Tsimpli, 1999); the Action Pictures Test and Word Finding test (Vogindroukas et al., 2009). Speech production and phonological development were evaluated with the Phonological Assessment for Greek (Babatsouli, 2019). Integrity of underlying phonological representations was assessed with Real Word Auditory Discrimination with Picture choice (Geronikou, 2016). Phonological awareness was measured with the screening version of the Metaphon (Giannetopoulou, n.d.). Cognitive abilities were evaluated using the Immediate Verbal Recall task (Besevegis et al., 2008).

Results indicated that Group 2, children retained in kindergarten, performed less effectively across tasks compared to both Group 3 (same age, 1st grade) and Group 1 (younger, matched for grade level). Significant performance differences were observed between Groups 2 and 3 across tasks, as well as between Group 2 and Group 1 in nonword repetition, sentence repetition, language comprehension, and phonological awareness. Groups 1 and 2, attending kindergarten, underwent a follow-up assessment at the end of the school year. Analysis of this follow-up data is ongoing to examine the developmental progress of children retained in kindergarten for an additional year and whether they achieve performance levels comparable to their peers following the typical educational progression.

The findings suggest that children with low school readiness may continue to struggle with speech, language, and cognitive skills, and that grade repetition alone may not adequately address these challenges. Thus, educational retention practices should be reconsidered, and targeted interventions should be implemented to effectively mitigate these difficulties.

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Targeting speech intelligibility using phonologically similar targets: a single-case study of dialectal Cypriot-Greek-speaking child with speech sound disorders

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Theoretical Background: Speech Sound Disorders (SSDs) are a significant concern in early childhood, particularly among children who are bilingual or dialectal. These children face unique challenges due to their exposure to multiple linguistic systems. The phonological complexity of the Cypriot-Greek dialect, which differs markedly from Standard Modern Greek, presents specific challenges for children with SSDs. Previous research underscores the importance of phonological awareness training and the use of phonologically similar word stimuli in effective intervention strategies. The concept of phonological density, which refers to the number of words differing by only one phoneme from a given word, is crucial in this context. Studies have shown that high phonological density can facilitate phonological learning and generalization, particularly in non-standard dialects.

Aims: This study aims to explore the effectiveness of using phonologically similar stimuli in enhancing the phonological skills of a dialectal Cypriot-Greek-speaking child with SSD. The goal is to provide empirical evidence on the benefits of this approach, contributing to the broader field of speech-language pathology and offering practical insights for clinicians working with similar populations.

Methods: A single-subject multiple baseline design across behaviors was employed to evaluate the intervention's impact on a 5-year-old bidialectal Cypriot-Greek-speaking child diagnosed with SSD. The intervention consisted of 12 weekly therapy sessions, each lasting 50 minutes, focusing on four target phonemes: /k/, /x/, /p/, and /t/. The phonemes were selected based on their phonological complexity and the child's error patterns. Phonologically similar words were chosen for the intervention to leverage the concept of phonological density. Data were collected through pre- and post-intervention assessments, which included standardized articulation tests and spontaneous speech samples.

Results: The intervention led to significant improvements in the child's production of the target phonemes. Post-intervention assessments showed a marked increase in the correct articulation of /k/, /x/, /p/, and /t/ in both standardized tests and spontaneous speech samples. Additionally, the child demonstrated phonological generalization, as evidenced by improved articulation of non-target phonemes that were phonologically similar to the treated sounds. These findings suggest that using phonologically similar stimuli can effectively enhance phonological learning and generalization in dialectal children with SSD.

Conclusions: The study provides empirical support for the effectiveness of using phonologically similar stimuli in the intervention of SSDs in bidialectal Cypriot-Greek-speaking children. The significant improvements observed in the child's phonological skills highlight the potential for this approach to facilitate robust phonological learning and generalization. These results contribute to the broader understanding of SSD interventions and underscore the importance of culturally and linguistically appropriate therapeutic strategies. Future research should continue to explore the cross-linguistic applicability of phonological density advantages to further validate these findings in diverse linguistic contexts.

Speechreading abilities in typically developing Greek children: Some preliminary results

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Speechreading is the ability to derive speech-related information from other speakers' faces. In the last two decades an increasing number of studies have investigated speechreading in typical populations but also in children and adults with hearing impairment and dyslexia. Findings confirm the bimodal (i.e. audiovisual) nature of speech perception. Further, research has shown that speechreading is related to language ability (e.g. vocabulary knowledge) and cognitive skills and that it can be linked to reading development. Taken together, these findings have led researchers to suggest that speechreading training should be one of the aims in intervention approaches.

This paper presents the results of a pilot study aiming to investigate speechreading ability in Greek typically developing primary school children (N=10). A second aim is the collection of normative data so that comparisons can be made with children who have speech and language difficulties in subsequent studies. Ten primary school children from first to sixth grade were tested for speechreading ability (isolated words vs. sentences) individually in a quiet room. A new silent speechreading test has been developed assessing speechreading ability for words and sentences (Kyritsi & Nicolaidis, 2024). The test comprises two conditions. In the first condition, participants watch silent video clips of a female speaker saying a word or sentence and they are asked to reproduce what was said on the clip. In the second condition, following the video presentation of the target word or sentence, participants see an array of four pictures (target item and three distractors) and they are asked to indicate the picture that matches the video.

Preliminary results show that speechreading ability develops across time. Speechreading accuracy can be very low during the first primary school grades and can improve overtime. Speechreading ability for words is easier than speechreading ability for sentences. Further, erroneous responses were visually and phonologically similar to the target items, which suggests that children rely on audiovisual cues to derive meaning. The theoretical and practical implications of these findings are discussed in relation to typical and atypical speech development.

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Ορθογραφικές δεξιότητες στο τέλος της φοίτησης στο δημοτικό σχολείο

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Σκοπός της μελέτης ήταν να καταγράψει τα χαρακτηριστικά της ορθογραφίας μαθητών/τριών της τελευταίας τάξης του δημοτικού σχολείου σε πλαίσιο υπαγορευμένης ορθογραφίας. Προκειμένου να γίνει αυτή η καταγραφή, χορηγήθηκαν δύο δοκιμασίες σε εβδομήντα έξι <76> μαθητές/μαθήτριες, τριών δημοτικών σχολείων αστικών περιοχών που φοιτούσαν στην τελευταία τάξη του δημοτικού σχολείου. Η έρευνα πραγματοποιήθηκε τον τελευταίο μήνα της σχολικής χρονιάς.

Στην πρώτη δοκιμασία, οι μαθητές/τριες κλήθηκαν να συμπληρώσουν κενά σε προτάσεις που αντιστοιχούσαν σε εκατό τριάντα οκτώ <138> πραγματικές λέξεις. Μέσα από τις λέξεις αυτές, ανακεφαλαιώθηκαν οι κανόνες και οι στρατηγικές που έχουν διδαχθεί κατά τη διάρκεια της φοίτησης στο δημοτικό σχολείο. Καταγράφηκαν τα λάθη ως προς το θέμα – στρατηγικές γραφής λέξεων, την κατάληξη – στρατηγικές εφαρμογής των ορθογραφικών κανόνων, τον τονισμό, τη χρήση κεφαλαίου γράμματος καθώς και το αν γράφηκε ή όχι η λέξη. Στη δεύτερη δοκιμασία, που επίσης ήταν γραφή με υπαγόρευση, αξιολογήθηκε η γραπτή απόδοση είκοσι πέντε άσημων λέξεων ως προς το αν θα αποδιδόταν η ακουστική τους εικόνα ώστε να εκτιμηθεί η γνώση που είχαν για την αντιστοίχιση φωνημάτων – γραφημάτων, η ικανότητα φωνολογικής ανάλυσης καθώς και η γραπτή απόδοση αυτών. Οι καταγραφές αθροίστηκαν δημιουργώντας νέες μεταβλητές με βάση τις οποίες πραγματοποιήθηκε η στατιστική επεξεργασία.

Τα αποτελέσματα έδειξαν πως τα λάθη στο θέμα καταγράφηκαν σε μεγαλύτερη συχνότητα από αυτά στην κατάληξη, τα λάθη τονισμού επίσης καταγράφηκαν σε υψηλή συχνότητα ενώ λάθη στη γραφή με κεφαλαίο γράμμα και στη μη γραφή των λέξεων καταγράφηκαν σε μικρότερη συχνότητα. Οι συσχετίσεις που καταγράφηκαν μεταξύ των μεταβλητών που δημιουργήθηκαν έδειξαν μέτριες και ισχυρές στατιστικώς σημαντικές συσχετίσεις μεταξύ τους αναδεικνύοντας την ύπαρξη σχέσεων. Τα αποτελέσματα συζητούνται υπό το πρίσμα των στρατηγικών που αναπτύσσονται κατά την ορθογραφία και τεκμηριώνονται με βάση και χαρακτηριστικές αποδόσεις που καταγράφηκαν στα γραπτά των συμμετεχόντων. Η συζήτηση εστιάζει και στη διδασκαλία της ορθογραφίας που αναπτύσσεται στο δημοτικό σχολείο.

Λέξεις-κλειδιά: ορθογραφία, άσημες λέξεις, πραγματικές λέξεις, φωνολογική επεξεργασία

Η επίδραση της κοινωνικοοικονομικής κατάστασης στη γλωσσική επίδοση: Ενδείξεις από μελέτη περιπτώσεων

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Σκοπός της μελέτης αυτής είναι η διερεύνηση της επίδρασης του κοινωνικοοικονομικού επιπέδου (ΚΟΚ) στη γλωσσική επίδοση. Ερευνητικά έχει εξεταστεί η γλώσσα παιδιών από περιβάλλοντα 'αποκλεισμένα', όπως για πράδειγμα παιδιά μεταναστών (Carioti et al., 2024) αλλά και παιδιά που ζουν σε συνθήκες ακραίας φτώχειας (Justice et al., 2019). Ανάμεσά τους είναι και τα παιδιά από οικογένειες χαμηλού ΚΟΚ γενικότερα. Αυτού του είδους η έρευνα παρουσιάζει ιδιαίτερο ενδιαφέρον γιατί τα παιδιά από 'αποκλεισμένα' περιβάλλοντα διατρέχουν τον κίνδυνο να χαρακτηριστούν ως παιδιά με γλωσσικές διαταραχές, ακόμη κι αν δεν εμπίπτουν σ' αυτήν την κλινική κατηγορία. Επομένως, είναι σημαντικό να μπορούμε να επιτύχουμε διάκριση, προβαίνοντας σε σύγκριση μεταξύ της ομάδας παιδιών με ψυχογλωσσικά ελλείμματα και των παιδιών από διαφορετικό υπόβαθρο (Damico, 1996· Southwood & White, 2021), με στόχο και την επακόλουθη, κατάλληλη υποστήριξή τους.

Η παρούσα μελέτη εντάσσεται σε ευρύτερο πλαίσιο διδακτορικής διατριβής υπό εξέλιξη (Σταμάτης, 2024). Παρουσιάζει ένα πολύ μικρό μέρος των δεδομένων και αναλύει αποτελέσματα ατομικών περιπτώσεων αντλούμενα από δύο μονόγλωσσα παιδιά σχολικής ηλικίας (10 ετών) με Γ1 την Ελληνική προερχόμενα όμως από διαφορετικά ΚΟΚ [+χαμηλό, -χαμηλό =μέσο]. Το ΚΟΚ καθορίστηκε με βάση την εργασία (επισφαλής ή σταθερή) και το εκπαιδευτικό επίπεδο των γονέων. Οι αξιολογήσεις διενεργήθηκαν τόσο στον προφορικό όσο και στο γραπτό λόγο. Προηγούμενες μελέτες έδειξαν ότι τα παιδιά από οικογένειες υψηλότερων ΚΟΚ τείνουν να εμφανίζουν και υψηλότερα επίπεδα γλωσσικών ικανοτήτων (βλ. Balladares et al., 2016· Luo et al., 2021· Weiler & Decker, 2021). Αναμένεται ότι το χαμηλό ΚΟΚ θα έχει αρνητικό αντίκτυπο στη γλώσσα του παιδιού της πειραματικής ομάδας.

Η ανάλυση των αποτελεσμάτων έδειξε ότι το αγόρι με +χαμηλό ΚΟΚ παρουσίασε επίδοση κάτω της ηλικιακά τυπικής στις γλωσσικές αξιολογήσεις που υποβλήθηκε. Έλαβε χαμηλή βαθμολογία στο 'Peabody Picture Vocabulary Test' (Simos et al., 2011). Η βαθμολογία του στο 'Ερωτηματολόγιο Αξιολόγησης Επικοινωνιακών Ικανοτήτων' (Karaminis & Stavrakaki, 2022), με βάση τις απαντήσεις του φροντιστή του, ήταν κοντά στο όριο για ενδεχόμενη διάγνωση διαταραχής. Επέδειξε φτωχή επίδοση στην αξιολόγηση της προφορικής γλώσσας, η οποία συνίσταται από α) την Πληροφοριακή και Γραμματική Επάρκεια της δοκιμασίας "Εικόνες Δράσης" (Βογινδρούκας & συν., 2009) και β) την αφηγηματική αξιολόγηση "Βάτραχε, πού είσαι;" (Mayer, 1969). Είχε χαμηλές επιδόσεις στην αξιολόγηση της γραπτής γλώσσας που αποτελούταν από τις δραστηριότητες ανάγνωσης α) απλών ψευδολέξεων και β) οικείων λέξεων (Talli, 2010), γ) από το τεστ αναγνωστικής ευχέρειας "Alouette" (Talli et al., 2015), καθώς και δ) από την παραγωγή και επεξεργασία γραπτού λόγου του Εργαλείου Διαγνωστικής Διερεύνησης Δυσκολιών στο Γραπτό Λόγο μαθητών Γ'-ΣΤ' Δημοτικού (Πόρποδας & συν., 2008). Η βαθμολογία που έλαβε επί της ελληνικής στάθμισης στις Έγχρωμες Προοδευτικές Μήτρες της κλίμακας Raven's (Σιδερίδης, & συν., 2015) τοποθέτησε το παιδί στο τυπικό εύρος της μη λεκτικής νοημοσύνης. Αντίθετα, το αγόρι με -χαμηλό ΚΟΚ εμφάνισε ως πιο αδύναμα σημεία του (σημειώνοντας μέση κατώτερη επίδοση και χαμηλή επίδοση) τις δεξιότητες κειμενική οργάνωση και αποκατάσταση αποδομημένης πρότασης αντίστοιχα, στην παραγωγή και επεξεργασία γραπτού λόγου. Ωστόσο, η

επίδοσή του ήταν σημαντικά υψηλότερη από το αγόρι με +χαμηλό ΚΟΚ. Τα αποτελέσματα αυτά συζητούνται υπό το πρίσμα αποτελεσμάτων άλλων μελετών που εξετάζουν την επίδραση ΚΟΚ και πολιτισμικών παραγόντων στη γλωσσική ανάπτυξη των παιδιών. Καθώς καθίσταται ορατός ο κίνδυνος για την ένταξη των παιδιών από περιβάλλοντα 'αποκλεισμού' σε κλινική ομάδα παιδιών με διαταραχές ανάπτυξης, επιχειρείται η αναζήτηση κριτηρίων διάκρισης με βάση βιβλιογραφικά δεδομένα για αναπτυξιακές διαταραχές γλώσσας.

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Bilingualism and socioeconomic status in Roma children and their impact on language: Data from two individual linguistic profiles

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Previous research has intensively addressed the effect of bilingualism on linguistic performance. However, issues related to the socioeconomic status (SES) of bilingual individuals have been rather neglected since a few only studies have raised relevant questions (e.g. Meir & Armon-Lotem, 2017). The present study aims to address the effect of socioeconomic factors and evaluate how they interplay with bilingualism by examining the linguistic performance of individuals with low socioeconomic status (SES) who have lived in extreme poverty. In particular, the present paper comes from the ongoing research by Stamatis (2024) and assesses the language efficiency of two school-aged Roma children with extremely low SES (condition of extreme poverty: unemployment; low educational level of parents; receipt of welfare benefits). Both of them were 7-year-old at the time of data collection; one of them was a bilingual speaker of Romani (L1) and Greek (L2), while the other was a monolingual speaker of Greek (L1) as his family made a choice for using Greek only to achieve better social integration. They were assessed by means of cognitive, oral and written language tests as well as on tests measuring academic achievement (in Greek). In particular, the battery employed for this study included the Raven's Colored Progressive Matrices[GR] (Sideridis et al., 2015), the Information and Grammar proficiency of the "Action Pictures" test[GR] (Vogindroukas et al., 2009) and the narrative task "Frog, where are you?" (Mayer, 1969; adjusted in Greek), the pseudoword and the high-frequency word reading tasks (Talli, 2010), the Alouette reading fluency test (Talli et al., 2015), and a test for Diagnostic Investigation of Difficulties in the Written Expression of 3rd-6th Grade Students (Porpodas et al, 2008). All parents/legal guardians filled in a demographic questionnaire provided information on their families and the Greek version of the Social Communication Questionnaire (SCQ[GR]) (Karaminis et al., 2022).

The results indicated that both children were within the normal range of non-verbal abilities with the bilingual child to show lower performance than the monolingual one. They did not show any symptoms of autistic behavior as shown by the results of SCQ[GR]. While the bilingual child performed lower on the oral language tasks than the monolingual one (Action Pictures test[GR], Frog, where are you), he performed better than the monolingual one on the reading fluency task (Allouette[GR]). Both performed poorly on the assessments of written language (the pseudoword and high-frequency word reading tasks) as well as of academic achievement (writing production and processing). In sum, these results indicate vulnerability in oral language for the bilingual child as well as an advantage in the reading fluency task. While these results are only indicative as they come from single case studies, they show specific domains of strengthens and weakness for both participants of our study. Taking into account recent literature (Meir & Armon-Lotem, 2017; Lervag et al., 2019), we discuss these preliminary data which contribute to the better understanding of language development of children who live in the condition of extreme poverty.

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Sentence comprehension in Greek-speaking individuals with Alzheimer's disease: The role of length and canonicity

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Background and aims Studies in Alzheimer's disease (AD) have shown impairments in sentence comprehension with no consensus on what cognitive/linguistic deficit underlies the impairments. The current debate is whether sentence comprehension stems from a deficit in working memory (i.e., deficit in sentences with more than one propositions; Caplan & Waters, 2002; Rochon et al., 1994) vs. a deficit in syntactic processing (i.e., deficit in non-canonical structures, such as reversible passives, center-embedded object relative clauses and OVS sentences; Marková et al., 2017; Grober & Bang, 1995). The aim of the present study is to test the working memory vs. syntactic processing deficit(s) in sentence comprehension in a single cohort of mild AD patients.

Method We compared the role of length and canonicity in sentence comprehension in 27 Greek-speaking individuals with AD (MMSE score: 18-24, 71-86 years old) and in 27 age- and education-matched neurotypical adults (MMSE score: 28-30). We administered an off-line task and manipulated length x canonicity in a within-subjects nested design. Stimuli consisted of 10 short canonical (active) sentences, 30 short non-canonical (OVS, clitic left dislocation, which-object), 30 long canonical (active conjoined NP, active conjoined VP, center-embedded subject), and 10 long non-canonical (center-embedded object). Participants also underwent neuropsychological testing including: 1) verbal working memory tasks (digit ordering, digit backward, sentence repetition span, word span, pseudoword span), 2) semantic and letter fluency tasks, 3) naming tasks (BNT, Greek verb and noun naming test), 4) the Stroop task

Results and Discussion Neurotypical adults showed an interaction between length and canonicity ($F(1,26) = 23,828$, $p = 0.000$, $\eta_{p2} = 0.478$), as they performed worse on non-canonical long sentences. However, participants with AD showed no interaction between length and canonicity ($F(1,26) = 0.890$, $p = 0.354$, $\eta_{p2} = 0.033$), but independently main effects both on length ($F(1,26) = 21,499$, $p < 0.001$, $\eta_{p2} = 0.453$) and canonicity ($F(1,26) = 41,325$, $p < 0.001$, $\eta_{p2} = 0.614$). Specifically, they had significant difficulties in non-canonical structures (short/long) compared to canonical, and in long sentences (canonical/non-canonical) compared to short ones. We suggest that participants with AD exhibit a difficulty in long sentences and in non-canonical structures due to working memory impairments and syntactic processing deficits, respectively. We will discuss our results in relation to participant's performance on neuropsychological tasks and we will draw some conclusions on how impairments in executive functions may affect AD participant's performance in non-canonical and long structures.

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Αναπτυξιακή Γλωσσική Διαταραχή και Διαταραχή Ελλειμματικής Προσοχής-Υπερκινητικότητας: Πού διαφέρουν και γιατί;

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Συχνά υποστηρίζεται πως τα παιδιά με Αναπτυξιακή Γλωσσική Διαταραχή (ΑΓΔ) αντιμετωπίζουν παρόμοιες δυσκολίες με τα παιδιά με Διαταραχή Ελλειμματικής Προσοχής και Υπερκινητικότητας (ΔΕΠ-Υ) στις εκτελεστικές και γλωσσικές λειτουργίες (Stanford & Delage, 2020 · Parks et al., 2023). Σκοπός αυτής της μελέτης είναι η λεπτομερής σύγκριση των γλωσσικών και γνωστικών ικανοτήτων των ελληνόφωνων παιδιών σχολικής ηλικίας με ΔΕΠ-Υ και ΑΓΔ παράλληλα με την τυπική ανάπτυξη (ΤΑ). Ως εκ τούτου, αναμένεται η παρούσα μελέτη να εντοπίσει δείκτες διαφοροδιάγνωσης. Στη μελέτη συμμετείχαν τριάντα εννέα παιδιά σχολικής ηλικίας: 17 με ΑΓΔ (ΜΟ χρονολογικής ηλικίας (ΧΗ): 8.7)), 6 με ΔΕΠ-Υ (ΜΟ ΧΗ: 8.3) και 16 με ΤΑ (ΜΟ ΧΗ:8.6). Οι συμμετέχοντες εξετάστηκαν ατομικά σε έργα i) λεκτικής βραχύχρονης μνήμης και μνήμης εργασίας (ευθεία και αντίστροφη ανάκληση ψηφίων της ελληνικής εκδοχής WISC-IIIGR), ii) σε μία δοκιμασία αξιολόγησης της ανασταλτικής λειτουργίας (Συστοιχία Αξιολόγησης Επιτελικών Λειτουργιών-ΑΞΕΛ, υποδοκιμασία παρατεταμένης εφαρμογής σύνθετης στρατηγικής, Σίμος κ.ά., 2007β) (iii) σε δοκιμασία αξιολόγησης της ακουστικής παρατεταμένης προσοχής και του εύρους ακουστικής προσοχής που περιλαμβάνει επανάληψη προτάσεων: Συστοιχία αξιολόγησης συγκέντρωσης & προσοχής-ΑΣΥΠ Σίμος κ.ά. 2007α), και (iv) σε αξιολόγηση των γλωσσικών ικανοτήτων (*Εικόνες Δράσης*, Βογινδρούκας κ.ά., 2009).

Η ανάλυση των δεδομένων πραγματοποιήθηκε μέσω μικτών γραμμικών μοντέλων χρησιμοποιώντας το πακέτο "lme" στο R. Οι δύο κλινικές ομάδες (ΑΓΔ και ΔΕΠ-Υ) είχαν χαμηλότερες, αν και όχι πάντα στατιστικώς σημαντικά χαμηλότερες, επιδόσεις από την ομάδα ΤΑ σε όλες τις δοκιμασίες. Τα παιδιά με ΑΓΔ είχαν στατιστικώς σημαντικά χαμηλότερη επίδοση από αυτά με ΔΕΠ-Υ μόνο στη δοκιμασία εύρους ακουστικής προσοχής που αποτελείται από την δοκιμασία της επανάληψης προτάσεων (coefficient = 0.13; t = 2.13; $p < 0.05$). Σημειωτέον πως ανάλυση συσχέτισης για την ομάδα ΑΓΔ έδειξε στατιστικά σημαντική συσχέτιση της επανάληψης πρότασης με την δοκιμασία παρατεταμένης ακουστικής προσοχής (r = 0,50, p = 0,03) και την δοκιμασία γραμματικής επάρκειας (r = 0,48, p = 0,04) (υποκλίμακα της δοκιμασίας *Εικόνες Δράσης*). Τα αποτελέσματα αυτά δείχνουν πως τα ελλείμματα στην ανάκληση προτάσεων συσχετίζονται με ελλείμματα προσοχής αλλά και γραμματικά ελλείμματα. Πρόσθετη ανάλυση, με βάση το μήκος και τη συντακτική πολυπλοκότητα της πρότασης, έδειξε πως όλα τα παιδιά με ΑΓΔ σημείωσαν αποτυχία στην επανάληψη των μεγαλύτερων και πολυπλοκότερων συντακτικά προτάσεων της δοκιμασίας του ΑΣΥΠ ενώ αυτό δεν βρέθηκε για τα παιδιά με ΔΕΠ-Υ. Με βάση τα ευρήματα αυτά, ισχυριζόμαστε ότι η δοκιμασία επανάληψης προτάσεων διαφοροποιεί επιτυχώς την ΑΓΔ από τη ΔΕΠ-Υ. Λαμβάνοντας υπόψη τη στατιστικά σημαντική συσχέτιση μεταξύ ανάκλησης πρότασης και γραμματικής επάρκειας αλλά και της καθολικής αποτυχίας των παιδιών με ΑΓΔ στην επανάληψη μεγάλων και συντακτικά πολύπλοκων προτάσεων προτείνουμε πως τα ελλείμματα των συμμετεχόντων με ΑΓΔ είναι κυρίως γραμματικής φύσης. Σε συμφωνία με τους Klem κ.ά. (2015), που θεωρούν πως η επανάληψη προτάσεων αξιολογεί γλωσσικές παραμέτρους, προτείνουμε ότι γλωσσικές δυσκολίες, κατά βάση, χαρακτηρίζουν κατεξοχήν τα άτομα με ΑΓΔ και αυτές αποτελούν την αιτία διαφοροποίησης από την ΔΕΠ-Υ.

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Αλφαβητισμός και γραμματισμός σε άτομα με μερική όραση

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Σκοπός της μελέτης ήταν να καταγράψει τις ενέργειες και τις διεργασίες που αναπτύχθηκαν στην πορεία προς την κατάκτηση του χειρισμού του γραπτού λόγου δύο παιδιών με μερική όραση. Προκειμένου να καταγραφούν όλες οι παράμετροι που επηρέασαν αυτό το αποτέλεσμα πραγματοποιήθηκαν συνεντεύξεις με τους γονείς, με εκπαιδευτικούς που έχουν διδάξει τους δύο μαθητές καθώς και με τους ίδιους τους μαθητές. Οι συνεντεύξεις που πραγματοποιήθηκαν ήταν ημιδομημένες με βάση τους ακόλουθους άξονες: α) έγκαιρη παρέμβαση και ενέργειες που αναπτύχθηκαν, β) αλφαβητισμός – ενέργειες, γ) γραμματισμός – ενέργειες, δ) πλαίσιο υποστήριξης και ε) στρατηγικές στην κατάκτηση και τον χειρισμό του γραπτού λόγου. Πιο συγκεκριμένα, κατά τη συνέντευξη με τους γονείς και τους εκπαιδευτικούς προτάθηκαν στους γονείς συγκεκριμένες ενέργειες που αφορούσαν στρατηγικές γραφής και ζητήθηκε να επιβεβαιώσουν την εφαρμογή αυτών από τα παιδιά. Η πληροφορία που αντλήθηκε από το κομμάτι αυτό της συνέντευξης χρησιμοποιήθηκε για την συζήτηση της αναπτυξιακής πορείας της κατάκτησης του αλφαβητισμού.

Τα παιδιά που είναι αντίστοιχης ηλικίας και φοιτούν σε αντίστοιχες τάξεις διαφορετικών σχολείων, μεγάλωσαν σε οικογένειες ανάλογου κοινωνικο-οικονομικού επιπέδου και ζουν στην ίδια αστική περιοχή. Τα χαρακτηριστικά τους ως προς το επίπεδο της όρασής τους είναι αντίστοιχα.

Διαφορές καταγράφηκαν στον χρόνο ενεργοποίησης της αρχικής παρέμβασης, τις ενέργειες που αναπτύχθηκαν από τους γονείς τόσο πριν ξεκινήσει η φοίτηση στο σχολείο όσο και στη συνέχεια και αφορά στις δραστηριότητες επαφής με το βιβλίο και τον γραπτό λόγο γενικότερα, την υποστήριξη απέναντι στις δυσκολίες όρασης που είχαν και γενικότερα την υποστήριξη που έδιναν. Διαφορές καταγράφηκαν επίσης στις θεωρήσεις των εκπαιδευτικών ως προς το πλαίσιο υποστήριξης και τις διδακτικές ενέργειες που αναπτύχθηκαν καθώς και στις αντιλήψεις των δύο παιδιών για το σχολείο, την φοίτησή τους σε αυτό και την πορεία που θα ήθελαν να ακολουθήσουν στο μέλλον. Οι επιδόσεις των μαθητών διαφέρουν, τους ενός βρίσκονται στα επίπεδα των συμμαθητών του χωρίς προβλήματα όρασης και δείχνουν πως οι δυσκολίες όρασης δεν λειτούργησαν αρνητικά στην ακαδημαϊκή πορεία του ενώ του άλλου δεν είναι σταθερές, φαίνεται πως υπολείπονται των συμμαθητών/τριών του και πως επηρεάζονται από περιβαλλοντικούς παράγοντες που σχετίζονται με την κατάσταση στο σπίτι καθώς και με την διδασκαλία που δέχεται στο σχολείο.

Αυτές οι διαφορές αντανακλώνται στις στρατηγικές που ακολουθούν τα δύο παιδιά στην ανάγνωση και στη γραφή τους και σε ότι αφορά στον μαθητή που έχει αντίστοιχες επιδόσεις με τους/τις συμμαθητές/τριές του περιγράφονται από τον ίδιο σαφώς και εστιάζουν στην κωδικοποίηση των πληροφοριών και την ενεργοποίηση γνώσεων και στρατηγικών ενώ στον μαθητή που δεν έχει σταθερές επιδόσεις φαίνεται πως η τύχη εκτιμάται ιδιαίτερα ως βασικός παράγοντας επίδοσης.

Λέξεις-κλειδιά: μερική όραση, αλφαβητισμός, γραμματισμός, εκπαίδευση

Visualized digital narration in the treatment of patients with semantic variant primary progressive aphasia

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Current challenges in dementia rehabilitation and related neurodegenerative diseases such as Aphasia might be addressed more effectively by enhancing traditional therapies with assisted technological methods. This interdisciplinary approach leverages principles from psychology, cognitive science, and linguistics. The hypothesis is that (visualized) storytelling and retelling can stimulate memories in patients with semantic dementia. We propose the creation of a digital application for tablets with a touch screen interface. Patients with semantic dementia will interact with a database of family photos in a digital photo album format. Each interactive photo will feature an auditory stimulus—a brief narrative reminding them of their connection with the person in the photo, along with a description of associated personal items depicted, enhancing memory recall. The study involves a week-long intervention for the experimental group using the application, compared to a control group interacting directly with family members whenever possible. The anticipated outcome, evaluated after one month, is an improvement in memory recall and naming abilities, potentially slowing cognitive decline, and enhancing mental health.

Theoretical Framework Semantic Variant Primary Progressive Aphasia (svPPA) does not necessarily entail dementia, but specific neurological assessments are conducted to distinguish it from Alzheimer's disease (Fyndanis et al., 2013). Semantic dementia, a subtype of frontotemporal dementia, often manifests in younger individuals (55-60 years). Patients experience progressive language impairment, difficulty understanding word meanings, and naming objects, while autobiographical memory remains relatively intact (Mesulam et al., 2003). Narration is both a cognitive process and a product of cognition. Digital stories, which combine real-life stories with multimedia elements, are proposed to facilitate memory recall through multimodal stimuli (image-word, sound-concept). The lack of similar multimedia tools in psychological interventions for language and memory restoration in dementia is highlighted in the proposed study.

Research Objectives The study aims to present an innovative intervention program for PPA-s patients using multisensory perception through auditory, visual stimuli, and touch. The research will explore whether digital photos of family members during visualized storytelling improve memory recall and word association. Additionally, the study seeks to contribute to the literature on digital person-centered interventions, potentially enhancing social interaction and psychological well-being in dementia patients.

Methodology After a G*Power Analysis, participants include diagnosed svPPA patients (N=34, 17 participants per group – experimental and control) from a short-stay clinic, randomly assigned to experimental and control groups. The experimental group will use the digital application with personalized photo narratives created by family members. Language functions will be assessed pre- and post-intervention using the Greek Boston Naming Test (BNT; Simos et al., 2010) and autobiographical recall questions from the Mini-Mental State Exam (MMSE; Folstein et al., 1975).

Procedure The intervention involves personalized photo collections with narrative audio, displayed twice daily on tablets. The application will notify users with reminders, allowing them to simply play, pause, and restart the narration. Future research may explore self-regulated use of the application by patients.

Expected Results Significant improvement in memory recall and word association are expected to the experimental svPPA participants compared to controls overall. Also, the use of visualized digital narration is expected to enhance cognitive function, slow the progression of semantic dementia symptoms, and improve the overall mental health and well-being of the patients.

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Synthetic children's voices for bilingual Augmentative and Alternative Communication (AAC) in Wales

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Augmentative and alternative communication (AAC) is used by a wide range of people in Wales, ranging from low-tech systems such as flash cards to complex high-tech systems which use eye-tracking and text-to-speech (TTS) technologies (Crowder, 2019). Access to AAC is enshrined in Article 21 of the United Nations Convention on the Rights of Persons with Disabilities (2006), but this is much more challenging in lesser resourced languages (Tönsing et al. 2018).

Article 30 of the United Nations Convention on the Rights of the Child (1990) states that all children have the right to use their own languages and enjoy their own culture "whether or not [this] is shared by the majority of the people in the Country where they live." In Wales, where both Welsh and English are official languages with equal status, this means that access to functional AAC in Welsh is a human right for children.

Despite this, potential users of bilingual high-tech AAC in Wales face many challenges. These include lack of suitable software in Welsh, voices that were unable to code-switch, which is a very common feature of spoken Welsh (Deuchar and Davies, 2009), and adult synthetic voices that are unsuitable for children to use.

In light of these challenges, eight pairs of Welsh and English TTS voices, four male and four female, were developed for use by bilingual children and young people in Wales who use high-tech AAC. These voices represent a variety of accents and ages ranges, with the youngest being appropriate for children up to roughly 11 years old and the older voices designed to be used up to adulthood.

The voices are currently available for use through the NHS in Wales, and this presentation will include feedback from Speech and Language Therapists, users of the voices and their families.

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Bilingual language development in Rett syndrome

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Rett syndrome (RTT) is a genetic neurodevelopmental condition (Amir et al., 1999), which affects physical and linguistic development (Neul et al., 2010). Most individuals with RTT present with a lack or loss of productive speech, however, some with RTT may have the preserved speech variant (PSV RTT), which leaves these individuals with some productive language (Zappella, 1992). To date, there have been no publications focusing on bilingualism in RTT.

Research into other neurodevelopmental conditions has found no evidence that a bilingual upbringing causes a negative effect on language development (Ward & Sanoudaki, 2021). However, parents of individuals with neurodevelopmental conditions are being erroneously advised to limit exposure to one language, which places these individuals at greater risk of losing their heritage/minority language (Yu, 2013).

A pair of longitudinal case studies were conducted to form the first research project on bilingualism in RTT. Participants were an English-Welsh bilingual adolescent with PSV RTT, and an English-German non-verbal adolescent with RTT. This research aimed to document the cognition and receptive linguistic abilities, including grammar and vocabulary, of both participants in each of their languages, and to track developments in these skills. Additionally, the PSV individual's productive language in both English and Welsh was documented.

The results of these studies are the first to show that bilingual individuals with RTT can continue to develop receptive linguistic abilities in each of their languages, and present no indication that bilingualism had any additional detrimental effect on the linguistic development of these individuals. The role of individual variation within the condition, cross linguistic interactions, amount of exposure to each language, and the use of augmentative and alternative communication (AAC) in RTT are also discussed.

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Language and the Arts: Exploring creative techniques to aid with learning a new language

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The present research is an exploratory project, run in collaboration between Blas Pontio and Annedd Ni Day Centre, both in Bangor, North Wales, UK. This innovative project is the first of its kind to be completed in Wales, and one of the first internationally to explore this topic. The project sought to explore artistic and creative techniques to teach Welsh to adults with varying physical and learning disabilities. Several disciplines were involved with the project, including: music, dance, creative writing and language specialists. Sessions were held weekly for 10 weeks between October and December 2023.

Previous research suggests that inclusion of the Arts (music, drama, dance etc.) not only improves engagement when learning a new language, but that the real-world links between new vocabulary and artistic techniques can help to cement this vocabulary, and improve memory of newly learned items (Anderson and Chung, 2011). However, this is an under-researched area, and the existing, limited literature in the field focuses on typically developing school-aged children learning an additional language. A 2023 study by Davies suggests that children and young adults with additional learning needs face a "systematic disadvantage" (2023;231) accessing Welsh-language opportunities, whether that be education or extra-curricular. Therefore, it is likely that adults with additional needs also face the same systematic disadvantage in Wales.

The present study did not focus on achieving specific vocabulary or language targets, but instead adopted a more holistic approach, centring on improving individuals' overall attitudes towards Welsh, as measured with pre- and post-intervention questionnaires. Participants reported increasingly positive attitudes towards Welsh in the post-intervention questionnaire than at the start of the project, clearly demonstrating how language intervention projects can be successful in ways other than just increasing vocabulary ability. This project took a more holistic approach to language, including links to culture and history. We demonstrated that exposure to a language alongside the Arts in a positive, safe and enjoyable environment can help adults with learning disabilities to improve their language skills, alongside their attitudes towards minority languages.

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