

**12<sup>TH</sup> ESLA CONGRESS**

**OF SPEECH AND LANGUAGE THERAPY**

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**ABSTRACT BOOK**

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## PRE-CONGRESS WORKSHOPS

WP1. MULTI-PROFESSIONAL COLLABORATIONS FOR BUILDING RESEARCH CAPACITY IN SLT PRACTICE .....	29
Dr Hazel Roddam <sup>1</sup> .....	29
WP2. IMPLEMENTING NOVEL TECHNOLOGIES FOR THE TREATMENT OF NEUROCOGNITIVE DEFICITS.....	30
Professor Fofi Constantinidou <sup>1</sup> , Ioulia Solomou, Dr. Eva Pettemerifou.....	30
WP3. “USE IT OR LOSE IT” – THE “IVTP - SIX VOICE CARE EXERCISES BY EVEMARIE HAUPT” .....	31
FH Prof. MSc Sara Forer-Kaufmann <sup>1</sup> , Karola Kopshoff <sup>2</sup> .....	31
WP4. RELATIONAL ACUPUNCTURE FOR VOICE PROFESSIONALS: FUSING ANCIENT TRADITION WITH MODERN SCIENCE .....	32
Mrs Caroline Van Looy <sup>1</sup> , Mr Stephen King <sup>1</sup> .....	32
WP5. PARENTAL STRESS RELATED TO STUTTERING: DESCRIPTION, ANALYSIS AND INTERVENTION .....	33
Phd SLP Ronny Boey <sup>1</sup> .....	33

## ORAL PRESENTATIONS

KS1. SOUND JUDGMENT: SPEECH THERAPY TECHNIQUES AND MOTOR LEARNING PRINCIPLES FOR SPEECH SOUND DISORDERS WITH/OR WITHOUT RELATED STRUCTURAL ANOMALIES .....	35
Prof Ann Kummer .....	35
1.1 WRITTEN COMMUNICATION OF MONOLINGUAL AND MULTILINGUAL SECONDARY SCHOOL STUDENTS .....	36
Christel Van Vreckem <sup>1</sup> , professor Annemie Desoete, professor Kristiane Van Lierde.....	36
1.2 LANGUAGE INSTRUMENTS VALIDATION: A NEED TO IMPLEMENT MTSS IN SPANISH-SPEAKING PRE-KINDERGARTNERS .....	37
Mrs, SLT, MSc Francisca Pozo Tapia <sup>1</sup> .....	37
1.3 PARENTS' AND EARLY CHILDHOOD EDUCATORS' PERCEPTIONS AFTER THE IMPLEMENTATION OF THE PRAGMATIC INTERVENTION PROGRAMME (PICP) .....	38
Tatiana Pereira <sup>1,2</sup> , Ana Margarida Ramalho <sup>2</sup> , Marisa Lousada <sup>1,3,2</sup> .....	38
1.4 SPEECH-MUSIC THERAPY IN THE TREATMENT OF CHILDHOOD APRAXIA OF SPEECH .....	39
Drs. Mirjam van Tellingen <sup>1,2</sup> , Dr. Joost Hurkmans <sup>1</sup> , Dr. Hayo Terband <sup>3</sup> , Drs. Anne Marie van de Zande <sup>4</sup> , Prof.Dr. Ben Maassen <sup>2</sup> , Prof.Dr. Roel Jonkers <sup>2</sup> .....	39

1.5 COMMUNICATIVE PARTICIPATION AS PRIMARY OUTCOME OF SPEECH AND LANGUAGE THERAPY – DEVELOPMENT OF AN ITEM BANK MEASURING COMMUNICATIVE PARTICIPATION IN CHILDREN, ADOLESCENTS AND YOUNG ADULTS WITH COMMUNICATION DISORDERS .....	41
Eline Alons <sup>1,3</sup> , Dr. Lizet van Ewijk <sup>1</sup> , Dr. Margreet Luinge <sup>2</sup> , Prof. dr. Caroline B. Terwee <sup>4</sup> , Prof. dr. Ellen Gerrits <sup>1,3</sup> .....	41
1.6 NON-ACTIVE VOICE IN GREEK CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER.....	43
Dr Anastasia Paspali, Prof Despina Papadopoulou <sup>1</sup> , Prof Theodoros Marinis <sup>2</sup> , Prof Spyridoula Varlokosta <sup>3</sup> , Prof Artemis Alexiadou <sup>4,5</sup> .....	43
1.7 NEGATION UNDERSTANDING AND THEORY OF MIND OF CHILDREN WITH AUTISM SPECTRUM DISORDERS? .....	45
Slp Phd In Cognitiv Psychology Magali Lavielle Guida <sup>1</sup> .....	45
2.1 EVALUATION OF AN INTERPROFESSIONAL LECTURE WITH SPEECH-LANGUAGE THERAPY STUDENTS AND TRANSLATION STUDENTS.....	46
Msc Susanne Maria Javorszky <sup>1</sup> , BA BA BSc Laura Lanig <sup>1</sup> , Dr. Katia Iacono <sup>2</sup> , Mag. Cinzia Hirschvogel <sup>2</sup> .....	46
2.2 INVESTIGATION OF TURKISH SPEECH AND LANGUAGE THERAPISTS' ATTITUDES TOWARDS EARLY INTERVENTION .....	48
MSc Ayşe Nur Koçak <sup>1</sup> , PhD Merve Savaş <sup>2</sup> .....	48
2.3 THE INCLUSION OF ACUPUNCTURE IN THE SPEECH THERAPY PRACTICE .....	49
Mrs Caroline Van Looy <sup>1</sup> , Mr Stephen King <sup>1</sup> .....	49
2.4 GRIEVING A PREVIOUS VOICE- THE PSYCHOLOGICAL IMPLICATIONS OF A SINGER WITH A FUNCTIONAL VOICE DISORDER.....	50
Mr Stephen King <sup>1</sup> .....	50
2.5 INTERVENTION PROGRAM IN CHILDREN WITH AUTISM SPECTRUM DISORDER: CAREGIVER EMPOWERMENT AND SATISFACTION LEVEL.....	51
Joana Lopes <sup>1</sup> , speech therapist Marina Moreira <sup>1</sup> .....	51
3.1 USER-CENTERED QUALITATIVE EVALUATION OF A FULLY IMMERSIVE, HEAD-MOUNTED VIRTUAL REALITY PROTOTYPE DEVICE TO FACILITATE REAL-LIFE TRANSFER IN VOICE THERAPY .....	52
Jannis Hansa .....	52
3.2 THE RELATIONSHIP BETWEEN VOCAL DEMAND, VOCAL FATIGUE AND VOICE HANDICAP IN TEACHERS .....	53
Anja Liović <sup>1,2</sup> , Assoc. Prof. Zdravko Kolundžić <sup>1,2</sup> , Assoc. Prof. Katarina Pavičić Dokoza <sup>1,3</sup> , Prof. Mirta Benšić <sup>4</sup> .....	53
3.3 EXPLORING AUTONOMIC DYSFUNCTION IN FUNCTIONAL DYSPHONIA: A PILOT STUDY .....	54

Dr. Iris Meerschman <sup>1</sup> , Prof. dr. Evelien D'haeseleer <sup>1</sup> , Prof. dr. Marie-Anne Vanderhasselt <sup>2</sup> , Prof. dr. Nelson Roy <sup>3</sup> , Prof. dr. Sofie Claeys <sup>4</sup> , Prof. dr. Kristl Vonck <sup>5</sup> , Prof. dr. Gwen Van Nuffelen <sup>6</sup> , Dr. Gauthier Desuter <sup>6</sup> , Drs. Riet Vergauwe <sup>2</sup> , Prof. dr. Kristiane Van Lierde <sup>1</sup> .....	54
3.4 AUDITORY-PERCEPTUAL RATING OF ROUGHNESS: DIPLOPHONIA VERSUS DYSPERIODICITY .....	55
Prof. Dr. Youri Maryn <sup>1,2,3,4,5</sup> , Ms. Perrine Morimont <sup>6,7</sup> .....	55
3.5 THE DISTRACTED SINGER: CORRELATION BETWEEN VOICE AND EXECUTIVE FUNCTIONS .....	56
Doctor Bernardo Lanzaro <sup>1</sup> , Doctor Stefania Porcaro <sup>2</sup> , Doctor Andrea Di Somma <sup>3</sup> , Doctor Alfonso Borragan Torre <sup>4</sup> , Doctor Chiara Falanga <sup>5</sup> , Doctor Daniele Apredda <sup>5</sup> , Doctor Simona Cunato <sup>2</sup> .....	56
3.6 DETERMINING VOCAL TREMOR PROPERTIES: MANUAL VERSUS SEMI-AUTOMATED METHODS .....	57
Prof. Dr. Youri Maryn <sup>1,2,3,4,5</sup> , Prof. Dr. Julie Barkmeier-Kraemer <sup>6,7</sup> , Drs. Kaitlyn Dwenger <sup>6,7</sup> .....	57
4.1 FROM ECHOLALIA TO SELF-GENERATED GRAMMAR: SUPPORTING AUTISTIC STUDENTS WITH NATURAL LANGUAGE ACQUISITION .....	58
Dr. Amanda Blackwell <sup>1</sup> , Mrs. Paulina Elias <sup>2</sup> , Mrs. Isabel Witters <sup>3</sup> .....	58
4.2 NEURODIVERSITY-AFFIRMING LANGUAGE SUPPORT FOR AN AUTISTIC GESTALT LANGUAGE PROCESSOR: A CASE STUDY .....	60
Mrs Isabel Witters <sup>1</sup> , Ms Paulina Elias <sup>2</sup> , Dr Amanda Blackwell <sup>3</sup> .....	60
4.3 EFFECTIVE TREATMENT APPROACHES IN LATE TALKERS: A SYSTEMATIC REVIEW ...	61
Chiara Baldo <sup>1</sup> , Elisa Isolani <sup>2</sup> , Sara Rinaldi <sup>3</sup> .....	61
4.4 DEVELOPMENT OF A CORE OUTCOME SET FOR CHILDREN WITH SPEECH SOUND DISORDER: THE MISLTOE_SSD .....	62
STUDY PHASE 1 .....	62
Dr Sam Burr <sup>1,2,3</sup> , Dr Joanne Cleland <sup>4</sup> , Dr Sam Harding <sup>1,3,5,6</sup> , Dr Helen Stringer <sup>7</sup> , Professor Yvonne Wren <sup>1,3,8</sup> ....	62
4.5 EXPLORING SOLUTIONS TO REDUCE WAITING LISTS FOR SPEECH AND LANGUAGE SERVICES IN THE NETHERLANDS.....	64
Inge Klatte <sup>1,2</sup> , Ingrid Singer <sup>1,2</sup> , Dr Rob Zwitserlood <sup>1</sup> , Prof Dr Ellen Gerrits <sup>1,2</sup> .....	64
4.6 A WEB-BASED BILINGUAL COMMUNICATIVE-LANGUAGE ASSESSMENT TOOL IN EARLY CHILDHOOD .....	65
Dr Gianmatteo Farabolini <sup>1</sup> , Prof Allegra Cattani, Prof Daniela Gatt, Prof Maria Gabriella Ceravolo .....	65
KS2. TELOS & TECHNE: WHY DO WE EAT? .....	67
Paula Leslie, PhD, MA(Bioethics) .....	67
5.1 ESTABLISHING PRIORITIES ON GOOD PRACTICE RECOMMENDATIONS TO PREVENT ASPIRATION PNEUMONIA: RESULTS FROM A MODIFIED E-DELPHI STUDY .....	68
Ms Joana Santos <sup>1,2</sup> , Prof. Oscar Ribeiro <sup>1,2</sup> , Prof. Luis Jesus <sup>3,4,5</sup> , Prof. Pedro Sa-Couto <sup>6</sup> , Prof. Maria Matos <sup>1,3</sup> .....	68

5.2 A SELF-REPORT FOR CLINIC AND RESEARCH IN THE PREVENTION OF COMMUNICATION, LANGUAGE AND ADAPTIVE DIFFICULTIES .....	70
Speech and Language Therapist Luigi Marotta, Professor Maria Cristina Caselli <sup>3</sup> , Doctor Annamaria Dall'Oglio <sup>1</sup> , Speech and Language Therapist Mirella Mariani <sup>1</sup> , Doctor Pasquale Rinaldi <sup>3</sup> .....	70
5.3 COLLABORATIVE WORKING WITH PARENTS: HOW TO PREPARE STUDENTS? .....	72
Dr. Maja Kelić <sup>1</sup> , Dr. Clare Carroll <sup>2</sup> , Dr. Sam Harding <sup>3</sup> , Inge Klatte <sup>4</sup> , Dr. Rena Lyons <sup>2</sup> , Tina Mantel <sup>5</sup> , Dr. Katelyn Melvin <sup>6</sup> , Dr. Ellie Sugden <sup>7</sup> .....	72
6.1 METHODS TO MAKE INFORMATION MORE ACCESSIBLE TO PEOPLE WITH ACQUIRED COMMUNICATION DISABILITIES: A SCOPING REVIEW .....	73
Ms Andisiwe Nxoko <sup>1</sup> , Dr Mark Jayes <sup>2</sup> , Professor Shakila Dada <sup>1</sup> .....	73
6.2 PRODUCTION OF CLITICS IN PEOPLE WITH BROCA'S APHASIA: PRELIMINARY INSIGHTS .....	75
Professor Mile Vuković <sup>1</sup> , Lana Jerkić Rajić <sup>1</sup> .....	75
6.3 PRELIMINARY FINDINGS OF A COMPARATIVE STUDY OF NONVERBAL REPETITION PERFORMANCE IN MULTIPLE SCLEROSIS: GROUP DIFFERENCES AND SUBTYPE VARIATIONS .....	76
Melis Buse Altun <sup>1</sup> , Özlem Öge Daşdöğen <sup>1</sup> , Ezgi Apaydın <sup>2</sup> .....	76
6.4 PROXY AND SELF-REPORT AGREEMENT OF FUNCTIONAL COMMUNICATION IN APHASIA AND / OR APRAXIA OF SPEECH .....	77
Dr. Ingrid Aichert <sup>1</sup> , Prof. Dr. Wolfram Ziegler <sup>1</sup> , Dr. Anja Wunderlich <sup>2</sup> .....	77
6.5 HOW A MULTILEVEL PROCEDURE OF DISCOURSE ANALYSIS UNVEILS THE RELATION BETWEEN INHIBITORY CONTROL AND LEXICAL INFORMATIVENESS ON A STORY PRODUCTION TASK IN HEALTHY AGING .....	78
PhD Andrea Marini <sup>1</sup> , Francesco Petriglia <sup>3</sup> , PhD Sara Andreetta <sup>1</sup> , PhD Ilaria Gabbiatore <sup>2</sup> , Ms. Marika Gobbo <sup>1</sup> , Silvia D'Ortenzio, Giulia Gasparotto, PhD Francesca Marina Bosco <sup>2</sup> .....	78
6.6 THE EFFECT OF LISTENER AGE AND EXPERTISE ON THE PERCEPTION OF SPEAKING RATE CHANGES: DATA FROM GREEK .....	80
Dr Ioannis Papakyritsis <sup>1</sup> , Dr Emilia Michou <sup>1</sup> .....	80
6.7 DEVELOPMENT OF A DIAGNOSTIC APPROACH FOR AOS IN THE GERMAN-SPEAKING CONTEXT: ADAPTATION OF ASRS-3.5 AND FURTHER DEVELOPMENT OF S-SPRAX .....	81
M.sc. Elena Spath <sup>1</sup> , PD Dr. Bruno Fimm <sup>1</sup> , Prof. Dr. rer. nat. Stefan Heim <sup>1</sup> , Dr. rer. medic. Katja Hußmann <sup>1</sup> , B.Sc., BA Hannah Heck, M.Sc. Dorothea Peitz <sup>1</sup> .....	81
6.8 IS THE LEVEL OF COMMUNICATION DIFFICULTY ASSOCIATED WITH CAREGIVER BURDEN IN INDIVIDUALS WITH DEMENTIA? .....	82
Mümüne Merve Parlak <sup>1</sup> , Cansu Yildirim <sup>2</sup> , Merve Sapmaz Atalar <sup>3</sup> .....	82
6.9 AWARENESS AND KNOWLEDGE OF APHASIA AND DYSARTHRIA AMONG FUTURE OCCUPATIONAL THERAPISTS AND PHYSIOTHERAPISTS IN AUSTRIA AND GERMANY .....	83
Dr. Anja Wunderlich <sup>1</sup> , Prof. Dr. Barbara Schneider .....	83

7.1 USING CREATIVE PARTICIPATORY METHODS WITH PARENTS AND SPEECH AND LANGUAGE THERAPISTS (SLTS) TO EXPLORE COLLABORATIVE PRACTICE IN AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC) .....	85
Ms Sarah Hayward <sup>1</sup> , Dr Daniel Hayes <sup>1</sup> , Dr Michael Clarke <sup>2</sup> , Dr Steven Bloch <sup>1</sup> .....	85
7.2 AAC HIVE: A SECURE COLLABORATIVE PLATFORM FOR AAC ASSESSMENT AND INTERVENTION .....	87
Stéphane JULLIEN.....	87
7.3 EXPLORING PARENTAL PERSPECTIVES ON THE IMPACT OF MAKATON PROGRAM ON CHILDREN'S COMMUNICATION: A THEMATIC ANALYSIS .....	88
Mrs Maria Stavrou <sup>1,2</sup> , Mrs Maria Lazarou <sup>2</sup> , Dr Ioannis Vogindroukas <sup>3</sup> , Dr Elena Theodorou <sup>1</sup> .....	88
7.4 A CALL FOR SLTS IN THE FIELD OF AAC .....	89
Signhild Skogdal.....	89
8.1 PALLIATIVE SPEECH AND LANGUAGE THERAPY IN PRIMARY CARE .....	90
Carina Kaser <sup>1</sup> , BSc, MSc Susanne Maria Javorszky <sup>1</sup> .....	90
8.2 'BE YOUR OWN SELF': A DOCUMENTARY ON THE IMPACT OF DLD ON THE SOCIAL-EMOTIONAL DEVELOPMENT OF YOUNG PEOPLE .....	91
Mr. Eddy W. Hoste <sup>1</sup> , Mss Begga Van De Walle .....	91
8.3 STAGES OF BILINGUAL DEVELOPMENT: SEMANTIC AND SYNTACTIC PATTERNS OF FRENCH LEARNERS AGE 2 TO 12 OVER 4 YEARS.....	92
Dr. Elin Thordardottir.....	92
8.4 NASALANCE SCORE VARIATION IN GREEK YOUNG ADULT SPEAKERS: RELIABILITY OF THE PORTABLE NASALANCE SYSTEM DEVICE AS A BIOFEEDBACK INSTRUMENT .....	93
Dr Ioannis Papakyritsis <sup>1</sup> , Dr Emilia Michou <sup>1</sup> , Ms Dimitra Statiri <sup>1</sup> , Ms Dimitra Apostolou <sup>1</sup> , Ms Adamantia Ntasiou <sup>1</sup> .....	93
8.5 NARRATIVE DEVELOPMENT IN TYPICALLY DEVELOPING SCHOOL-AGED CHILDREN AND CHILDREN WITH DLD .....	94
Drs. Elske Bolk, Dr. Theo Goverts, Prof. Dr. Sophia Kramer, Dr. Annette Scheper .....	94
8.6 LANIS: A PARENT AND PRE-SCHOOL TEACHER SCREENING TOOL FOR 3-YEAR-OLD ICELANDIC-SPEAKING CHILDREN .....	95
Dr Jóhanna Einarisdóttir <sup>1</sup> , Dr Þóra Másdóttir <sup>1</sup> , Dr Kathryn Crowe <sup>1,2</sup> .....	95
8.7 A DAY IN THE LIFE OF 12 TODDLERS: STUDYING CHILDREN'S EVERYDAY INTERACTIONS TO INFORM PARENT-CHILD INTERACTION THERAPY .....	96
Mrs Caitlin Holme <sup>1,2</sup> , Professor Yvonne Wren <sup>1,2,3</sup> , Dr Sam Harding <sup>2</sup> , Professor Sue Roulstone <sup>2</sup> .....	96
8.8 LANGUAGE AND COMMUNICATION IN ASD : SURVEY CONTRIBUTION COMPLETED BY RELATIVES IN A LIFE-SPAN PERSPECTIVE .....	97
Slp Phd In Cognitiv Psychology Magali Lavielle Guida <sup>1</sup> .....	97

9.1 THE ROLE OF SPEECH THERAPIST AS AN ADDED VALUE IN HOME-CARE ARTIFICIAL NUTRITION UNIT (HANU) .....	98
Alice Di Battista <sup>1,2</sup> , Ylenia Di Giancaterino <sup>1</sup> , Lucia Di Palma <sup>1</sup> , Claudia Nunziata <sup>1</sup> , Alessandra Matano <sup>3</sup> .....	
9.2 ASSOCIATIONS BETWEEN MUSIC-MAKING IN THE FAMILY AND EXPRESSIVE VOCABULARY SIZE AT 24 MONTHS OF AGE .....	99
Phd, SLP Annette Nylund <sup>1</sup> , SLP Nadja Bruun, SLP Viveka Lyberg Åhlander.....	
9.3 INVESTIGATION OF THE RELATIONSHIP OF EARLY INDIRECT INTERVENTION TO THE QUALITY OF LIFE AND ATTITUDES OF THE PRIMARY CAREGIVER: A CASE STUDY .....	100
MSc Ayşe Nur Koçak <sup>1</sup> , SLP Aynur İkra Demir <sup>2</sup> , SLP Göksu İrem Emrah <sup>3</sup> , PhD Merve Savaş <sup>4</sup> .....	
9.4 EVALUATION OF THE READABILITY OF TURKISH QUALITY-OF-LIFE QUESTIONNAIRES, WHICH ARE COMMONLY USED IN SLT .....	101
MSc Ayşe Nur Demirci <sup>1</sup> , PhD Önal İncebay <sup>1</sup> , PhD Ayşen Köse <sup>1</sup> .....	
9.5 THE POWER OF TWO: EXPLORING THE IMPACT OF MOTHERS' AND FATHERS' ENGAGEMENT IN SPEECH-LANGUAGE PATHOLOGY TREATMENT FOR CHILDREN WITH AUTISM .....	102
Dr. Osnat Segal <sup>1</sup> , MA Noa Keisar <sup>1</sup> .....	
9.6 THE FUNCTIONAL ANATOMICAL RELATIONSHIPS OF THE TONGUE (OM) WITH THE BODY SYSTEM IN AN INTEGRATIVE THERAPY.....	103
MEd, PhD Student Gabi Baracsy <sup>1</sup> .....	
9.7 AWARENESS OF EU-BASED SLTS ON ETHICAL ISSUES IN SPEECH-LANGUAGE THERAPY FOR CLIENTS WITH DEMENTIA.....	104
Associate Professor in Special Education/Speech-Language Therapy Krisztina Zajdó <sup>1</sup> , Assistant Professor in Special Education/Speech-Language Therapy Veronika Csonka <sup>1</sup> .....	
9.8 ME AT MEALTIMES STUDY – INPATIENTS' EXPERIENCES OF MEALTIMES (WORKING AGE ADULTS WITH MENTAL ILLNESS) .....	106
Susan Guthrie <sup>1</sup> , Professor John Baker, Dr Jane Cahill, Professor Bronwyn Hemsley .....	
10.1 AUTOMATIC RECOGNITION AND DETECTION OF APHASIC NATURAL SPEECH .....	108
Ms. Mara Barberis <sup>1</sup> , Mr. Pieter De Clercq <sup>1</sup> , Mr. Bastiaan Tamm <sup>2,3</sup> , Prof. Hugo Van hamme <sup>2</sup> , Prof. Maaïke Vandermosten <sup>1</sup> .....	
10.2 DIFFERENTIATING DLD IN MONO- AND BILINGUAL CHILDREN USING MACHINE LEARNING APPROACH (HELSELI STUDY) .....	110
Sini Smolander <sup>1,2,3</sup> , Sari Kunnari <sup>2</sup> , Rosa Gonzáles Hautamäki <sup>1,2</sup> , Jade Plym <sup>4</sup> , Pekka Lahti-Nuuttila <sup>4</sup> , Eva Arkkila <sup>3</sup> , Marja Laasonen <sup>1</sup> .....	
10.3 SPEECH SOUND DISORDERS. AI AND DIGITAL WAYS THAT WE CAN USE TO MAKE A DIAGNOSIS .....	112
Carolina Bodea Hategan <sup>1</sup> , Dorina Talaş <sup>2</sup> , Raluca Trifu <sup>3</sup> .....	



10.4 AUTOMATIC SPEECH ANALYSIS AS AN EMERGING TOOL FOR LANGUAGE MARKERS OF CLINICAL DEPRESSION.....	113
PhD Raluca Nicoleta Trifu, PhD Carolina Bodea-Hațegan, PhD Dorina Anca Talaș, PhD, MD Dana Cristina Herța, PhD, MD Bogdan Nemeș .....	113
11.1 TESTING THE TOLERANCE PRINCIPLE: CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER .....	114
Therapist Joana Miguel <sup>1,2</sup> , Therapist Susana Cardoso <sup>1</sup> , Doctor João Veríssimo <sup>3</sup> .....	114
11.2 INVESTIGATION OF THE EFFECTIVENESS OF THE DTTC METHOD IN A CHILD WITH CAS: CASE STUDY .....	115
Res. Asst Nazmiye Atila-Çağlar .....	115
11.3 HOW TO IDENTIFY BILINGUAL CHILDREN WITH DLD IN FLANDERS? .....	116
Msc Charlotte Mostaert <sup>1,2</sup> , Dr Heleen Leysen <sup>1,2</sup> , Ine Francke <sup>2</sup> .....	116
11.4 HOW TO ASSESS COMMUNICATIVE-LANGUAGE SKILLS IN PLURILINGUAL CHILDREN? A GOOD PRACTICES POSITION PAPER .....	117
Dr Gianmatteo Farabolini <sup>1</sup> , Ms Ilaria Ceccarelli, Mr Simone Giacometti, Ms Anna Giulia De Cagno, Dr Silvia Piazzalunga, Prof Maja Roch.....	117
11.5 MEASURING THE IMPACT ON DAILY ACTIVITIES AND PARTICIPATION IN CHILDREN AND YOUNGSTERS WITH DLD .....	119
Mr. Eddy W. Hoste <sup>1</sup> , Mss. Begga Van De Walle, Mss. Riet Grauwels.....	119
11.6 EXPLORING THE RELATIONSHIP BETWEEN NATIVE LANGUAGE ARTICULATION SKILLS AND FOREIGN LANGUAGE ARTICULATION IN SCHOOL-AGED CHILDREN.....	120
Dr. Jovana Janjic <sup>1</sup> , Professor Neda Milosevic <sup>1</sup> , PhD Candidate Mirna Zelic <sup>1</sup> , PhD Candidate Jelena Milisavljevic <sup>1</sup> , Nenad Novakovic <sup>1</sup> , Darinka Šoster <sup>1</sup> , PhD candidate Anja Lovas <sup>1</sup> , Assistant professor Gordana Colic <sup>1</sup> .....	120
11.7 MAKING A SPEECH SOUND-SCREENER FROM A STANDARDIZED ASSESSMENT TOOL: DOES LENGTH MATTER? .....	121
Dr. Thora Másdóttir <sup>1</sup> , Kathryn Crowe <sup>1,2</sup> , Thorunn Halldórsdóttir <sup>3,1</sup> .....	121
12.1 MARKED AND UNMARKED SENTENCE RECEPTION AND PRODUCTION IN PRESENT AND PAST TENSE IN KINDERGARTEN CHILDREN .....	122
Jona Brodar Litrop.....	122
12.2 VALIDITY OF THE BRAZILIAN-PORTUGUESE VERSION OF INTELLIGIBILITY IN CONTEXT SCALE .....	123
Dr Matheus Alpes <sup>1</sup> , Julia Cipolato, Ana Rita Valente, Jaqueline do Nascimento, Patrícia Mandra, Marisa Lousada .....	123
12.3 EXPLORING NARRATIVE SKILLS IN BILECTAL CYPRIOT-GREEK CHILDREN WITH AND WITHOUT DEVELOPMENTAL LANGUAGE DISORDER .....	124
Dr Elena Theodorou <sup>1</sup> , Dr Theodora Papastefanou <sup>1</sup> , Mrs Nikoletta Tourliou <sup>1</sup> , Mrs Constantina Pentara <sup>1</sup> , Mrs Eleni Giannakou <sup>1</sup> .....	124

12.4 EXPLORING DISFLUENCY PATTERNS IN BILINGUAL AND MONOLINGUAL CHILDREN WITH AND WITHOUT AUTISM: A PRAGMATIC PERSPECTIVE .....	125
Marianna Beradze <sup>1</sup> , Prof. Natalia Meir <sup>2</sup> .....	125
12.5 PATTERNS OF LANGUAGE DEFICITS IN CHILDREN WITH AND WITHOUT DLD DIAGNOSIS .....	126
Dr. Bence Kas <sup>1</sup> , Ágnes Lukács <sup>2</sup> , Alexandra Rohár <sup>1</sup> , Mária S. Pintye <sup>1</sup> , Klára Marton <sup>1</sup> .....	126
12.6 SPEAKABOO: ASSESSING SPEECH PRODUCTION IN MULTILINGUAL CHILDREN BY NON-NATIVE SPEAKERS.....	127
Lisa Verbeek <sup>1,2</sup> , Charlotte Mostaert <sup>3,4</sup> , Heleen Leysen <sup>3,4</sup> , Inge Segers <sup>4</sup> , Liesbeth van der Zijden-Holstvoogd <sup>1</sup> , Mirjam Blumenthal <sup>1</sup> .....	127
12.7 LANGUAGE SAMPLES IN ICELANDIC – NORM REFERENCED DATA .....	129
Dr Jóhanna Einarisdóttir <sup>1</sup> .....	129
13.1 E-BOOK ABOUT SPEECH OF PEOPLE WITH CLP FOR FAMILY MEMBERS/CAREGIVERS IN EUROPEAN PORTUGUESE: CONTENT VALIDITY .....	130
Ana Paris Leal <sup>1</sup> , Mariana Alface <sup>2</sup> , Matilde Domingues <sup>3</sup> , Ana Catarina Baptista <sup>4</sup> , Susana Rodrigues <sup>4</sup> , David Nascimento <sup>5</sup> , João Canossa Dias <sup>6</sup> .....	130
13.2 ENHANCING SOCIAL PARTICIPATION ACROSS IRELAND FOR PEOPLE WITH COMMUNICATION DISABILITIES AND DIFFERENCES (ENSPIRED).....	131
Dr Ruth McMenamin <sup>1</sup> , Ms Yvonne Fitzmaurie <sup>1</sup> , Dr Orla Duffy <sup>2</sup> , Ms Dorothy Clarke <sup>2</sup> , Dr Helen Kelly <sup>3</sup> , Dr Lynda Kennedy <sup>2</sup> , Dr James Green <sup>4</sup> , Dr Caroline Jagoe <sup>5</sup> , Dr Áine Kearns <sup>4</sup> , Dr Molly Manning <sup>4</sup> , Ms Rosalind Gray Rogers <sup>2</sup> , Dr Rachael Stoochdale <sup>3</sup> .....	131
13.3 ENHANCING SOCIAL COMMUNICATION IN AUTISM SPECTRUM DISORDER THROUGH GROUP THERAPY: A COHORT STUDY .....	133
Humeyra Ozozgur <sup>1</sup> , Tuğçe Karahan Tığrak, Dilan Mertoglu, Zehra Savaş .....	133
13.4 DEVELOPMENT OF A SEVERITY MEASURE FOR SSD .....	134
Msc. Anniek van Doornik <sup>1,2</sup> , Professor Sharynne McLeod <sup>3</sup> , Dr Hayo Terband <sup>4</sup> , Professor Ellen Gerrits <sup>1,2</sup> .....	134
13.5 CAPTURING GROWTH IN SPEECH PRODUCTION DEVELOPMENT OF CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER.....	136
14.1 DO COMMON VOICE DISORDER DIAGNOSES HAVE DIFFERENT EFFECTS ON VOICE-RELATED QUALITY OF LIFE? .....	137
MSc Ayşe Nur Demirci <sup>1</sup> , PhD Önal İncebay <sup>1</sup> , PhD Fatma Esen Aydın <sup>1</sup> , MSc Elif Tunç Songur <sup>2</sup> .....	137
14.2 SPEECH AND LANGUAGE THERAPY STUDENTS' QUALITY OF LIFE: WHAT DO FUTURE PROFESSIONALS NEED NOW? .....	138
Dr. Lidia Rodríguez García <sup>1</sup> .....	138
14.3 COGNITIVE-COMMUNICATION THERAPY FOLLOWING TBI IN UKRAINIAN MILITARY COMBATANTS: CHALLENGES AND BENEFITS .....	139
Dr Oksana Lyalka <sup>1</sup> .....	139

14.4 AN EXPLORATION OF POLICE CUSTODY AS A SITE OF COMMUNICATION ACCESSIBILITY .....	140
Ms Claire Westwood <sup>1</sup> , Ms Keira Radice <sup>1</sup> .....	140
14.5 INFORMEDNESS ABOUT THE SLT PROFESSION IN HUNGARY .....	141
Associate Professor in Special Education/Speech-Language Therapy Krisztina Zajdó <sup>1</sup> , speech-language pathologist Sarolta Szijártó <sup>1</sup> .....	141
15.1 TEMPERAMENT AND STUTTERING SEVERITY IN SCHOOL AGE CHILDREN .....	142
M.Sc. Kübra Miraloğlu <sup>1</sup> , Professor Maviş Emel Kulak Kayıkcı <sup>2</sup> , Assoc.Prof. Meltem Çiğdem Kirazlı <sup>2</sup> .....	142
15.2 SPEECH TEMPO AND FLUENCY IN CLUTTERED SPONTANEOUS AND READ SPEECH .....	143
Dr Judit Bóna .....	143
15.3 INTERACT: A PROGRAM TO PREVENT STUTTERING STEREOTYPES IN PRESCHOOL AGE CHILDREN .....	144
Dr. Diletta Vedovelli <sup>1</sup> , Dr. Francesca Del Gado <sup>1,2</sup> , Dr. Lisa Scordino <sup>1</sup> , Dr. Donatella Tomaiuolo <sup>1,2,3</sup> .....	144
15.4 VIRTUAL REALITY EXPERIENCE: ADULTS WHO STUTTER'S PERCEPTIONS ON SEVERITY, LOCUS OF CONTROL, AND AVOIDANCE .....	146
Gonçalo Leal <sup>1</sup> , Ana Valente <sup>2,3</sup> , Sara Mendes <sup>1</sup> , Carlos Brandão <sup>1</sup> , Nicolas Delaunay <sup>1</sup> .....	146
.....	147
15.5 THE MEASUREMENT OF PARENTAL STRESS IN RELATION TO THE THEIR CHILD'S STUTTERING: IMPACT ON THEIR QUALITY OF LIFE .....	147
Phd SLP Ronny Boey .....	147
16.1 DEVELOPMENT OF VOCABULARY AND PHONOLOGICAL AWARENESS IN CHILDREN AGED 5-7 YEARS IN KOSOVO .....	148
Mrs Bardha Kika .....	148
16.2 MONO- AND BILINGUAL CHILDREN'S PHONOLOGICAL PROCESSING SKILLS MEASURED BY A GREEK NONWORD REPETITION TASK .....	149
Pantelis Koutsianas <sup>1</sup> , PhD Ilektra Maragkaki <sup>1</sup> , Spyros Koutras <sup>1</sup> , Mariana Kitsona <sup>1</sup> , Despina Poulimenou <sup>1</sup> , Aikaterini Angeliki Papadopoulou <sup>1</sup> , Maria Diamanti <sup>1</sup> , Georgia Spiridonidou <sup>1</sup> , Evi Ashley <sup>1</sup> , Asst.Professor of Language & Communication Pathology Maria Vlassopoulos <sup>1</sup> .....	149
16.3 LONGITUDINAL ASSESSMENT OF GRADE REPETITION: EXAMINING SPEECH AND LANGUAGE DEVELOPMENTAL CHALLENGES IN GREEK KINDERGARTEN RETENTION ..	150
Dr Eleftheria Geronikou <sup>1</sup> , Ms Panagiota Mourgela <sup>1</sup> , Ms Vicky Papathanasiou <sup>1</sup> , Dr Elena Theodorou <sup>2</sup> .....	150
16.4 THE EFFECT OF THE SPEAKER GENDER ON REACTION TIME IN AUDITORY SPATIAL DIRECTIONAL TASKS .....	151
Evija Lavrane <sup>1</sup> , Baiba Trinite, Anita Zdanovica, Daiga Kurme, Ilva Magazeina, Anita Jansone .....	151
16.5 THE EFFECT OF WORD FREQUENCY AND IMAGEABILITY ON INDIVIDUAL DIFFERENCES IN ANAPHORA RESOLUTION .....	152
Ms. Antonija Blaži Ostojić .....	152

KS3. THE ROLE OF THE SPEECH AND LANGUAGE PATHOLOGIST IN WORKING WITH ADOLESCENTS AND YOUNG PEOPLE WITH SPEECH, LANGUAGE AND COMMUNICATION NEEDS.....	153
Victoria Joffe .....	153
17.1 CLINICAL APPLICATIONS OF THE GLOBAL TALES PROJECT .....	154
Lisa Domby .....	154
17.2 LANGUAGE, SOCIAL AND COGNITIVE SKILLS IN AUTISTIC AND NON-AUTISTIC ARABIC-SPEAKING CHILDREN: NETWORK AND CLUSTERS ANALYSES.....	155
Ms Muna Abd El-Raziq <sup>1</sup> , Natalia Meir <sup>1,2</sup> , Elinor Saiegh-Haddad <sup>1,2</sup> .....	155
17.3 MULTILINGUAL SKILLS OF YOUNG ADULTS IN ICELAND WHO LEARNED ICELANDIC AS L2 IN SCHOOL: MEASURED AND SELF-REPORTED PERFORMANCE .....	156
Ms. Gudrun Hafliadottir <sup>1</sup> , Dr. Elin Thordardottir <sup>2</sup> .....	156
17.4 TESTING THE FEASIBILITY OF COLLECTION OF A CORE OUTCOME SET FOR CHILDREN WITH SPEECH SOUND DISORDER: THE MISLTOE_SSD STUDY PHASE 2 .....	157
Dr Sam Burr <sup>1,2,3</sup> , Dr Joanne Cleland <sup>4</sup> , Dr Sam Harding <sup>1,3,5,6</sup> , Dr Helen Stringer <sup>7</sup> , Professor Yvonne Wren <sup>1,3,8</sup> ..	157
17.5 SPEECH PERCEPTION SKILLS ON MULTIMODAL TASKS IN CHILDREN WITH SPEECH SOUND DISORDERS.....	159
Dr Kakia Peteinou <sup>1</sup> , Mr Christodoulos Monogios <sup>1</sup> , Mrs Maria Eirini Vasilopoulou <sup>1</sup> , Dr Lilia Psalta <sup>2</sup> , Dr George Spanoudis <sup>3</sup> .....	159
17.6 EXPLORING EARLY COMMUNICATION PROFILES: A COMPARISON OF CHILDREN WITH ASD AND THEIR YOUNGER NEUROTYPICALLY DEVELOPING PEERS .....	160
Research Assistant, Msc Merve Dilbaz Gürsoy <sup>1</sup> , Assistant Professor, PhD Ayşın Noyan Erbaş <sup>1</sup> , Huriye Berna Devecioğlu <sup>2</sup> , Associate Professor Tuna Çak Esen <sup>3</sup> , Professor Esra Özcebe <sup>4</sup> .....	160
18.1 DON'T WRITE THE ORDER FOR SOMETHING YOU WOULDN'T EAT: THE NARRATIVE OF EATING.....	161
Dr. Alisa Prewitt .....	161
18.2 OROFACIAL MYOFUNCTIONAL BEHAVIOUR, TONGUE AND LIP STRENGTH, AND ORAL HEALTH-RELATED QUALITY OF LIFE IN YOUNG ADULTS.....	162
Charis Van Der Straeten <sup>1</sup> , Jolien Verbeke <sup>1</sup> , Kim Bettens <sup>1</sup> , Guy De Pauw <sup>2</sup> , Kristiane Van Lierde <sup>1,3</sup> .....	162
18.3 THE SMALL FOR GESTATIONAL AGE (SGA) INFANT: FACILITATE BREASTFEEDING THROUGH LOGOPEDIC DEGLUTOLOGICAL STRATEGIES .....	163
Speech Therapist Claudia Leoni <sup>1</sup> , speech therapist Chiara Piscitelli, speech therapist Monica Fusco, Maria Rita Molinari, Giovanna Maragliano .....	163
18.4 SELF-REPORTED OROPHARYNGEAL DYSPHAGIA IN PATIENTS WITH SYSTEMIC SCLEROSIS: IMPACT ON QUALITY OF LIFE .....	164
Dr. Federica Lucia Galli <sup>1</sup> , Dr. Devis Benfaremo <sup>2</sup> , Dr. Nikla Pacenti <sup>2</sup> , Prof. Gianluca Moroncini <sup>2</sup> .....	164

18.5 INVESTIGATING THE RELATIONSHIP BETWEEN SWALLOWING FUNCTION AND DYSPHAGIA'S EMOTIONAL AND FAMILY IMPACTS: A MULTIDIMENSIONAL STUDY .....	165
Humeyra Ozozgur <sup>1</sup> , Associate Professor Fatma Esen Aydın, Onal Incebay, Aydan Baştuğ Dumbak.....	
18.6 UNDERSTANDING AND ADDRESSING FEEDING CHALLENGES IN PRESCHOOL SETTINGS: INSIGHTS FROM EARLY EDUCATORS.....	166
Speech & Language Therapist, PhD Candidate Ioanna Bacha <sup>1</sup> , Speech & Language Therapist PhD Candidate Evi Ashley <sup>2</sup> .....	
19.1 PROMOTING COMMUNICATION SKILLS THROUGH ART IN SIX EUROPEAN SCHOOLS: FIRST STEPS WITH THE ERASMUS+ PROJECT THE ARTS RING .....	167
Mr. Rui Loureiro <sup>2</sup> , Dr. Rosário Ferreira <sup>1</sup> .....	
19.2 WHETHER OR NOT TO REFER MULTILINGUAL CHILDREN WITH LANGUAGE DIFFICULTIES TO A SPEECH THERAPIST?.....	168
Hilde De Smedt .....	
19.3 CO-CREATION OF A SHARED GOAL SETTING INTERVENTION .....	169
Laurien Brauner <sup>1,2</sup> , Dr. Ruth Dalemans <sup>3</sup> , Dr. Karin Neijenhuis <sup>4</sup> , Prof. Dr. Ellen Gerrits <sup>1,2</sup> , Prof. Dr. Philip van der Wees <sup>5</sup> .....	
19.4 TOOLBOX COMPLETE: A PEER-TO-PEER INTERVENTION FOR OPTIMISING PARENT-THERAPIST COLLABORATION .....	171
Inge Klatte <sup>1,2</sup> , Annemieke de Groot <sup>1</sup> , Anita van Essen <sup>1</sup> , Rosa de Vries <sup>1</sup> , Dr Rob Zwitserlood <sup>1</sup> , Prof Dr Ellen Gerrits <sup>1,2</sup> .....	
19.5 30 YEARS OF DISCOURSE ON INCLUSIVE EDUCATION IN PORTUGAL: THE PLACE OF THE SPEECH AND LANGUAGE THERAPIST.....	172
Mr. Rui Loureiro <sup>1</sup> , Dr. Henrique Vaz <sup>1</sup> , Dr. Elisabete Ferreira <sup>1</sup> .....	
19.6 MAKING THEIR OWN DECISIONS: SLTS IMPROVING QUALITY OF LIFE BY SUPPORTING PEOPLE TO CHOOSE WHERE THEY LIVE .....	173
Miss Ashleigh Mcleod <sup>1</sup> , Dr Natalie Berg <sup>1</sup> , Professor Elspeth Froude <sup>1</sup> , Dr Joanne Watson <sup>2</sup> .....	
20.1 DEVELOPMENT AND VALIDATION OF MYCOMMUNICATION, A SELF-REPORT COMMUNICATIVE PARTICIPATION MEASURE .....	174
Ma Nicole ter Wal <sup>1</sup> , Prof. Caroline B. Terwee <sup>3</sup> , Prof. Johanna M.A. Visser-Meily <sup>5</sup> , MSc Eline Alons <sup>1</sup> , MSc Lotti Dijkhuis <sup>1</sup> , Prof. Ellen Gerrits <sup>2</sup> , PhD Lizet van Ewijk <sup>1</sup> .....	
20.2 GAMIFYING WORD MAGIC: ASSESSING MORPHOLOGICAL KNOWLEDGE IN CHILDREN (2ND-4TH GRADE).....	176
Professor Carina Pinto <sup>1,5</sup> , Professor Rafael Minussi <sup>2,5</sup> , Professor Alina Villalva <sup>3,4,5</sup> , Professor Cândida G. Silva <sup>1</sup> , Professor Eduarda Abrantes <sup>1</sup> , Professor Etelvina Lima <sup>1</sup> , Professor Filipe Gonçalves <sup>1</sup> , Professor Gustavo Reis <sup>1</sup> , Professor Ivan Barroso <sup>1</sup> , Mr. Afonso Simão <sup>1</sup> , Mr. Carlos Guerra <sup>1</sup> , Miss Marta Fortes <sup>1</sup> .....	
20.3 DECISION-MAKING PROCESS IN THE DIAGNOSIS OF SPEECH SOUND AND LANGUAGE DISORDERS IN PRESCHOOL CHILDREN.....	177
Phd Dora Knežević <sup>1</sup> , Phd Ana Matić Škorić, Phd Marina Olujić Tomazin.....	

.....	178
20.4 THE USE OF BEHAVIOUR CHANGE TECHNIQUES IN INTERVENTIONS FOR GERMAN-SPEAKING CHILDREN WITH SPEECH SOUND DISORDERS: IDENTIFICATION AND TRAINING .....	178
PhD Melanie Ferk-Dornstauder.....	178
21.1 ATTITUDES, BARRIERS AND ENABLERS TO DYSPHAGIA MANAGEMENT IN HEALTHCARE PROFESSIONALS: A MIXED-METHODS SYSTEMATIC REVIEW .....	179
Ms Myriam Chircop Galea <sup>1</sup> , Dr Helen Kelly, Dr Dominika Lisiecka .....	179
21.2 INVESTIGATION OF THE EFFECTS OF TRANSCRANIAL DIRECT CURRENT STIMULATION(TDCS) ON POSTSTROKE DYSPHAGIA .....	180
Yüstra Karakaya <sup>1</sup> , Dilek Dizdar <sup>1</sup> , Aydan Baştuğ Dumbak <sup>2</sup> , Mariam Kavakcı <sup>3</sup> , Evren Yaşar <sup>4</sup> , Fatma Esen Aydınli <sup>2</sup> .....	180
21.3 “BEYOND THE SWALLOWING IMPAIRMENT: THE PSYCHO-SOCIAL IMPLICATIONS OF CHRONIC OROPHARYNGEAL DYSPHAGIA” .....	181
Aurora Ninfa <sup>1</sup> (presenting), Antonella Delle Fave <sup>2</sup> , Antonio Schindler <sup>3</sup> .....	181
21.4 PAEDIATRIC FEEDING DISORDERS: WHAT’S IN A NAME?’ REGARDING THE NEW CLASSIFICATION AND THE DIFFERENCE BETWEEN PFD AND ARFID.....	182
Marleen D'hondt .....	182
22.1 EVALUATING TELEPRACTICE WITHIN CHILDREN WITH COMMUNICATION AND LANGUAGE DISORDERS: CROATIAN CAREGIVERS' AND SERVICE PROVIDERS' PERSPECTIVE.....	183
Prof. Draženka Blažić <sup>2,1</sup> , Ms. Antonija Blažić Ostojić <sup>2,3</sup> .....	183
22.2 EFFECTIVENESS OF A PARENT-BASED GROUP TELE-THERAPY INTERVENTION TO SUPPORT LANGUAGE DEVELOPMENT .....	184
Specialist Speech And Language Therapist Demet Tekneci <sup>1</sup> , Specialist Speech and Language Therapist Tuba Kaya <sup>2</sup> , PhD Speech and Language Therapist Nazmiye Evra Gunhan Senol <sup>3</sup> .....	184
22.3 SPEECH-LANGUAGE TELETHERAPY PRACTICE: PERCEPTIONS OF BRAZILIAN SPEECH-LANGUAGE-THERAPISTS .....	185
Matheus Francoy Alpes <sup>1</sup> , Elisa Cintra de Almeida <sup>2</sup> , Pamela Papile Lunardelo da Silva <sup>3</sup> , Patricia Pupin Mandrá <sup>4</sup> .....	185
22.4 GUIDELINE FOR TELEPRACTICE IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY FOR CHILDREN ≤ 12 YEARS OF AGE .....	186
Dr Sabine Van Eerdenbrugh.....	186
23.1 RESILIENCE AND PARENTAL ATTITUDES OF PRESCHOOL CHILDREN WHO AND DO NOT STUTTER: PRELIMINARY RESULTS .....	187
Speech and Language Therapist Dilan Cengiz <sup>1</sup> , Professor Mavis Emel Kulak Kayikci <sup>2</sup> , Asst. Prof. Meltem Cigdem Kirazli <sup>3</sup> .....	187

23.2 INVESTIGATING SMA'S ROLE IN SPEECH AND READING FLUENCY IN PWS WITH RTMS: A PILOT STUDY .....	188
Speech and Language Therapist Gülkader Temiz <sup>1</sup> , Speech and Language Therapist Sertan Özdemir <sup>1</sup> .....	188
23.3 EXPLORING THE EFFECTIVENESS OF CAMP DREAM. SPEAK. LIVE. IN POLAND: COMMUNICATION AND QUALITY-OF-LIFE .....	189
Dr. Katarzyna Węsierska <sup>1</sup> , Dr. Monika Pakura <sup>1,2</sup> , MA Joanna Szymczakowska <sup>1,2</sup> , Dr. Marta Węsierska <sup>2,3</sup> , Dr. Courtney Byrd <sup>4</sup> , Dr. Geoffrey Coalson <sup>4</sup> .....	189
23.4 QUALITY OF LIFE AND TEMPERAMENT IN ADULTS WHO STUTTER: PRELIMINARY FINDINGS.....	191
24.1 “ME PRACTICE TO?... I NO SPEECH LANGUAGE THERAPIST!” DEALING WITH PARENTAL ENGAGEMENT IN MULTILINGUAL COMMUNICATION.....	192
MA, BSc Sione Twilt <sup>1</sup> , Dr Karin Neijenhuis <sup>1</sup> , Prof dr Rick De Graaff <sup>2</sup> , Prof dr Jan Ten Thije <sup>2</sup> .....	192
24.2 HOW IMPLEMENTING SPEECH AND LANGUAGE THERAPY INTERVENTIONS, THROUGH A MULTI-TIERED MODEL OF SUPPORT, IN COLLABORATIVE PARTNERSHIP WITH IRISH SCHOOLS, CAN IMPACT STUDENTS’ EDUCATIONAL OUTCOMES.....	193
Ms Aoife Murphy <sup>1</sup> , Ms Jessica McCluskey <sup>1</sup> .....	193
24.3 YOU NEED TO DO MORE THAN TRANSLATE IT! ADAPTING EVIDENCE-BASED INTERVENTION PROGRAMS TO NEW CONTEXTS.....	195
Dr Kathryn Crowe <sup>1,2</sup> , Dr Thora Másdóttir <sup>1</sup> , Dr Jóhanna T. Einarsdóttir <sup>1</sup> .....	195
24.4 OVERLOOKED, UNDERUTILIZED BUT NECESSARY: THE ROLE OF THE SLT IN L2-INTELLIGIBILITY .....	196
MA Ilvi Blessenaar <sup>1</sup> , MA Marjolein Wilschut <sup>2</sup> , Dr. Rob Zwitterlood <sup>1</sup> , Dr. Karin Neijenhuis <sup>2</sup> , Dr. Lizet van Ewijk <sup>1</sup> , Dr. Shakila Shayan <sup>3</sup> , MA Jet van der Touw <sup>3</sup> .....	196
24.5 EFFECTS OF MUSIC EDUCATION ON VOICE DISORDER ASSESSMENT SKILLS OF SPEECH AND LANGUAGE THERAPY STUDENTS .....	198
Assistant Professor Eylul Birkent <sup>1</sup> , Professor Ahmet Konrot.....	198
KS4. VOICE, VOICE QUALITY AND THE TREATMENT OF VOICE DISORDERS .....	199
Prof. Dr. Youri Maryn <sup>12345</sup> .....	199
25.1 VIRTUAL REALITY: A TOOL FOR TRAINING FLUENCY IN PUBLIC SPEAKING ? .....	200
PhD Student Lamia Bettahi <sup>1</sup> , PhD Angélique Remacle <sup>1,2</sup> , PhD Anne-Lise Leclercq <sup>1</sup> .....	200
25.2 FROM ANXIETY TO ADVOCACY: DIGITAL HEALTH TO SUPPORT CLINICIANS AND FAMILIES OF CHILDREN WHO STUTTER.....	201
Dr Ronan Miller <sup>1</sup> , Jaclyn Morton <sup>1</sup> .....	201
W. INTEGRATING CHATGPT IN SPEECH THERAPY: A NEW ERA OF CLINICAL PRACTICE	203
Rania Kassir.....	203

26.1 MEANINGFUL STUDENT VOICE: HOW INCORPORATING THE VOICE OF THE CHILD CAN POSITIVELY IMPACT SCHOOL BASED INTERVENTIONS AND EDUCATIONAL OUTCOMES FOR STUDENTS .....	204
Ms Jennifer Keating <sup>1</sup> , Ms Aoife Murphy <sup>1</sup> , Ms Jessica McCluskey <sup>1</sup> .....	204
26.2 IMPACT OF A HIGH-INTENSITY LANGUAGE PROGRAM ON TEACHERS' LANGUAGE STRATEGIES AND THE QUALITY OF INTERACTIONS .....	205
Dr Edith El Kouba <sup>1</sup> , Léa Dubois <sup>1</sup> , Professor Christelle Maillart <sup>1</sup> .....	205
26.3 ACTIVITY MATTERS: IMPACT ON EDUCATOR-CHILD INTERACTIONS IN TODDLER CLASSROOMS .....	206
Phd Student Rochana Mroué <sup>1,2</sup> , Doctor Caroline Masson <sup>1</sup> , Professor Christelle Maillart <sup>2</sup> .....	206
26.4 LANGUAGE DEVELOPMENT SUPPORT IN PUBLIC SCHOOLING AT THE KINDERGARTEN LEVEL.....	207
Iulia Schiopu.....	207
26.5 A WALK THROUGH THE SLT'S RECENT HISTORY: THE NARRATIVE OF JOIS STANSFIELD AND MONTSERRAT VALLS .....	208
Dr. Lidia Rodríguez García <sup>1</sup> , Ms. Elena Gutiérrez García <sup>1</sup> .....	208
26.6 IMPACT OF BREASTFEEDING INTERVENTION IN THE REDUCTION OF PEDIATRIC MORTALITY AND NUTRITION OUTCOMES WITH MIGRANT WOMEN– A PILOT STUDY ....	209
Ms Ana Lopes <sup>1</sup> , Dr. Marisa Lousada <sup>1,2</sup> .....	209
27.1 FEASIBILITY OF VOICE RECORDING WITH DIFFERENT SMARTPHONE MODELS FOR ACOUSTIC ANALYSIS ON CHILDREN'S CONNECTED SPEECH .....	210
Speech and Language Therapist, MSc Damlasu Yağcıoğlu <sup>1</sup> , Associate Professor Fatma Esen Aydın <sup>1</sup> , Speech and Language Therapist, MSc Elif Tunç Songur <sup>2</sup> , Speech and Language Therapist, MSc Buse Çetinkaya <sup>3</sup> , Speech and Language Therapist, MSc Sinem Şimşek <sup>2</sup> , Assistant Professor Önal İncebay <sup>1</sup> .....	210
27.2 NOVA-VOX METHOD: A NEW APPROACH TO TREATING VOCAL FOLD NODULES IN CHILDREN .....	211
MA Kamil Jaros.....	211
27.3 IMMEDIATE THERAPEUTIC OUTCOMES FOLLOWING RESPIRATORY TRAINING AND VOICE THERAPY ON AN OCCUPATIONAL VOICE USER .....	212
Mr Panagiotis Ioannis Topalis <sup>1</sup> , Dr Ioannis Papakyritsis <sup>1</sup> , Mr Dimitrios Koronidis <sup>1</sup> , Ms Zoitsa Papavramopoulou <sup>1</sup> , Dr Emilia Michou <sup>1</sup> .....	212
27.4 NORMATIVE FINDINGS ON OBJECTIVE AND PERCEPTUAL VOICE MEASURES IN GERIATRICS: PRELIMINARY STUDY .....	213
Elif Ezgi Işık <sup>1,2</sup> , Merve Sapmaz Atalar <sup>1</sup> , Mehmet Emrah Cangi <sup>1</sup> , Ömer Necati Develioğlu <sup>3</sup> , Fatma Esen Aydın <sup>2</sup> .....	213
27.5 SHORT-TERM EFFECTS OF HORMONE REPLACEMENT THERAPY ON PERCEPTUAL AND ACOUSTIC VOICE QUALITY IN TRANSMASCULINE PEOPLE .....	214



Merve Ögülmüş Uysal <sup>1</sup> , Fatma Esen Aydın <sup>2</sup> , Koray Başar <sup>3</sup> , Hilmi Ertuğrul Gazi <sup>3</sup> , Bülent Okan Yıldız <sup>4</sup> , Seda Hanife Oğuz Baykal <sup>4</sup> , Taner Yılmaz <sup>5</sup> .....	214
<b>27.6 INFLUENCE OF THE MENSTRUAL CYCLE ON VOICE PERFORMANCE IN SUBJECTS WITH VOICE DISORDERS – A MULTIPLE SINGLE-CASE STUDY .....</b>	<b>216</b>
M.Sc. Annika Sophie Erning <sup>1,3</sup> , Dipl.-Log. Peter Dicks <sup>2</sup> , Priv.-Doz. Dr. phil. Bruno Fimm <sup>3</sup> .....	216
<b>27.7 UNCOVERING CHILDREN'S PORTUGUESE LANGUAGE DEVELOPMENT: INSIGHTS FROM "EU É QUE SEI!" .....</b>	<b>217</b>
Professor Carina Pinto <sup>1</sup> , Professor Marta Filipe Alexandre <sup>1,2</sup> .....	217
<b>27.8 VOICE QUALITY AND VOICE-RELATED QUALITY OF LIFE OF CHILDREN CHOIR SINGERS .....</b>	<b>218</b>
Casey Dewanckele <sup>1</sup> , Prof. dr. Kristiane Van Lierde, drs. Anke Adriaansen, drs. Imke Kissel, drs. Tine Papeleu, drs. Julie Daelman, dr. Kim Bettens, drs. Jolien Verbeke, drs. Chariss Van der Straeten, Fien Allemeersch, Mira De Ryck, Ellen De Landtsheer, Prof. dr. Evelien D'haeseleer, dr. Iris Meerschman .....	218
<b>28.1 THE BRIEF EVALUATION OF RECEPTIVE APHASIA (BERA) TOOL TO ASSESS LANGUAGE COMPREHENSION IN POST-COMATOSE PATIENTS .....</b>	<b>219</b>
PhD Charlène Aubinet <sup>1</sup> , Ms Amandine Regnier <sup>1</sup> , Ms Pauline Fritz <sup>1</sup> , Ms Marion Pauls <sup>1</sup> , Mr Paolo Cardone <sup>1</sup> , Pr Olivia Gosseries <sup>1</sup> , Pr Steve Majerus <sup>1</sup> .....	219
<b>28.2 STORYTELLING AS AN EDUCATIONAL TOOL FOR SPEECH AND LANGUAGE THERAPY STUDENTS .....</b>	<b>220</b>
Drs. Rianne Brinkman <sup>1,2,3</sup> , MA Alissa Nikkels <sup>3</sup> , Dr Karin Neijenhuis <sup>3</sup> , Dr Margreet Luinge <sup>1</sup> .....	220
<b>28.3 COPING OPTIONS OF ADULTS WHO HAVE SUFFERED A STROKE AND THEIR RELATIVES IN CONNECTION WITH ACQUIRED DISORDERS .....</b>	<b>222</b>
Dr. Livia Ivaskó <sup>1</sup> .....	222
<b>28.4 THE SLT ROLE IN SUPPORTING DECISION-MAKING FOR PEOPLE WITH APHASIA - AN INTERNATIONAL SURVEY .....</b>	<b>223</b>
Dr Mark Jayes <sup>1</sup> , Dr Winsy Wing-Sze Wong <sup>2</sup> , Ms Alexandra Stipinovich <sup>3</sup> , Ms Elyse Shumway <sup>4</sup> , Ms Annette Rotherham <sup>5</sup> , Mrs Ekaterini Prokopiou <sup>6</sup> , Dr Analisa Pais <sup>7</sup> , Dr Maria Assunção Matos <sup>8</sup> , Ms Elissa Larkin <sup>9</sup> , Professor Anthony Pak-Hin Kong <sup>10</sup> , Dr Nomiki Karpathiou <sup>11</sup> , Dr Jytte Kjærgaard Isaksen <sup>12</sup> , Ms Virginia Brinkley <sup>13</sup> , Dr Anna Volkmer <sup>14</sup> .....	223
<b>28.5 ENABLING EFFECTIVE COMMUNICATION BETWEEN PEOPLE WITH STROKE ACQUIRED COMMUNICATION IMPAIRMENTS AND FUTURE FRONT LINE STAFF .....</b>	<b>225</b>
Ms Yvonne Fitzmaurice <sup>1</sup> , Dr Suzanne Beeke <sup>2</sup> , Dr Jytte Isaksen <sup>3</sup> , Dr Una Cunningham <sup>4</sup> , Dr Caroline Jagoe <sup>5,6</sup> , Dr Éidín Ní Shé <sup>7</sup> , Dr Ruth McMenamin <sup>1</sup> .....	225
<b>28.6 THE AWARENESS OF COMMUNICATION STRATEGIES AMONG CAREGIVERS OF ALZHEIMER'S DISEASE .....</b>	<b>227</b>
Research assistant Miray Dicle <sup>1</sup> , Asst. Prof. Fenise Selin Karalı, Asst. Prof. Gülce Alev-Savtak, Prof. Dr. Nilgün Çınar .....	227
<b>28.7 EXPLORING THE POTENTIAL OF COMPUTERIZED PSYCHOLINGUISTIC INVESTIGATIONS IN THE DIFFERENTIAL DIAGNOSIS OF MDD AND MCI .....</b>	<b>228</b>

PhD Raluca Nicoleta Trifu <sup>1</sup> , PhD Carolina Bodea Hațegan <sup>2</sup> , PhD, MD Dana Cristina Herța <sup>1</sup> , PhD Student , MD Carla Moisuc (Costescu) <sup>3</sup> , PhD, MD Bogdan Nemeș <sup>1</sup> .....	228
<b>28.8 ESTABLISHING NORM-REFERENCING FOR THE SWEDISH VERSION OF THE COMPREHENSIVE APHASIA TEST .....</b>	<b>230</b>
Msc Flaka Isufi <sup>2</sup> , PhD Kristina Hansson <sup>1</sup> , PhD Angelina Grönberg <sup>1</sup> , Msc Rudine Fetahaj <sup>1</sup> .....	230

## POSTER PRESENTATIONS

<b>P1. INTERACTIVE READING SUPPORTED BY AUGMENTATIVE AND ALTERNATIVE COMMUNICATION IN AUTISM SPECTRUM DISORDER .....</b>	<b>232</b>
Speech And Language Therapist Angélique Spyropoulos <sup>1</sup> , Speech And Language Therapist Annabelle Piron <sup>1</sup> , Ph. D. Nathalie Thomas <sup>1</sup> , Speech And Language Therapist Pascale Grevesse <sup>1</sup> .....	232
<b>P2. CHILD-HEALTH NURSES' EXPERIENCES FROM USING PICTORIAL SUPPORT WITH FAMILIES WITHIN CHILD-HEALTH SERVICES IN SWEDEN – A QUALITATIVE STUDY .....</b>	<b>233</b>
Dr Emlia Carlsson <sup>1</sup> , SLP Aina Hüls <sup>1</sup> , SLP Disa Myrén <sup>3</sup> , RN Ann Jansson <sup>2</sup> , Dr Annakarin Larsson <sup>1,2</sup> .....	233
<b>P3. EVALUATING EFFECTIVENESS OF A SUPPORT PROGRAM ABOUT AAC ON TEACHERS' PROFESSIONAL SENSE OF COMPETENCE .....</b>	<b>234</b>
Sandrine Leroy, Professor Chriselle Maillart .....	234
<b>P4. ADOLESCENTS' ATTITUDES IN GREECE OF CLASSROOM INCLUSION OF PEERS USING AUGMENTATIVE AND ALTERNATIVE COMMUNICATION .....</b>	<b>235</b>
Ms. Ioanna Dedousi, Ms. Maria Opsimou, Professor Voula Georgopoulos <sup>1</sup> .....	235
<b>P5. EXPLORING THE UTILITY OF AUGMENTATIVE ALTERNATIVE COMMUNICATION IN HOSPITAL SETTINGS: CLINICAL STAFF'S PERSPECTIVES IN GREECE .....</b>	<b>236</b>
Ms. Nikoleta Ntagka <sup>1</sup> , Professor Serafim Nanas <sup>1</sup> , Professor Ioannis Vasileiadis <sup>1</sup> , Professor Voula Georgopoulos <sup>2</sup> .....	236
<b>P6. B-VI: AN APP FOR THE RECOGNITION OF WORD INTELLIGIBILITY IN PRESCHOOLER .....</b>	<b>237</b>
Speech and language Therapist Laura Barbagli <sup>1</sup> , Speech and language therapist Chiara Falchi, Speech and language therapist Chiara Santacroce, Speech and language therapist Giada Viglietti, Lead Software Engineer Benedetto Del Greco, Speech and language therapist Luigi Marotta .....	237
<b>P7. A SELF-REPORTING EXPERT SYSTEM BASED SCREENING TOOL FOR SPEECH AND LANGUAGE PATHOLOGY ISSUES IN INDIVIDUALS WITH POST COVID SYNDROME .....</b>	<b>239</b>
Manila Tola <sup>1</sup> , Voula C. Georgopoulos <sup>1</sup> .....	239
<b>P8. EFFICACY OF THE CYCLES APPROACH ADAPTED TO TELEPRACTICE IN THE SPEECH SOUND DISORDER INTERVENTION .....</b>	<b>240</b>
MSc. Daniela Aparecida Barbosa, Dr. Haydée Fiszbein Wertzner.....	240
<b>P9. TELEHEALTH IN SLT EDUCATION .....</b>	<b>241</b>

Miss Melanie Trojan <sup>1</sup> , Mrs Verena Ulm-Ranftl <sup>1</sup> , Mrs Iga Ziarko-Freissler <sup>1</sup> , Mrs Susanne Maria Javorszky <sup>1</sup> , Mrs Lena Rettinger <sup>1</sup> .....	241
P10. SOFIAFALA: APPLICATION TO SUPPORT SPEECH THERAPY INTERVENTION.....	242
Dr Patrícia Pupin Mandrá <sup>1</sup> , SRA Bianca Bortolai Sichieri, Dra Alessandra Alaniz Macedo .....	242
P11. INVESTIGATING THE VALIDITY OF VIDEOCONFERENCE ADMINISTRATION OF THE COMPREHENSIVE APHASIA TEST-HUNGARIAN.....	243
Vivien Vásári <sup>1</sup> , Csenge Magyar <sup>1,2</sup> , Nóra Földesi-Ozvald <sup>1,2</sup> , Lili Buzás <sup>1</sup> , Lilla Zakariás <sup>1,2</sup> .....	243
P12. DETECTING RISK FACTORS FOR LINGUISTIC-AND-ORAL-FEEDING DISORDERS IN EARLY CHILDHOOD: LITERATURE REVIEW AND PROPOSAL OF AN ITALIAN SCREENING TOOL.....	244
Elena Baddoo, Giulia Fullin, Claudia Ferreira <sup>1</sup> .....	244
P13. BEHAVIORAL TASKS TO PROBE LISTENING DIFFICULTIES IN CHILDREN .....	245
Ms. Hanne Falcone <sup>1</sup> , dr. Sam Denys <sup>1,2</sup> , prof. dr. Nicolas Verhaert <sup>1,2</sup> , prof. dr. Astrid van Wieringen <sup>1</sup> .....	245
P14. MOTOR SKILLS IN CHILDREN WITH DLD AND LANGUAGE SKILLS IN CHILDREN WITH DCD .....	247
MA Jelle Kisjes <sup>1,2</sup> , MSc Lynn van der Schaaf <sup>1,2</sup> , dr. Johannes Noordstar <sup>3</sup> , dr. Remo Mombarg <sup>4,5</sup> , prof. dr. Ellen Gerrits <sup>2,6</sup> , prof. dr. Frank Wijnen <sup>2</sup> , dr. Margreet Luinge <sup>1</sup> .....	247
P15. OROMYOFUNCTIONAL TRAINING: AN INNOVATIVE REHABILITATION PROGRAM FOR PEDIATRIC OBSTRUCTIVE SLEEP APNEA .....	248
Jolien Verbeke <sup>1</sup> , Iris Meerschman <sup>1</sup> , Katrien Dhondt <sup>2,3</sup> , Els De Leenheer <sup>4</sup> , Julie Willekens <sup>5</sup> , Sofie Claeys <sup>4</sup> , Kristiane Van Lierde <sup>1,6</sup> .....	248
P16. SUPPORTING ORAL NARRATIVE WITH TALK BOOST KEY STAGE 1 (KS1): AN IRISH SCHOOL'S JOURNEY.....	250
Ms Laoise Gilleece <sup>1</sup> , Ms Eibhlin Walsh <sup>1</sup> .....	250
P17. SPEECH LANGUAGE PATHOLOGY (SLP) COUNSELING ON THE QUALITY OF LIFE (QOL) OF ADULTS WITH SEVERE-TO-PROFOUND HEARING LOSS DUE TO NEUROFIBROMATOSIS TYPE 2 (NF2): TOWARDS AN ITALIAN PERSPECTIVE OF NEUROSURGICAL SUPPORT .....	251
SLP Laura Villani <sup>1,3</sup> , SLP Paola Biocca <sup>1,4</sup> , MD Denis Aiudi <sup>5</sup> , MD, PhD Maurizio Iacoangeli <sup>5</sup> , PhD Pasquapina Ciarmela <sup>1,2</sup> .....	251
P18. IMPROVING THE SPEECH-LANGUAGE-PATHOLOGY (SLP) STUDENTS' ATTITUDES TOWARDS OLDER PEOPLE THROUGH A TARGETED AGED-CARE-RESIDENCE INTERNSHIP PROGRAM.....	253
SLP Laura Villani <sup>1,3</sup> , SLP Paola Biocca <sup>1,4</sup> , PhD Pasquapina Ciarmela <sup>1,2</sup> .....	253
P19. CAN THE MALLAMPATI MODIFIED SCALE HELP SCREENING MOUTH BREATHING AND SLEEP DISORDERED BREATHING IN CHILDREN?.....	254
Phd Student Léonor Piron <sup>1</sup> , Professor Christelle Maillart <sup>1</sup> .....	254

P20. SUPPORTING LANGUAGE DEVELOPMENT THROUGH PHILOSOPHICAL DIALOGUES IN EARLY CHILDHOOD EDUCATION SETTINGS: A COLLABORATION BETWEEN SPEECH-LANGUAGE THERAPISTS AND EDUCATORS .....	255
Mrs. MariePier Gingras <sup>1</sup> , Prof. Stefano Rezzonico <sup>2</sup> , Prof. Louise Duchesne <sup>1</sup> .....	255
P21. IDENTIFYING TEACHERS' LANGUAGE ADDRESSED TO CHILDREN: PROTOCOL FOR A SCOPING REVIEW .....	257
Nora CHRIFI, Marie GEURTEN, Christelle MAILLART .....	257
P22. EXAMINATION OF THE TONGUE RESTING POSTURE USING EMA AND CBCT TECHNIQUES .....	259
PhD Anita Lorenc <sup>1</sup> , PhD Agnieszka Borowiec <sup>2</sup> , Phd Katarzyna Klessa <sup>3</sup> , PhD Lukasz Mik <sup>4</sup> .....	259
P23. SPEECH AND LANGUAGE PATHOLOGY AND PAEDIATRICS: CREATING A NETWORK FOR THE PREVENTION AND MANAGEMENT OF STUTTERING .....	260
Logopedista Marina Di Ponio <sup>1</sup> , logopede Anna Rosa Accornero, logopede Silvia Armagni, logopede Alessia Figliomeni, logopede Giuliana Davi.....	260
P24. ESSENTIAL TREATMENT COMPONENTS ACCORDING TO ADULTS WHO STUTTER ...	261
Dr Sabine Van Eerdenbrugh <sup>1</sup> , Dr Martine Vanryckeghem <sup>1</sup> .....	261
P25. CLUTTERING THERAPY BASED ON ICF MODEL: SINGLE CASE STUDY .....	262
Phd Vilma Makauskiene <sup>1</sup> , Phd Maria Faściszewska <sup>1</sup> .....	262
P26. USE OF THE DYSPHAGIA SEVERITY SCALE AND ORAL INTAKE LEVEL AS OUTCOME INDICATORS IN SPEECH THERAPY REHABILITATION OF TRACHEOSTOMIZED PATIENTS WITH COVID-19 .....	263
Speech Language-Pathologist Beatriz Savio Barbosa <sup>1,2</sup> , Speech-Language Pathologist Luciana da Silva Paiva <sup>1</sup> , Speech-Language Pathologist Heloise Nacarato Santos Colombari <sup>1</sup> , PhD Patrícia Pupin Mandrá <sup>2</sup> .....	263
P27. ORALITY SUPPORT'S PROJECT OF NEWBORN IN ROOMING-IN: THE IMPORTANCE OF SPEECH THERAPY COUNSELING FOR PARENTS .....	264
SLP Eleonora Ranelli <sup>1</sup> , SLP, IBCLC Chiara Piscitelli <sup>2</sup> , Doctor in medicine and surgery Giovanna Maragliano <sup>3</sup> , Doctor in Health Sciences of Rehabilitation Maria Rita Molinari <sup>4</sup> .....	264
P28. ORAL FUNCTIONS' DEVELOPMENT IN LATE PRETERM: FOLLOW UP AT 6 LIFE'S MONTHS.....	265
SLP Giada De Marchis <sup>1</sup> , SLP, IBCLC Chiara Piscitelli <sup>2</sup> , Doctor in medicine and surgery Giovanna Maragliano <sup>3</sup> , Doctor in Health Sciences of Rehabilitation Maria Rita Molinari <sup>4</sup> .....	265
P29. PSYCHOMETRIC PROPERTIES EVALUATION OF MANN ASSESSMENT OF SWALLOWING ABILITY IN PARKINSON'S PATIENTS: A CROSS-SECTIONAL STUDY .....	266
Gioia Baccanari <sup>1</sup> , Giulia Rossi <sup>2</sup> , Alessandra Banzato <sup>3</sup> .....	266
P30. CRITERIA FOR TRACHEOSTOMY DECANNULATION IN ADULTS: AN ITALIAN SURVEY IN THE ICUS OF LAZIO REGION .....	267
Letizia Vacata <sup>1</sup> , Cecilia Masnaghetti <sup>2</sup> , Valentina Avagliano <sup>2</sup> , Claudia Fortuna <sup>2</sup> .....	267

P31. DYSPHAGIA, DYSPHONIA AND DYSARTHRIA IN A PATIENT WITH A MEDULLARY INFARCTION – A CASE REPORT .....	268
Ms. Paola Danjek <sup>1</sup> , Mr. Petar Gulin <sup>1</sup> , Mrs. Matea Stiperski Matoc <sup>1</sup> , Mr. Filip Đerke <sup>1</sup> .....	268
P32. EARLY IDENTIFICATION OF RESTRICTIVE SUBLINGUAL FRENULUM: OBSERVATIONAL STUDY ON A SAMPLE OF HEALTHY FULL-TERM NEWBORNS.....	269
SLP Silvia Catania <sup>1</sup> , SLP, IBCLC Chiara Piscitelli <sup>2</sup> , Doctor in Medicine and Surgery Giovanna Maragliano <sup>3</sup> , Doctor in Health Sciences of Rehabilitation Maria Rita Molinari <sup>4</sup> .....	269
P33. THE IMPACT OF COMBINED SYSTEMATIC SCREENING FOR MALNUTRITION AND DYSPHAGIA IN HOSPITALIZED ELDERLY: A SCOPING REVIEW .....	270
Msc Susanne Maria Javorszky <sup>1,2</sup> , MSc Christoph Palli <sup>3</sup> , MSc Susanne Domkar <sup>1</sup> , Prof. Dr. Bernhard Iglseder <sup>4</sup> .....	270
P34. EFFECT OF CHIN-DOWN MANEUVER ON PREVENTING ASPIRATION IN PATIENTS WITH DYSPHAGIA: SYSTEMATIC REVIEW .....	271
Slp Tatiana Da Silva-Ramos <sup>1,2</sup> , Medical Doctor Pedro Estevez-Poy <sup>3</sup> , Professor Inês Tello-Rodrigues <sup>1,4</sup> .....	271
P35. VALIDATION OF THE MEASUREMENT PROPERTIES OF THE SLOVENIAN ADAPTATION OF THE QUALITY OF COMMUNICATION LIFE SCALE FOR A POPULATION OF PEOPLE WITH NEUROGENIC COMMUNICATION DISORDERS.....	272
Ajda Ratković <sup>1</sup> , dr. Janez Jerman <sup>1</sup> , Špela Ravnikar <sup>2</sup> .....	272
P36. EXPLORING INTERVENTION RESOURCES FOR OROFACIAL MOTRICITY IN PORTUGAL: A COMPREHENSIVE ANALYSIS .....	273
Ms Ana Lopes <sup>1,6</sup> , Filipe Vicente <sup>2,6</sup> , Joana Carvalho Silva <sup>3,6</sup> , Susana Tagarro <sup>4,6</sup> , Daniela Vieira <sup>5,6</sup> .....	273
P37. THE EFFECTS OF SPEECH THERAPY IN THE COMMUNICATION AND DEGLUTITION OF TRACHEOSTOMIZED PATIENTS AFFECTED BY COVID-19 .....	274
Speech Language-Pathologist Beatriz Savio Barbosa <sup>1,2</sup> , Speech-Language Pathologist Luciana Paiva <sup>1</sup> , Speech-Language Pathologist Heloíse Nacarato Santos Colombari <sup>1</sup> , PhD Patrícia Pupin Mandrá <sup>2</sup> .....	274
P38. HUNGARIAN ADAPTATION OF THE APHASIA IMPACT QUESTIONNAIRE-21: A PILOT STUDY .....	275
Blanka Baranyi <sup>1</sup> , Csilla Demeter <sup>2</sup> , Katalin Kitti Nagy <sup>3</sup> , PhD Kate Swinburn <sup>4</sup> , PhD Lilla Zakariás <sup>5</sup> .....	275
P39. THE EXECUTIVE FUNCTIONS AND EMOTIONAL COMPETENCES IN SCHOOL-AGE CHILDREN .....	276
Mrs. Claudia Alexandra Harlișca <sup>1</sup> , Mrs Cecilia MACRI <sup>2</sup> , Ms. Raluca Tăbăcaru <sup>1</sup> .....	276
P40. AUDITORY TRAINING FOR ADULT WITH BILATERAL CI : IMPACT ON QOL AND SPEECH RECOGNITION .....	277
Girolamo Verlanti <sup>1</sup> , Marco Manola <sup>1</sup> .....	277
P41. INVESTIGATING THE PERCEPTIONS OF ROMANIAN SPEECH AND LANGUAGE THERAPISTS REGARDING INITIAL AND CONTINUING TRAINING.....	278
Ms Gorgan Cristina-Petronela .....	278

P42. TASTE REHABILITATION FOLLOWING (CHEMO)RADIOTHERAPY IN HEAD AND NECK CANCER: A SYSTEMATIC REVIEW .....	279
Mrs Georgia Carlile, Ms Freya Sparks .....	279
P43. "MY D/DEAF OR HARD-OF HEARING CHILD USES MORE THAN ONE SPOKEN LANGUAGE": AN EXPLORATION OF FAMILY LANGUAGE POLICIES AND HARMONIOUS BILINGUALISM.....	281
Dr Pauline Van Der Straten Waillet, Giovanna Hobeika.....	281
P44. ESLA SURVEY: DISABILITY POLICIES AND CAREGIVERS' ROLE IN EUROPE .....	282
Dr. Raffaella Citro <sup>1</sup> , Dr Blazenka Brozovic <sup>2</sup> , Dr Daniela Vassallo <sup>2</sup> , Dr Dorina-Anca Talaş <sup>2</sup> , Dr Tomislav Radošević <sup>2</sup> , Dr Jessica Åkermarck <sup>2</sup> .....	282
P45. DEVELOPMENTAL LANGUAGE DISORDER: STRATEGIES FOR BETTER COMMUNICATION IN SCHOOL SETTINGS.....	283
Professor Ana Castro <sup>1</sup> , Professor Dina Caetano Alves <sup>2</sup> , Doctor Nicole Agrela <sup>3</sup> .....	283
P46. REHABILITATION OF LANGUAGE AND SWALLOWING ABILITIES IN PATIENTS WITH DISORDERS OF CONSCIOUSNESS: AN ONLINE SURVEY .....	284
Mrs Amandine Regnier <sup>1,2,3</sup> , Dr Olivia Gosseries <sup>1,2</sup> , Dr Evelyne Mélotte <sup>1,2</sup> , Dr Sophie Gillet <sup>4</sup> , Mrs Priscilla Cassar <sup>5</sup> , Dr Bahia Hakiki <sup>6</sup> , Dr Anna Estraneo <sup>6</sup> , Dr Alfonso Magliacano <sup>6</sup> , Dr Rita Formisano <sup>7</sup> , Dr Caroline Schnakers <sup>8</sup> , Dr Steve Majerus <sup>9</sup> , Dr Enrique Noé <sup>10</sup> , Dr Roberto Llorens <sup>10</sup> , Dr Loles Navarro Pérez <sup>10</sup> , Dr Petra Maurer-Karattup <sup>11</sup> , Dr Ekaterina Fufaeva <sup>12</sup> , Dr Zhanna Bottaeva <sup>12</sup> , Dr Charlène Aubinet <sup>1,2,10</sup> .....	284
P47. THE CONTRIBUTION OF WORKING MEMORY TO LANGUAGE PERFORMANCE IN PEOPLE WITH APHASIA: A SYSTEMATIC REVIEW .....	286
Ana Došen <sup>1</sup> , PhD Ana Matić Škorić <sup>1</sup> .....	286
P48. APHASIA ASSESSMENT TESTS: A SYSTEMATIC REVIEW OF THE LITERATURE .....	287
Speech therapist Anita Di Nuzzo .....	287
P49. TREATMENT OF MOTOR SPEECH DISORDERS THROUGH MUSIC, RHYTHM, AND REPETITIVE GAMES .....	288
Antonela Chezan <sup>1</sup> , Mrs. Adela Galgau <sup>1</sup> .....	288
P50. MINI LINGUISTIC STATE EXAMINATION (MLSECZ): CZECH ADAPTATION OF PRIMARY PROGRESSIVE APHASIA SCREENING (WORK IN PROGRESS).....	289
Mgr. Martina Pelclova <sup>1,2</sup> , Mgr. Stepanka Philippova <sup>1,2</sup> , Mgr. Kamila Ludka <sup>1</sup> , Mgr. Marketa Stepankova <sup>1</sup> , MD, PhD., MBA Tom Philipp <sup>2</sup> , prof., MD, Ph.D. Robert Rusina <sup>1</sup> , prof. PaedDr., PhD., Dr.h.c. Zsolt Csefalvay <sup>1,3</sup> ....	289
P51. INVESTIGATING THE EFFECTIVENESS OF SENTENCE LEVEL THERAPY IN APHASIA WITH TWO DIFFERENT APPROACHES.....	291
Dr Evangelia Antonia - Eva Efstratiadou <sup>1</sup> , Dr Ilias Papathanasiou <sup>2</sup> .....	291
P52. QUANTITATIVE MEASURES OF DISCOURSE SKILLS IN GREEK-SPEAKING INDIVIDUALS WITH APHASIA .....	292
Dr Evangelia Antonia - Eva Efstratiadou <sup>1</sup> , Kleomenis Kefalas <sup>1</sup> , Dr Ilias Papathanasiou <sup>2</sup> .....	292

P53. EXPIRATORY MUSCLE TRAINING - EFFECTS ON SPEECH AND SWALLOWING IN PARKINSON'S DISEASE AND MULTIPLE SCLEROSIS .....	293
PhD Malin Antonsson <sup>1</sup> , PhD Kerstin Johansson <sup>2</sup> , SLP Ulrike Lesueur <sup>4</sup> , SLP Anna Bonde Dalemo <sup>3</sup> , Professor emerita Lena Hartelius <sup>1</sup> .....	293
P54. PUPPETRY AS A VOCABULARY DEVELOPMENT TOOL FOR TYPICALLY DEVELOPING PRESCHOOLERS .....	295
Dr Evangelia Antonia - Eva Efstratiadou <sup>1</sup> , Nikoletta Tremouli.....	295
P55. EXPLORING DYSARTHRIA ASSESSMENT LANDSCAPE IN SPAIN: TOWARDS STANDARDIZATION AND VALIDATION IN THE SPANISH LANGUAGE .....	296
PhD Neus Calaf <sup>1</sup> , PhD Jiri Mekyska <sup>2,3</sup> , PhD Jan Mucha <sup>2,3</sup> , PhD Marcos Faundez-Zanuy <sup>4</sup> .....	296
P56. SILENT AND FILLED PAUSES IN ALZHEIMER'S DISEASE (AD) AND THE LOGOPENIC VARIANT OF PRIMARY PROGRESSIVE APHASIA (LVPPA) .....	297
Dr Nomiki Karpathiou <sup>1</sup> , Dr Maria Kambanaros .....	297
P57. THE RELATIONSHIP BETWEEN MATERNAL INFANT-DIRECTED SPEECH AND LANGUAGE DEVELOPMENT .....	298
Veronika Harmati-Pap <sup>1</sup> , Phd Bence Kas <sup>2</sup> , Noémi Vadász <sup>3</sup> , Phd Ildikó Tóth <sup>4</sup> .....	298
P58. VERBAL FLUENCY - EVALUATING COGNITION THROUGH LANGUAGE .....	299
SLT Raluca Ioana Tabacaru <sup>1</sup> , PhD Carolina Bodea-Hațegan <sup>2</sup> , PhD Raluca Trifu <sup>3</sup> .....	299
P59. UKRAINIAN OBJECT NAMING TEST .....	300
Dr Oksana Lyalka <sup>1</sup> , Ms Khrystyna Hrytsko <sup>1</sup> , Ms Maryna Shohan <sup>1</sup> , Ms Larysa Yatskiv <sup>1</sup> .....	300
P60. MEDICAL SPEECH-LANGUAGE PATHOLOGY IN BULGARIA .....	301
Prof. Dobrinka Georgieva, Chief Assistant Professor Kostadin Chompalov, Arman Kushniyan .....	301
P61. MULTISENSORY TRAINING INTERVENTION FOR HEARING IMPAIRED CHILDREN: A PRELIMINARY RESULTS OF A PILOT STUDY .....	302
Ms Maria Chiara Marini <sup>1</sup> , Ms Matilde Maria Marulli <sup>1</sup> .....	302
P62. PROPOSAL FOR A DIGITALIZED SLOVAK VERSION OF THE MINI LANGUAGE STATE EXAMINATION: WORK IN PROGRESS .....	303
Mr. Tomáš Benko <sup>1</sup> , Mrs. Dominika Kilvályová <sup>1</sup> , Mrs. Tatiana Strapcová <sup>1</sup> , Mr. Pavol Pánisz, Professor Peter Garrard <sup>2</sup> , Professor Zsolt Cséfalvay <sup>1</sup> .....	303
P63. FIGURATIVE LANGUAGE IN APHASIA: PROOF AGAINST THE RIGHT-HEMISPHERE HYPOTHESIS FROM SLOVAK SPEAKING PWA .....	304
Dr. Viktoria Kevická <sup>1</sup> , Phd. Jana Marková <sup>1</sup> .....	304
P64. IMPACT OF LANGUAGE IMPAIRMENT ON ACTIVITIES, PARTICIPATION FROM THE PERSPECTIVE OF PATIENTS WITH STROKE-INDUCED APHASIA .....	305
Prof. PhD. Zsolt Cséfalvay <sup>1</sup> , Prof. Marta Hornaková .....	305

P65. THE IMPACT OF DISORDERED VOICE ON REACTION TIME AND ACCURACY IN SPATIAL DIRECTIONAL TASKS.....	306
Ph D Baiba Trinite <sup>1</sup> , Bac degree in speech therapy Daiga Kurme <sup>1</sup> , Ph D student Anita Zdanovica <sup>1</sup> , Bac degree in speech therapy Evija Lavrane <sup>1</sup> , Ph D student Ilva Magazeina <sup>1</sup> , Ph D Anita Jansone <sup>1</sup> .....	
P66. EVALUATION OF PARAMETERS, TOOLS, AND APPLICATIONS IN ACOUSTICAL VOICE ANALYSIS.....	307
Foteini Bokari, Charalampos Dimoulas.....	
P67. SELF-ASSESSMENT OF VOCAL FATIGUE AMONG PRIESTS.....	308
Mr.sc. Ivana Šimić Šantić <sup>1</sup> , PhD Associate Professor Ana Bonetti <sup>2</sup> , master of speech and language pathology Maja Višić <sup>3</sup> .....	
P68. THERAPY IN PSYCHOGENIC APHONIA: A CASE STUDY .....	309
Lecturer Zehra Savaş, MSc SLP Humeyra Özözügür, SLP Ayça Kurt.....	
P69. EFFECT OF A STRAW PHONATION THERAPY PROGRAM ON THE VOICE OF FEMALE SPEECH-LANGUAGE PATHOLOGY STUDENTS WITH MILD DYSPHONIA.....	310
Casey Dewanckele <sup>1</sup> , Tara Mouton, Prof. dr. Evelien D'Haeseleer, Drs. Anke Adriaansen, Drs. Imke Kissel, Dr. Clara Leyns, Drs. Tine Papeleu, Drs. Charis Van der Straeten, Prof. dr. Peter Tomassen, Dr. Frederick Dochy, Dr. Kristien Rycek, Kaat Pieters, Prof. dr. Kristiane Van Lierde, Dr. Iris Meerschman .....	
P70. WHAT ARE PARENTS' DIFFICULTIES DURING THE ADMINISTRATION OF INDIRECT COMMUNICATIVE-LINGUISTIC ASSESSMENT? PRELIMINARY RESULTS.....	311
SLT Alessia Perta <sup>1</sup> , SLT Mariarosaria D'Antuono <sup>1</sup> , Dr Gianmatteo Farabolini <sup>1</sup> , Prof Maria Gabriella Ceravolo <sup>1</sup> .....	
P71. HOW TO BRING A NON-LINEAR PHONOLOGY PERSPECTIVE TO CLINICAL PRACTICE OF SPEECH AND LANGUAGE THERAPISTS? .....	312
PhD Ana Catarina Baptista <sup>1,2</sup> , Speech Therapist Maria Alexandra Afonso <sup>3</sup> , Speech Therapist Carolina Marques <sup>1,4</sup> , Speech Therapist Ana Margarida Fernandes <sup>5</sup> , Speech Therapist Filipa Gonçalves <sup>6</sup> , PhD Susana Rodrigues <sup>1,2</sup> .....	
P72. THERAPY APPROACHES FOR CHILDREN WITH SDD: CURRENT PRACTICE OF SLT WORKING IN PORTUGAL.....	313
PhD Ana Catarina Baptista <sup>1,2</sup> , Speech and Language Therapist Sofia Costa <sup>1</sup> , PhD Brígida Patrício <sup>3,4</sup> , PhD Susana Rodrigues <sup>1,2</sup> .....	
P73. THE EFFECTS OF SHARED BOOK READING IN EARLY INTERVENTION ON LANGUAGE DEVELOPMENT: A SYSTEMATIC REVIEW .....	314
Ana Sofia Lopes <sup>1</sup> , Mara Moita <sup>2</sup> , Sofia Lynce <sup>2</sup> .....	
P74. VALIDATING THE ESTONIAN ADAPTATION OF THE FOCUS© QUESTIONNAIRE .....	315
Anna Maria Ülviste <sup>1</sup> , PhD Marika Padrik <sup>1</sup> , Kristiine Suurorg <sup>2</sup> .....	
P75. EARLY LANGUAGE SCREENING AT 30 MONTHS OF AGE – A QUALITATIVE STUDY WITHIN CHILD HEALTH SERVICES IN SWEDEN .....	316
Dr Annakarin Larsson <sup>1,2</sup> , SLP Amanda Häll <sup>1</sup> , SLP Emma Granér <sup>1</sup> , Dr Emilia Carlsson <sup>1</sup> .....	



P76. THE IALP INFLUENCE ON SPEECH–LANGUAGE PATHOLOGY IN BULGARIA AND JAPAN .....	317
Prof Dobrinka Georgieva, Prof Shoko Miyamoto .....	317
P77. LEXICAL ACCESS & WORD PROCESSING IN CHILDREN WITH LANGUAGE DISORDERS .....	318
Marta Sousa <sup>1</sup> , Catarina Lavos <sup>1</sup> , Raquel Espírito Santo, Professor Carina Pinto <sup>1</sup> .....	318
P78. PAROLE PER GIOCARE. AN INTERVENTION PROPOSAL FOR CHILDREN WITH LANGUAGE DEVELOPMENT DELAY .....	319
MSc- Master of Science Chiara Baldo <sup>1</sup> , SLT Elisa Quarantini <sup>1</sup> , MD Marina Fin <sup>1</sup> , MD .....	319
P79. DIAGNOSTIC CHARACTERISTICS OF CHILDHOOD APRAXIA OF SPEECH: EXPERIENCES OF LITHUANIAN SLPS' .....	320
Daiva Kairiene <sup>1</sup> , Simona Daniute <sup>1</sup> , Marju Lahtein-Kursa <sup>2</sup> .....	320
P80. UNDERSTANDING THE DEVELOPMENT OF PHONOLOGICAL AWARENESS IN GREEK-SPEAKING PRESCHOOL CHILDREN: A LONGITUDINAL STUDY .....	321
Dr Eleftheria Geronikou <sup>1</sup> .....	321
P81. TEST BATTERY FOR ORAL MOTOR SKILLS (TOMS): A TOOL FOR SPEECH EVALUATION IN BULGARIAN .....	322
Assoc.prof. PhD Elena Boyadzhieva-Deleva <sup>1</sup> .....	322
P82. STORY READING COMPREHENSION PROFILES IN CHILDREN WITH AUTISM SPECTRUM DISORDER .....	323
Dr. Eleni Peristeri <sup>1</sup> , Dr. Maria Andreou <sup>2</sup> .....	323
P83. RECEPTIVE LEXICON IN GREEK-SPEAKING INFANTS .....	324
Evi Ashley <sup>1</sup> , Christina F. Papaeliou <sup>1</sup> .....	324
P84. PHONBANK CONTRIBUTIONS TO THE STUDY OF PORTUGUESE ATYPICAL PHONOLOGY .....	325
Professor Ana Margarida Ramalho <sup>1</sup> , Professor Maria João Freitas .....	325
P85. SPEECH-LANGUAGE ASSESSMENT OF SOCIAL PRAGMATIC COMMUNICATION ABILITIES BETWEEN AUTISM SPECTRUM DISORDER (ASD) AND DEVELOPMENTAL LANGUAGE DISORDER (DLD).....	326
BA Julia Davidson, BSc MSc Melanie Trojan .....	326
P86. CHARACTERISTICS OF WORDS AND PSEUDOWORDS READING ACCORDING TO THE TYPES OF ERRORS IN CHILDREN WITH AUTISM SPECTRUM DISORDER.....	327
PhD Katerina Shtereva, PhD Nadejda Bocheva, PhD Milena Mihaylova, PhD Miroslava Stefanova, PhD Svetla Staykova .....	327
P87. QUANTITY PERCEPTION AMONG ESTONIAN KINDERGARTEN CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER.....	328
Liis Thomas <sup>1</sup> , Pärtel Lippus <sup>1</sup> , Marika Padrik <sup>2</sup> , Kairi Kreegipuu <sup>3</sup> .....	328

P88. NARRATIVE OF BRAZILIAN CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDER.....	329
Luisa Stefano <sup>1</sup> , Marisa Fukuda <sup>1</sup> , Patrícia Zuanetti <sup>1</sup> , Matheus Alpes <sup>1</sup> .....	
P89. UNLOCKING THE POWER OF COMMUNICATION: A CASE STUDY OF SLP INTERVENTION IN CDLS IN CYPRUS .....	330
P90. METAPHOR PROCESSING IN CHILDREN WITH HIGH-FUNCTIONING AUTISM SPECTRUM DISORDER: EVIDENCE FROM PRODUCTION AND COMPREHENSION .....	331
Dr. Maria Andreou <sup>1</sup> , Ms. Stella Lampri <sup>1</sup> , Ms. Christina Bouzi <sup>1</sup> , Ms. Christina Giannikopoulou <sup>1</sup> , Mr. Evgenios Syllas <sup>1</sup> , Dr. Theodoros Marinis <sup>2</sup> , Dr. Eleni Peristeri <sup>3</sup> .....	
P91. INFORMED CONSENT OF PEOPLE WITH DYSLEXIA: THE ROLE OF EASY LANGUAGE .....	332
Master Of Speech And Language Pathology Marija Jozipović <sup>1,2</sup> , Professor of Speech and Language Pathology, full university professor, PhD Mirjana Lenček <sup>1</sup> .....	
P92. WHAT ABOUT PRE-SCHOOL MATH? FROM THE NON-SYMBOLIC TO THE SYMBOLIC PROCESSING OF QUANTITIES .....	333
Master of Speech and Language Pathology Magdalena Ivanko <sup>1</sup> , Master Of Speech And Language Pathology Marija Jozipović <sup>2,3</sup> , full professor, PhD Mirjana Lenček <sup>2</sup> .....	
P93. DO VOWELS MATTER? DIFFERENTIAL DIAGNOSIS OF CHILDHOOD APRAXIA OF SPEECH AND PHONOLOGICAL DISORDER IN ESTONIAN-SPEAKING CHILDREN.....	334
Mrs Marju Lahtein-Kürsa <sup>1</sup> , Ms Marika Padrik <sup>1</sup> , Ms Hanna-Liisa Markna <sup>1</sup> , Mrs Ketlin Ruukel- .....	
P94. EXPLORING GESTALT LANGUAGE PROCESSING (GLP) IN AUTISTIC CHILDREN: INSIGHTS FROM AUSTRIAN SPEECH-LANGUAGE THERAPISTS .....	335
Miss Melanie Trojan <sup>1</sup> , Mrs Marge Blanc <sup>2</sup> .....	
P95. A PHONICS-BASED READING INTERVENTION FOR CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER (DLD) – A SINGLE-BLINDED RANDOMIZED CONTROLLED TRIAL .....	336
PhD, SLP Nelli Kalnak <sup>1</sup> .....	
P96. UNDERSTANDING AND ADDRESSING AUDITORY PROCESSING DISORDERS IN NEURODEVELOPMENTAL CONTEXTS .....	337
Dr Paris Binos <sup>1</sup> .....	
P97. EXECUTIVE AND ATTENTIONAL FUNCTIONS OF BRAZILIAN CHILDREN EXPOSED TO THE ZIKA VIRUS .....	338
Dr Patrícia Pupin Mandrá <sup>1</sup> , Sra Lorena Gonçalves Mateus, Dr Matheus Alpes Francoy, Dra Adriana Ribeiro .....	
P98. TASK OF NAMING VERBS IN BRAZILIAN CHILDREN AND ADOLESCENTS WITH INTELLECTUAL AND HEARING DISABILITIES .....	339
Dr Patrícia Pupin Mandrá <sup>1</sup> , SRA Lara Schermam, Dra Ana Claudia Mirnadola Reis, Sra Matheus Alpes Francoy .....	

P99. METHODOLOGY FOR SELECTING WORDS IN LEXICAL ASSESSMENT TASK FOR KINDERGARTEN TO PRIMARY SCHOOL CHILDREN.....	340
Phd Student Pauline Menjot <sup>1</sup> , Associate professor Anne-Lise Leclercq <sup>1</sup> , Professor Annick Comblain <sup>1</sup> .....	340
P100. DIAGNOSTIC FEATURES OF PHONOLOGICAL DISORDER AND THEIR CORRELATION WITH TREATMENT APPROACHES: PERSPECTIVES FROM LITHUANIAN SLTS .....	341
Simona Daniute <sup>1</sup> .....	341
P101. PORTUGUESE SPEECH AND LANGUAGE THERAPISTS' PRACTICES: SERVICES DELIVERY FOR CHILDREN WITH SPEECH SOUND DISORDERS .....	342
Sofia Costa <sup>1</sup> , Brígida Patrício <sup>2</sup> , Ana Catarina Baptista <sup>3,4</sup> , Susana Rodrigues <sup>3,4</sup> .....	342
P102. TARGET SELECTION CRITERIA FOR INTERVENTION IN SPEECH SOUND DISORDERS: THE PRACTICE OF PORTUGUESE SLT .....	343
Sofia Costa <sup>1</sup> , Brígida Patrício <sup>2</sup> , Ana Catarina Baptista <sup>3,4</sup> , Susana Rodrigues <sup>3,4</sup> .....	343
P103. LANGUAGE DEPRIVATION IN A CHILD WITH BILATERAL COCHLEAR IMPLANTS: A CASE REPORT .....	344
Mr Tomislav Radosevic <sup>1</sup> , Dr Marina Olujic Tomazin <sup>1</sup> , Dr. Iva Hrastinski <sup>1</sup> , Dr. Luka Bonetti <sup>1</sup> , .....	344
P104. UNDERSTANDING OF CAREGIVERS REGARDING PHONOLOGICAL ACQUISITION AND AUDITORY SKILLS .....	345
Speech Therapist Ana Beatriz Silva Santos, Phd Vanessa Giacchini <sup>1</sup> .....	345
P105. PHONOLOGICAL PROCESSES PRESENT IN THE SPEECH OF CHILDREN IN THE PROCESS OF TYPICAL PHONOLOGICAL ACQUISITION .....	346
MSc. Anna Karoline Almeida Soares <sup>2</sup> , Phd Vanessa Giacchini <sup>1</sup> .....	346
P106. ORAL LANGUAGE COMPREHENSION IN GREEK-SPEAKING CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER (DLD): EMPIRICAL FINDINGS FROM THE IMPLEMENTATION OF TWO INTERVENTION PROGRAMS .....	347
Phd student Vasiliki Desylla <sup>1</sup> , Dr Angeliki Mouzaki, Dr Asimina Ralli, Dr Maria Vlassopoulos .....	347
P107. STRATEGIES IN SEMANTIC VERBAL FLUENCY TASKS: HOW DO SWITCHING AND CLUSTERING EVOLVE FOR FRENCH-SPEAKING ADOLESCENTS? .....	349
Virginie Keukeleire <sup>1</sup> , Romane Duguez <sup>1</sup> , Prof. Dr. Brigitte Charlier <sup>1</sup> , Prof. Dr. Cécile Colin <sup>1</sup> .....	349
P108. LANGUAGE FUNCTIONS IN CHILDREN BORN WITH CLEFT LIP AND/OR PALATE ....	350
Professor Wenche A. Helland <sup>1,2</sup> , Professor Turid Helland <sup>1</sup> , Marit B Kvinsland <sup>3</sup> .....	350
P109. THE POWER OF COMMUNICATION IN THE QUALITY OF LIFE.....	352
Claire Gardelle <sup>1</sup> .....	352
P110. DLD, DYSLEXIA AND ENGLISH AS L2 .....	353
Professor Turid Helland, Professor Wenche Andersen Helland .....	353
P111. THE SILENT CHILDREN PILOT STUDY OF DETECTION OF PRESCHOOL-AGED CHILDREN WITH SELECTIVE MUTISM.....	354



**12<sup>TH</sup> ESLA CONGRESS**

**OF SPEECH AND LANGUAGE THERAPY**

**26<sup>th</sup> - 28<sup>th</sup> SEPTEMBER 2024 ————— BRUGES**

**The Power of Communication in the Quality of Life**

**PRE-CONGRESS WORKSHOPS**



## WP1. MULTI-PROFESSIONAL COLLABORATIONS FOR BUILDING RESEARCH CAPACITY IN SLT PRACTICE

*Dr Hazel Roddam*

Independent Consultancy For Allied Health Research

### Background

For the past 3 years, Hazel has been commissioned by NHS England to lead a collaborative Research Strategy agenda on behalf of 14 UK registered Allied Health professional associations. The key focus is to improve quality of all services, by equipping practitioners at all career stages with research capabilities that are established as an integral component of all practice roles, not an elite interest only for academic careers.

### Aim

The session will incorporate an overview of this strategic national agenda and highlight key take-home messages from recently published seminal work that underpins the rationale for the essential value of a research-engaged workforce in health and social care. That includes both engagement with research (EBP) and engagement in research (service evaluation, quality improvement and practice-based research activities).

There is an acknowledged “fragile research eco-system” for practitioners to access support to build their research capabilities and grow a sustainable critical mass. Whilst there has been significant recent investment, the priority is to address historic interdisciplinary disparities for practitioners to access research support, resources and mentorship.

### Methods

Collaborative multi-professional examples from UK will be used to illustrate benefits of generating collective, transferable research training and development resources, and establishing cross-professional networks for research mentorship for a range of specified purposes. These initiatives particularly benefit the smaller professional associations that have more constraints on the support they are able to offer to their own membership.

### Results

This structured workshop session will build a “Heatmap” of existing sources of both uni-professional and multi-professional research capacity building support for SLT practitioners, as reported by the workshop delegates. Delegates will also identify prospective collaborative partnerships to access additional specified support in their own national contexts.

### Conclusions

The outcomes of the workshop will be shared with ESLA, to inform future strategic planning.

Keywords: Research, Capabilities, Multi-professional, Collaboration.

## WP2. IMPLEMENTING NOVEL TECHNOLOGIES FOR THE TREATMENT OF NEUROCOGNITIVE DEFICITS

*Professor Fofi Constantinidou<sup>1</sup>, Ioulia Solomou, Dr. Eva Pettemerifou*  
<sup>1</sup>University Of Cyprus

**Background:** It is estimated that 240 million individuals annually require cognitive rehabilitation services. Therefore, it is imperative to develop cost-efficient and effective methodologies to address this significant global need. Novel technologies such as non-invasive brain stimulation (tDCS) have been used for treating executive functioning in patients with brain injuries. tDCS is used as an add-on neuromodulation in combination with other established treatments such as the Categorization Program (CP). CP is a cognitive rehabilitation intervention designed to systematically remediate cognitive deficits using a hierarchical structure.

**Aim/Objectives:** To provide research evidence using the CP and tDCS in chronic brain injury and discuss current initiatives integrating the two methodologies.

**Methods:** Single group, open label, before-after trial with 4 and 12 week follow-up. 21 adult patients (15 males) with chronic moderate to severe brain injury under 65 who received the CP Training with a duration of 12 weeks for approximately 3 hours of treatment/week.

**Main outcome measures:** CP dependent measures and neuropsychological testing.

**Results:** Repeated MANOVA resulted in significant gains on the CP Tests demonstrating improvement in conceptual knowledge and decision-making. Gains were maintained at 4 and 12 weeks follow-ups.

**Conclusions/take home message:** Systematic cognitive training implementing the CP protocol in chronic brain injury as a single modality is effective. The digitalized CP with AI integration creates accessible and effective interventions designed to reduce disparities in persons with acquired brain conditions. Combining tDCS with the CP could result in additive effects. The workshop concludes with a presentation of the BRAINN project ([www.ucy.ac.cy/brainn](http://www.ucy.ac.cy/brainn)) exploring the feasibility of a novel integrative approach combining the digitalized CP with tDCS for the treatment of neurocognitive deficits associated with Long-COVID.

**Key words:** Cognition, rehabilitation, technologies, brain injury, tDCS, NIBS, long-COVID

### **WP3. “USE IT OR LOSE IT” – THE “IVTP - SIX VOICE CARE EXERCISES BY EVEMARIE HAUPT”**

*FH Prof. MSc Sara Forer-Kaufmann<sup>1</sup>, Karola Kopshoff<sup>2</sup>*

<sup>1</sup> Fh Campus Vienna

<sup>2</sup> STIMM:T Praxisgemeinschaft

**Background:** The flexible vocal function is fundamental for expression in communication. A healthy voice contributes significantly to everyday participation and therefore to good quality of life. Maintaining the flexibility of the vocal fold muscles and vocal fold mucosa is essential to preserve the ability to shape the voice throughout life.

**Aim / Objectives:** The aim of IVTP, Integrative Voice Therapy and Voice Pedagogy, is to promote patients in their vocal performance in all phases of life by enabling them to help themselves. The "IVTP-Six Voice Care Exercises" are didactically structured according to the "IVTP-Voice Function Circle" and lead to a reliable physiological voice-support.

**Methods:** The "IVTP-Six Voice Care Exercises" are based on the IVTP concept of "Voice is Balance" and the "IVTP-Voice Function Circle" considering the ICF. They will be taught theoretically and practically in the workshop.

**Results:** Thanks to the holistic structure of the exercises, the "IVTP- Six Voice Care Exercises" can be easily integrated into everyday life for regular care of the speaking and singing voice. Using them can help to improve the ability to express oneself and thus the "quality of life".

Through practical exercise experiences in the workshop, the participants will be able to use the acquired knowledge and skills in their everyday work.

**Conclusions:** "Use it or lose it" - with the "IVTP- Six Voice Care Exercises" patients can remain or regain a balanced and flexible voice in all phases of their life.

**Keywords:** voice care, integrative voice therapy and voice pedagogy, effective exercise programme



## WP4. RELATIONAL ACUPUNCTURE FOR VOICE PROFESSIONALS: FUSING ANCIENT TRADITION WITH MODERN SCIENCE

*Mrs Caroline Van Looy<sup>1</sup>, Mr Stephen King<sup>1</sup>*

<sup>1</sup> Logopedische Praktijk Caroline Van Looy

### \* Background

This workshop bridges the ancient practice of acupuncture (Huang 1966) with contemporary neurophysiological research (Bao and Lao 2013), offering an integrated approach to enhancing the well-being of voice professionals. The importance of this integration lies in the rich historical tradition of acupuncture, validated by modern science, and its potential to advance the feelings of quality of life.

### Objectives

As holistic care gains prominence, this workshop addresses the growing interest in holistic healthcare within the context of voice and speech therapy.

### \* Methods / Design

This workshop has been created from a literature review that exposed a rich history of research and folklore which has been fused to create the VOCAL protocol. The workshop combines theory with hands-on practice. Attendees will engage in didactic elements, case studies, discussions, and a Q&A session, while actively participating in the safe, self-guided needling of specific acupuncture points.

### \* Results

Providing an introductory overview of acupuncture, this workshop encompasses the historical roots and the differentiation between dry needling, medical acupuncture, and traditional Chinese medicine (TCM) acupuncture (Bovey 2010). We will highlight the significance of the LI-4 (Yui et al 2016) and LU-11 (Zhou et al 2020) points, supported by peer-reviewed research for their efficacy in addressing voice conditions. Practical sessions will involve self-guided, supervised needling of these points, allowing attendees to experience acupuncture's clinical application firsthand.

### \* Conclusions

This workshop aims to educate speech therapists about a new therapeutic tool, expanding their clinical repertoire and offering the potential of adding it as a recommended treatment. The VOCAL framework enhances the safety and patient-centeredness of acupuncture practice, with the hope of improving patient care and outcomes, especially the quality of life of the people we treat.

keywords: acupuncture, acupuncture for voice, muscle tension dysphonia, and neurophysiological effect



## WP5. PARENTAL STRESS RELATED TO STUTTERING: DESCRIPTION, ANALYSIS AND INTERVENTION

*Phd SLP Ronny Boey<sup>1</sup>*

<sup>1</sup>University Of Antwerp, <sup>2</sup>Centre for Information, Research and Education on Stuttering (CIOOS), <sup>3</sup>Centre for Stuttering Therapie CvSt

Background: Stuttering in a child raises many questions for the parents and triggers reactions. Often, a stuttering child means parental concern and stress which can affect their quality of life.

Aim / Objectives.

(a) The processing of stress in general is discussed (b) and illustrated with examples from clinical practice. (c) The results of research to evaluate parental stress levels related to the child's stuttering will be discussed. (d) The implications for the clinical practice are given.

Methods.

Case reports are used to illustrate some examples of parental stress observed in the clinical practice. Research is conducted with a validated Questionnaire for Parents of Stuttering Children (VOKIS) allowing parents to report very specific stress experiences related to their child's stuttering. Descriptive and analytic statistics were calculated in relation to subcomponents of the VOKIS and different variables. The relationship between the measurements with the VOKIS and the estimation of parental stress level by an SLT was calculated.

Results.

Research suggests that the way of coping with the child's speaking, the support to be received or not, and the concerns triggered by the potential problems with the child's speech contribute to the parental stress level and reduces their quality of life to varying degrees. Speech therapists' observation of parental stress is more limited than the results with the VOKIS indicate..

Conclusions / take home message.

The assessment of parental stress by means of the VOKIS justifies specific therapeutic interventions, e.g. through parental guidance in group and individual, through interactions between parents and their child in treatment. For example, obtaining good supervision of the child at school and elsewhere also helps to reduce parental stress. Together with the results, this will improve the parents' quality of life.

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**ORAL PRESENTATIONS**



## **KS1. SOUND JUDGMENT: SPEECH THERAPY TECHNIQUES AND MOTOR LEARNING PRINCIPLES FOR SPEECH SOUND DISORDERS WITH/OR WITHOUT RELATED STRUCTURAL ANOMALIES**

*Prof Ann Kummer*

PhD, CCC-SLP, Professor Emeritus of the University of Cincinnati College of Medicine, USA

Many speech-language pathologists (SLPs) complete graduate school without learning effective methods for achieving placement for various misarticulations. Once they are in practice, it often takes years to figure out what works and what doesn't. The purpose of this session is to convey what I have learned about the treatment of speech sound disorders during my career of 45 years. In this lecture, the effects of structural anomalies on speech will be described and when therapy is appropriate will be explained. The presenter will then discuss various ways to provide sensory feedback (visual, auditory, and tactile-kinesthetic) so that the child will be able to self-monitor and self-correct. Specific strategies for correction of a variety of misarticulated phonemes, including the most difficult speech errors (i.e., lateral lisp and distortion of /r/ and /ə/) will be described and demonstrated. Motor learning and motor memory principles will be discussed as a framework for achieving carryover after correct placement has been achieved. Finally, methods for involving the family in the treatment process (without overburdening them) will be presented as an effective means of increasing the rate of progress.

PARALLEL SESSION 1 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 1.1 WRITTEN COMMUNICATION OF MONOLINGUAL AND MULTILINGUAL SECONDARY SCHOOL STUDENTS

*Christel Van Vreckem<sup>1</sup>, professor Annemie Desoete, professor Kristiane Van Lierde*  
<sup>1</sup> University of Applied Sciences Artevelde

### Background

There is no consensus on the reading and spelling skills of monolingual and multilingual students (Czapka et al., 2019; Harrison et al., 2016; Zhao et al., 2016; Zhang et al., 2022). Studies in a semi-transparent language such as Dutch are currently lacking.

### Aim / Objectives

Do Dutch speaking multilingual students of grade 7 and grade 9 differ in written communication compared to their monolingual peers?

### Methods

Whole classes monolingual (n=124) and multilingual students (n=82) of grade seven and nine read words aloud during 1'.30'' and wrote existing words, pseudowords and sentences on dictation. They conjugated verbs in sentences. Students were classified as 'multilingual' if they spoke more than one language at home.

### Results

There were differences in decoding (Hedges  $g = .15$ ) between monolingual ( $M = 77.12$ ,  $SD = 18.50$ ) and multilingual ( $M = 79.85$ ,  $SD = 16.49$ ) students. There were also differences in spelling words (Hedges  $g = .20$ ) between monolingual ( $M = 27.33$ ,  $SD = 2.55$ ) and multilingual ( $M = 26.83$ ,  $SD = 2.29$ ) students and in spelling pseudowords (Hedges  $g = .13$ ) between monolingual ( $M = 15.11$ ;  $SD = 3.12$ ) and multilingual students ( $M = 14.71$ ,  $SD = 2.98$ ). The effect size for spelling verbs was higher (Hedges  $g = .29$ ) with better results for monolingual students ( $M = 21.07$ ,  $SD = 4.49$ ) compared to multilingual peers ( $M = 19.66$ ,  $SD = 5.32$ ). There was a medium effect size for spelling sentences (Hedges  $g = .32$ ) with better results for monolingual students ( $M = 32.70$ ,  $SD = 5.48$ ) compared to multilingual peers ( $M = 31.01$ ,  $SD = 5.09$ ).

### Conclusion

Differences in spelling between monolingual and multilingual students in grades seven and nine were larger for verbs and sentences (medium effect size), than for spelling words, pseudowords and reading (small effect sizes).

Giving multilingual learners extra support with spelling can improve their writing skills and chances of success at school and later at work, because spelling sentences and conjugating verbs is the best simulator of writing tasks.

PARALLEL SESSION 1 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 1.2 LANGUAGE INSTRUMENTS VALIDATION: A NEED TO IMPLEMENT MTSS IN SPANISH-SPEAKING PRE-KINDERGARTNERS

*Mrs, SLT, MSc Francisca Pozo Tapia<sup>1</sup>*  
<sup>1</sup>Pontificia Universidad Católica De Chile

This presentation is part of a broader study focused on implementing an oral inferential comprehension (OIC) intervention in preschoolers from vulnerable families using a multi-tiered support system (MTSS).

In Chile and other Spanish-speaking countries, no instruments are available for repeatedly assessing OIC and related skills, such as narrative macrostructure and emotional vocabulary, an indispensable condition for implementing MTSS. This presentation aims to show the results of translation, cultural adaptation and validation for three tests: The Assessment of Story Comprehension (ASC; Spencer et al., 2017), Spanish Narrative Language Measures: Listening (NLM) (Petersen & Spencer, 2012) and Children's Emotion Vocabulary Vignettes Test (CEVVT; Streubel et al., 2020), correlated with CELF-Preschool 2 (Wiig et al., 2004).

Content validity, including semantic, experiential, idiomatic, and conceptual equivalence, was assessed through expert judgment and the Content Validity Ratio (CVR) using the Lawshe Model (Tristán-López, 2008). The instruments were administered to 200 preschoolers aged 4 to 5 from 13 pre-kindergarten classrooms across six high-vulnerability schools in Santiago, Chile. To preserve form equivalence and reduce bias due to order effects, a 6x6 randomized Latin Square design (Dénes & Keedwell, 2015) was applied, considering parallel forms of ASC and NLM.

The presentation will also include construct validity analysis with confirmatory factor analysis. Reliability will be demonstrated through Cronbach's alpha index for internal consistency. Parallel-forms reliability between ASC and NLM will be shown through main score correlations. Inter-evaluator reliability, reported with Cohen's Kappa index exceeding 0.60, will be considered acceptable (McHugh, 2012). Finally, concurrent validity will be obtained by comparing ASC, NLM, and CEVVT with CELF-P2.

This study enhances the availability of valid instruments allowing SLTs to assess language abilities that promote reading comprehension in interventions based on MTSS to prevent barriers associated with language needs in schools.

**Keywords:** multi-tiered support system, inclusive education, language needs, instruments validation.

### 1.3 PARENTS' AND EARLY CHILDHOOD EDUCATORS' PERCEPTIONS AFTER THE IMPLEMENTATION OF THE PRAGMATIC INTERVENTION PROGRAMME (PICP)

*Tatiana Pereira<sup>1,2</sup>, Ana Margarida Ramalho<sup>2</sup>, Marisa Lousada<sup>1,3,2</sup>*

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Children with autism spectrum disorder (ASD) and developmental language disorder (DLD) frequently face pragmatic language difficulties that can be lifelong, so early intervention is crucial. However, research on parents' and early childhood educators' perspectives on the perceived effectiveness of pragmatic language interventions is scarce. This study aims to analyse parents' and early childhood educators' perceptions after the implementation of the Pragmatic Intervention Programme (PICP) to preschool-age children with ASD and DLD. As a part of a broad research project, a survey was conducted using an adaptation of the Parent Satisfaction Survey. Data from 72 participants among parents (n=36) and early childhood educators (n=36) were collected immediately after the implementation of the PICP. For each child, 24 PICP-based intervention sessions were offered twice a week, for one hour, by a speech and language therapist (SLT) with in-depth knowledge about the programme and previous clinical practice providing intervention to children with pragmatic impairments.

The sessions took place in early childhood settings and, beyond the child and the SLT, other communicative partners (e.g., peers, and early childhood educators) were also involved. The survey includes 11 statements about the intervention impact (e.g., "This is an appropriate intervention for my child's social communication skills") that were individually scored between 1 (totally disagree) and 7 (totally agree). The data were analysed through descriptive statistics. The average score obtained from the parents' perspective about the intervention impact was  $6.6 \pm 0.3$ . For early childhood educators, the average score was  $6.6 \pm 0.5$ . The results indicate that parents and early childhood educators considered this intervention appropriate and effective for improving the pragmatic skills of preschool-age children with DLD and ASD. Evidence-based improvements in multiple contexts are essential to ensure generalization. Therefore, parents' and early childhood educators' perspectives should be considered as a valuable outcome.



PARALLEL SESSION 1 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 1.4 SPEECH-MUSIC THERAPY IN THE TREATMENT OF CHILDHOOD APRAXIA OF SPEECH

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### Background

Speech-Music Therapy for Aphasia (SMTA), a combination of speech and music therapy, is used in clinical practice in the treatment of children with childhood apraxia of speech (CAS). Children with CAS experience problems in functional communication and social participation because their intelligibility is negatively impacted by inappropriate prosody, segmental errors and voicing and nasality errors.

A study with a boy with CAS without comorbidities showed improvement in the production of consonant clusters, consistency, and intelligibility in daily communication.

CAS often co-occurs with neurodevelopmental disorders, which leads to additional challenges in communication in daily life. However, most treatment studies so far exclude children with CAS+ neurodevelopmental disorders.

### Aim

The aim of this study is to evaluate SMTA in the treatment of CAS in children with co-occurring neurodevelopmental disorders.

### Methods

Two single subjects design studies were conducted, including an eleven-year-old boy and six-year-old girl with CAS and co-occurring neurodevelopmental disorders. The study design included pretest, baseline, treatment, posttest, and follow-up after two months of no treatment. SMTA was conducted twice a week in 30-minute sessions for ten weeks. Outcome measures were selected to include ICF-levels of activities and personal factors, including the Intelligibility in Context-Scale and Communication Attitude Test.

### Results

Treatment and parental reports indicate improvement for both children. The boy showed improved production of trained items in a repetition task. There was no generalization to other speech tasks. The girl had small improvements in the production of consonants in the repetition of both trained and untrained items.

### Conclusion

Two children with CAS and co-occurring neurodevelopmental disorders improved in their production of trained items after treatment with SMTA. This study shows the potential of SMTA for this target group in training words and phrases for functional communication in daily life.

### Keywords

Childhood Apraxia of Speech, treatment, communication.



## **1.5 COMMUNICATIVE PARTICIPATION AS PRIMARY OUTCOME OF SPEECH AND LANGUAGE THERAPY – DEVELOPMENT OF AN ITEM BANK MEASURING COMMUNICATIVE PARTICIPATION IN CHILDREN, ADOLESCENTS AND YOUNG ADULTS WITH COMMUNICATION DISORDERS**

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### **Background**

Children and adolescents want to participate in society, regardless of possible communicative barriers. This concept is referred to as communicative participation, which is the primary outcome of speech and language therapy. However, there is a lack of measurement instruments to capture this outcome.

### **Aim/objectives**

To develop an item bank measuring communicative participation from the perspective of children, adolescents and young adults with communication disorders.

### **Methods**

We identified relevant items that measure communicative participation, through a literature review and a concept elicitation study. In the systematic literature search, we identified instruments that measure communication or participation, whereafter individual items were reviewed based on criteria for communicative participation. In the concept elicitation study, participants with different communication disorders kept a diary describing communicative participation situations for the duration of one week. Semi-structures interviews were then conducted to further explore the aspects of communicative participation. With the results of both studies, a first draft of the item bank was developed, whereafter items, instruction, and response options were pilot tested in the target population, to guarantee comprehensibility and comprehensiveness.

### **Results**

The literature review resulted in 145 items measuring communicative participation. In the concept elicitation study, 232 communicative participation situations were mentioned. Situations and items were rewritten and duplicates were removed and three draft versions were created, based on life

stages of children, adolescents and young adults. The pilot test resulted in adjustments made to items and instructions, to improve comprehensibility and comprehensiveness.

#### Conclusions / take home message

Three versions of the item bank were developed, based on the life stages of children, adolescents and young adults. These versions will be further assessed on all measurement properties described by the COSMIN initiative.

Keywords: Communicative participation; item bank, patient reported outcome measure (PROM)

## **1.6 NON-ACTIVE VOICE IN GREEK CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER**

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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 morphology, sentence repetition

## **1.7 NEGATION UNDERSTANDING AND THEORY OF MIND OF CHILDREN WITH AUTISM SPECTRUM DISORDERS?**

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Negation is a grammatical form that requires complex cognitive processing, calling on metarepresentational abilities, such as the ability to imagine and assign a meaning to others. Children with autism spectrum disorders often have Theory of Mind difficulties, which also involve metarepresentational abilities. This study seeks to analyze the existence of a link between TOM and negation understanding in 11 children with ASD ( 11 mean age) in comparison with 20 Children with typical development ( 10,6 mean age).

Several studies have attempted to demonstrate an interaction between language development and TOM abilities (de Villiers, 2007; Veneziano, 2015). In this context, the recent study of Marinis et al., (2023) puts forward the notion of language as a predictor of TOM difficulties.

We make two assumptions :

1. Children with autism have more difficulty understanding negation than their typically developing peers.
2. Difficulties in understanding negation are correlated with TOM difficulties in children with ASD

The entire protocol has been computerised to record answers and response times and includes a language task designed to assess syntactic comprehension, a language task designed to assess negation understanding, in two experimental conditions ( Non-existence/absence e.g.: there is no box; Denial e.g.: it's not an apple. And last, a false-belief task designed to assess TOM: Sally and Anne verbal test (Baron-Cohen et al., 1985) Non-verbal test (inspired of Durrleman et al., 2019). We ve used JASP software in order to carry out the descriptive and inferential analyses of the data collected (e.g. logistic regression, correlation test).

Results show interesting and contrasted responds that we discuss in the light of the literature. They provide guidelines for improving speech and language therapy remediation.

## 2.1 EVALUATION OF AN INTERPROFESSIONAL LECTURE WITH SPEECH-LANGUAGE THERAPY STUDENTS AND TRANSLATION STUDENTS

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### Background

In the last years interprofessional collaboration became a central topic within health professions as well as between health professions and other professions. The current concept of interprofessional collaboration takes into account the relationships between the professions involved and the patients' perspective and needs. The collaboration between speech-language therapists and interpreters enables a patient-centered collaboration and equal communication without language barriers.

To prepare for interprofessional collaboration for the professional everyday life, interprofessional learning contents during professional training and education are essential. Especially in the German-speaking area there is little scientific data on interprofessional collaboration between speech-language therapists and interpreters. This kind of collaboration has great significance, but speech-language therapists have insufficient training and little experience in interprofessional collaboration with interpreters. This paper presents an interprofessional education lecture of the study programs speech-language therapy (FH Campus Wien) and translation (University of Vienna).

### Objectives

Which learning aspects result for speech-language therapy students from an interprofessional education lecture with translation students, a non-health profession?

### Methods

Five speech language therapy students prepared a case study in advance, which they carried out in a joint unit with seven translation students in the form of an interpreted role play . By means of a focus group and a short online questionnaire all 12 participating students were surveyed about the lecture and were asked for feedback.

### Results

The speech-language therapy students benefited from this interprofessional lecture. They acquired knowledge of the interpreters' job description, practiced their interviewing skills and felt prepared for a future collaboration with interpreters.

## Conclusion

By conducting a joint lecture both professions benefited, furthering high quality health care in an international setting.

Keywords: Interprofessional Education, Health professions, Interprofessional collaboration, Interpreter-mediated Intercultural mediation, Speech-language therapy

## 2.2 INVESTIGATION OF TURKISH SPEECH AND LANGUAGE THERAPISTS' ATTITUDES TOWARDS EARLY INTERVENTION

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**Background:** In early intervention (EI), it is unclear what therapist should focus on, even though EI has a substantial impact on the individual receiving therapy and their caregivers.

**Aim:** This study aimed to find the EI attitudes of Turkish Speech-Language Pathologists (TSLP).

**Methods:** 85 TSLP filled out the "Early Intervention Questionnaire". The questionnaire consists of four open-ended and 20 multiple-choice questions. Quantitative data was analyzed with descriptive statistics and qualitative data with thematic analysis.

**Results:** TSLP recommends SLPs to work with an OT, Psychologist, Special Education Specialist, and Physician for EI. 88.2% believe EI should be at home, and 97.6% think families should participate. All participants agree that EI is significant for cognitive, language, and neuro-motor development, 98.8% for social-emotional, 97.6% for motor, and 92.9% for physical development. For TSLPs, family support (94%), and communication between family and specialist (92.9%) as the most significant, and the therapist's workplace was considered the least important factor (62.3%) phase of EI. In qualitative data, 71.8% of SLPs defined EI as an intervening, risk group or individual lagging in their development. 54.22% of SLPs suggest that the most critical duty of the family is organizing their home environment. 63.35% of participants stated that SLPs should be involved as soon as the individual is at risk or there is a requirement for EI.

**Conclusion:** In EI, SLP should a)have knowledge of developmental stages, b)work multidisciplinary, c)explain caregiver the process, d)assign tasks and organize the home environment, and e)decide on therapy or observation. This study provides an appropriate framework for EI. Lack of knowledge in these processes may affect the quality of life of the individual receiving therapy and caregivers. Therefore it is recommended to increase research on the effect of EI on quality of life.

**Keywords:** early intervention, speech and language therapy, turkish



## 2.3 THE INCLUSION OF ACUPUNCTURE IN THE SPEECH THERAPY PRACTICE

*Mrs Caroline Van Looy<sup>1</sup>, Mr Stephen King<sup>1</sup>*

<sup>1</sup> Logopedische Praktijk Caroline Van Looy

### \* Background

Around 1.7% of the general population will experience Functional Dysphonia. This cohort is much more likely to live with or develop 'medically unexplained symptoms', too. Acupuncture has been used for the past 2,000 years to treat all manner of ailments with varying levels of success, with presentations like Globus Pharyngeus listed in The Book of The Yellow Emperor in 180 BCE. The authors have bridged the gap between ancient tradition and current science to provide a novel way of managing Functional Dysphonia through the development of the first voice-specific acupuncture protocol.

### \* Aim / Objectives

This international research project between London and Belgium aimed to determine the usefulness of including the VOCAL acupuncture protocol in improving the symptoms of functional dysphonia.

### \* Methods

14 patients were recruited who were diagnosed with functional dysphonia, and medically cleared for the acupuncture protocol. Each patient was scored on the Voice Handicap Index (VHI) before and after a 30-minute VOCAL acupuncture session, with the needles administered by a voice-specialised Speech Therapist or by a voice-specialist Manual Therapist.

### \* Results

In this pilot cohort, the total VHI score dropped by 36%, with the Functional score dropping by 41%, the Physiological by 34% and finally the Emotional score dropping by 37%. This shows a statistically significant improvement in this population, with the potential for quality of life increasing after one 30-minute session.

### \* Conclusions / take-home message

The use of acupuncture by a Speech Therapist to improve the quality of life of patients with Functional Dysphonia shows a significant statistically positive shift within this pilot study. We, therefore, seek to conceptualise what it might be like to raise awareness of this intervention for the Functional Dysphonia patient cohort.

### \* Keywords

Acupuncture, Functional Dysphonia, Voice Handicap Index

## **2.4 GRIEVING A PREVIOUS VOICE- THE PSYCHOLOGICAL IMPLICATIONS OF A SINGER WITH A FUNCTIONAL VOICE DISORDER**

*Mr Stephen King<sup>1</sup>*  
<sup>1</sup> Voice Care Centre

**Background:** Grief is a multifaceted emotional response to loss, extending beyond death to encompass various forms of separation. Psychotherapeutic literature, influenced by Freud's work, has explored grief's psychological intricacies. This case study aims to broaden understanding of grief in the context of accepting voice problems, focusing on three relational concepts: grieving a former voice, self-love irrespective of voice, and relinquishing an unattainable future.

**Objectives:** This case study review aims to illuminate the psychological processes underlying acceptance of voice problems, highlighting the importance of acknowledging past relationships with one's voice, fostering self-love independent of vocal performance, and reconciling with unfulfilled aspirations.

**Methods / Design:** The method of data collection was a thematic analysis of 25 psychotherapy sessions with a professional singer diagnosed with Muscle Tension Dysphonia. The therapy exposed three themes; death as a process linked to grieving, the loss of identity and the process of projected loss. This study draws on psychotherapeutic insights to examine the psychological dynamics of grieving a previous voice. While empirical data collection is beyond the scope, psychosomatic interventions for grief are referenced.

**Results:** Traditional grief models, such as Kübler-Ross's stages, offer limited insight into the non-linear nature of grief. The study emphasises the significance of recognising and processing grief associated with a former voice, intertwined with societal expectations of the identity of the singer and the potential for professional adoration, now gone.

**Conclusions:** Acceptance of a new voice entails navigating death, loss of identity, and projected loss. The case study was analysed thematically, and the successful interventions were all centred around fostering awareness and facilitating acceptance, psychotherapy can aid individuals in embracing their current voice with self-compassion and authenticity.

**Keywords:** grief, voice disorders, psychotherapy, acceptance, self-love

## 2.5 INTERVENTION PROGRAM IN CHILDREN WITH AUTISM SPECTRUM DISORDER: CAREGIVER EMPOWERMENT AND SATISFACTION LEVEL

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<sup>1</sup> C M R Alcoitão

**Background:** Recently, many children with early diagnosis of Autism Spectrum Disorder (ASD) resorted to the Center for Medicine and Rehabilitation of Alcoitão-Portugal. This condition has a significant functional impact at many levels, namely communication, language, behavior, self-regulation and autonomy. Only an integrated intervention centered on the family and its empowerment can effectively enhance the child's development.

**Objectives:** This project is a multidisciplinary intervention program including the doctor, occupational therapist, speech therapist, psychologist, social worker and a coordination with the kindergarten teacher. Is directed to functionality and family-centered for children with ASD up to 4 years of age, in the pre-linguistic and emerging language phases, with the aim of: i) Training child caregivers with regard to identifying communication/language needs and use of contingent strategies in a natural context; ii) Determine the level of satisfaction of caregivers regarding the implemented program;

**Methods:** This is a semi-structured intervention program (10 speech therapy sessions) with the active participation of caregivers, based on methodologies strategies of Floor-time and “It Takes Two to Talk”. **Results:** The program was implemented with 75 children and their respective caregivers. The children were assessed at the beginning and at the end and it was found that they’ve evolved. The caregivers expressed that they had become more aware of the difficulties/needs of children and what are the ways to address them, and responded positively to the questionnaire given;

**Conclusions:** This program proved to be of interest to caregivers, training them as therapeutic partners and enhancing children’s development. In conclusion, the perspective of more collaborative intervention involving the family brings benefits: a) for caregivers, who feel more empower; b) for children who continue to be stimulated in all natural contexts, enhancing development opportunities; c) for health services, as it reduces the intervention time and human resources required.

**Keywords:** ASD, Caregivers empowerment

PARALLEL SESSION 3 - VOICE DISORDERS AND PREVENTION

### **3.1 USER-CENTERED QUALITATIVE EVALUATION OF A FULLY IMMERSIVE, HEAD-MOUNTED VIRTUAL REALITY PROTOTYPE DEVICE TO FACILITATE REAL-LIFE TRANSFER IN VOICE THERAPY**

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#### **Background**

Interventions using virtual reality (VR) have been developed in many healthcare disciplines over recent years, as this technology offers a wide range of possible applications thanks to the realistic simulation of any environment. However, currently no scientifically tested VR applications exist for the field of voice therapy.

#### **Aims / Objectives**

Using a user-centered design, this study evaluates a prototype application that is intended to help bridge the gap between the controlled settings of voice therapy and vocally stressful everyday situations.

It aims to evaluate the applicability and benefits of the fully immersive VR application ProVoiceVR in voice therapy from a user perspective and to identify future development directions.

#### **Methods**

Semi-structured guided interviews were conducted in which a total of 20 participants (7 voice therapists and 13 patients) were able to share their experiences with the VR application which they had tried out beforehand in multiple therapy sessions as part of a practical trial phase. The qualitative data were evaluated in a structured manner using content analysis to gain a comprehensive understanding of user experiences and views.

#### **Results**

Three main potentials for the use of the application in voice therapy were identified: (1) the implementation and consolidation of voice-relevant behaviors in a controlled and realistic environment, (2) the identification of individual treatment goals by observing patients in realistic situations, and (3) the simplified possibility of using biofeedback to support therapy.

For further development of the prototype, participants requested a variety of improvements and new features, including a more interactive audience, customizable background noise, more biofeedback options and simplifying the setup of the technical devices.

#### **Conclusion**

The results indicate that fully immersive VR systems are a promising tool in voice therapy. Further research regarding the possible applications and effectiveness of the technology is recommended.

PARALLEL SESSION 3 - VOICE DISORDERS AND PREVENTION

### 3.2 THE RELATIONSHIP BETWEEN VOCAL DEMAND, VOCAL FATIGUE AND VOICE HANDICAP IN TEACHERS

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**Background.** Vocal fatigue is frequently reported in the teacher population. Decremental impact of vocal fatigue on quality of life has been noted.

**Objectives.** This study was designed to better understand the mechanisms involved in development and maintenance of vocal fatigue. The objective was to investigate the causal relationship between vocal demand, vocal fatigue, and the degree of perceived voice handicap.

**Methods.** A total of 1088 teachers from 434 Croatian schools participated in the cross-sectional study. Teachers from lower primary, higher primary and secondary schools were represented in the study. The questionnaire regarding sociodemographic and other voice-related factors was administrated. The Croatian adaptation of the Vocal Fatigue Index (VFI-C) was used to quantify the degree of perceived vocal fatigue. The Croatian Voice Handicap Index (VHI-HR) served as an indicator of current voice handicap. Vocal demand was defined through variables describing teaching communication scenario (e.g. number of pupils, environmental noise levels, teaching position). Structural equation modelling and path analysis were conducted to model the relationship between vocal demand, the VFI-C, and the VHI-HR.

**Results.** The hypothesized model proved sufficient to describe the relationship between observed variables. The significant direct relationship between teaching communication scenario and VFI-C was confirmed. A correlation was found between the VHI-HR and the VFI-C. The direct influence of teaching communication scenario on the VHI-HR results was not observed. The VFI-C proved to be a mediator between teaching communication scenario and the VHI-HR.

**Conclusions.** The findings from this study describe the role of teaching communication scenario and high vocal demand on the development of vocal fatigue in teachers, consequently increasing the degree of voice handicap and influencing overall voice-related quality of life. The need for development of prevention-oriented programs for voice disorders in teachers is emphasized.

**Key words:** Vocal Fatigue, Voice Handicap Index, Vocal Demand, Teachers, Path Analysis Model

**PARALLEL SESSION 3 - VOICE DISORDERS AND PREVENTION**

**3.3 EXPLORING AUTONOMIC DYSFUNCTION IN FUNCTIONAL  
DYSPHONIA: A PILOT STUDY**

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**Background.** Although psychological factors have been implicated in patients with functional dysphonia (FD), conventional voice therapy (CVT) typically targets the aberrant voice symptoms exclusively. Yet, CVT is not always successful, and in view of the significant adverse quality of life impact combined with the financial burden on the healthcare system, research is needed to elucidate the underlying psychophysiology of FD and improve treatment outcomes.

**Objectives.** The first objective of this pilot study is to investigate the occurrence and frequency of symptoms and/or disorders related to autonomic nervous system (ANS) dysfunction in patients with FD. The second objective is to investigate the effects of a therapy based on ANS regulation, i.e. heart rate variability (HRV) biofeedback, in this population.

**Methods.** Autonomic (dys)function will be investigated using both physiological measures (e.g. HRV) and psychological patient-reported outcome measures (e.g. Depression Anxiety and Stress Scale). Patients will receive 1 month of HRV biofeedback training with 20min of daily practice. Both the autonomic assessment and the voice assessment will be performed pre- and posttherapy.

**Results.** Data collection for this pilot study is currently ongoing and the first results will be available by the time of the conference. In a later stage of the project, autonomic dysfunction in FD will be compared with gender- and age-matched vocally healthy controls, using a case-control study. Second, the effects of the ANS regulation therapy in FD will be compared with CVT alone or in combination with ANS regulation therapy, using a randomized controlled trial.

**Key words.** voice disorders, functional dysphonia, autonomic nervous system, heart rate variability (biofeedback)

**PARALLEL SESSION 3 - VOICE DISORDERS AND PREVENTION**

**3.4 AUDITORY-PERCEPTUAL RATING OF ROUGHNESS:  
DIPLOPHONIA VERSUS DYSPERIODICITY**

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**Introduction.** Auditory-perceptual detection of roughness and rating of its severity is common in clinical assessment of voice disorders. This roughness results from irregularity of vocal fold vibrations (Hirano, 1981). It may arise from random fluctuations (dysperiodicity) or cyclic fluctuations (multiplophonia; i.c. diplophonia) in glottal source sound properties. The present study investigated which of these fluctuations causes most roughness severity.

**Methods.** Amplitude of all vocal cycles in a sustained [a:] from a normophonic female was adjusted to create signals with different levels of diplophonia and dysperiodicity. Eleven professional raters auditorily evaluated these signals on roughness severity in a paired comparison paradigm as well as in an ordinal scale paradigm.

**Results.** Based on intra- and inter-rater reliability, only the ratings of two raters could be retained for further analysis. Perceived roughness severity increased with levels of diplophonia and dysperiodicity. Diplophonic signals were perceived significantly rougher than dysperiodic signals.

**Discussion.** It was possible to induce an auditory perception of roughness by semi-synthetically creating diplophonic and dysperiodic signals. Although in this exploratory study diplophonia was perceived rougher than dysperiodicity, this may have resulted from the differences in average levels of diplophonia and dysperiodicity.



**PARALLEL SESSION 3 - VOICE DISORDERS AND PREVENTION**

**3.5 THE DISTRACTED SINGER: CORRELATION BETWEEN VOICE  
AND EXECUTIVE FUNCTIONS**

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<sup>5</sup> Vocologica

**Objective:** Investigate the correlation between vocal performance and neuroscience to speed up and automate the effectiveness of long-term vocal speech therapy training, by subjecting singing students without vocal pathologies to an evaluation and treatment protocol integrated with vocal technique and training of the executive-attentive plan.

**Methods:** For vocal evaluation: All patients underwent a laryngostroboscopy examination to verify the responsiveness towards inclusion criteria (absence of laryngeal lesions and pathologies) and a spectro-acoustic analysis of the voice before the beginning of the threat and at the end of the cycle of speech therapy sessions.

We analyzed both the speech and the singing of all participants.

For the neuropsychological evaluation: all patients went through the administration of the M.E.A. battery. (Measures of Executive Attention).

The patients were divided into two groups: vocal rehabilitation without integration of attentional-executive training and vocal rehabilitation with integration of attentional-executive training.

**Results:** Patients who followed the rehabilitation plan integrated with the attention-executive plan training reported greater benefits and automatization on the long-term. .

They improved both neuropsychologically and vocal performance.

**Conclusions:** singing is learning and neuropsychology is at its basis, the integrated model in discussed indicates a multifactorial approach and a new vision of rehabilitation to take into account



PARALLEL SESSION 3 – VOICE DISORDERS AND PREVENTION

### 3.6 DETERMINING VOCAL TREMOR PROPERTIES: MANUAL VERSUS SEMI-AUTOMATED METHODS

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Vocal tremor is a neurological disorder that occurs in isolation, or in association with other neurological disorders like essential tremor, Parkinson's disease and dystonia. It is shaky type of speech due to tremor affecting speech-related musculature. For the clinical and/or scientific documentation of vocal tremor it can be required to describe rate, extent and regularity of the tremor modulations in the speech signal (i.e., tremor modulation in speech properties like fundamental frequency, sound intensity level, first formant, etc.). Different methods exist to provide such description, as such as manual, automatically acoustic (Maryn et al., 2019, Journal of Speech, Language and Hearing Research) and semi-automatically acoustic. During this session (a) the different vocal tremor properties will be illustrated, (b) the differences between these methods will be discussed as well as their advantages/disadvantages, (c) the participants will be invited to manually explore the vocal tremor properties themselves, and (d) a newly developed Praat tools for the semi-automated acoustic vocal tremor analysis will be presented.

PARALLEL SESSION 4 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 4.1 FROM ECHOLALIA TO SELF-GENERATED GRAMMAR: SUPPORTING AUTISTIC STUDENTS WITH NATURAL LANGUAGE ACQUISITION

*Dr. Amanda Blackwell<sup>1</sup>, Mrs. Paulina Elias<sup>2</sup>, Mrs. Isabel Witters<sup>3</sup>*

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<sup>2</sup> Independent Practitioner

<sup>3</sup> Laat Taal Ontwikkelen

### Background

Pioneers in the field of speech-language pathology like Dr. Ann Peters and Dr. Barry Prizant awakened us to the communicative power and value of echolalia in autistic children (Peters, 1980; Prizant, 1983).

Since then, Marge Blanc has clarified and expanded upon the “other” and equally valid form of language development, known as gestalt language development. Through her Natural Language Acquisition (NLA) protocol that is based on fifteen years of clinical research, Blanc (2012), has outlined ways to assess and support language development for gestalt language processors.

A recent peer-reviewed publication has further defined NLA and has included the lived experiences of autistic adults to suggest strategies for establishing trust and connection with autistic clients (Blanc et al., 2023).

### Aim

This presentation will help clinicians “unlearn” traditional thinking about language development and in turn, better connect with their autistic students in speech and language therapy sessions. Future research directions will be highlighted in the presentation.

### Conclusions/Take home message

Participants will be able to explain the two known types of language development: analytic and gestalt, discuss the stages of natural language acquisition (Blanc, 2012) for gestalt language processors, and identify several intervention strategies to strengthen the connection with autistic students in speech and language therapy sessions.

**Keywords:** Autism, echolalia, gestalt language development, Natural Language Acquisition

Blanc, M., Blackwell, A., & Elias, P. (2023). Using the Natural Language Acquisition Protocol to Support Gestalt Language Development. Perspectives of the ASHA Special Interest Groups. [https://doi.org/doi:10.1044/2023\\_PERSP-23-00098](https://doi.org/doi:10.1044/2023_PERSP-23-00098)

Blanc, M. (2012). Natural Language Acquisition on the autism spectrum: The journey from echolalia to self-generated language. Madison, WI. Communication Development Center, Inc.

Peters, A. (1980). The units of language acquisition. *University of Hawaii Working Papers in Linguistics*, 12(1), 1-72.

Prizant, B. (1982). Gestalt language and gestalt processing in autism. *Topics in Language Disorders*, pp. 3, 1, 16–23.

PARALLEL SESSION 4 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 4.2 NEURODIVERSITY-AFFIRMING LANGUAGE SUPPORT FOR AN AUTISTIC GESTALT LANGUAGE PROCESSOR: A CASE STUDY

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### Background

**Case Study:** An autistic 3-year-old boy who uses delayed echolalia scored much higher on expressive language(p50) than receptive language(p5) in2019. He loves to connect with people but communicationattempts were often unsuccessful. After making little progress with typical early intervention language strategies, he started showing physiological stuttering in his speech at age4. Shifting away from traditional thinking about languagedevelopment, his family and therapist started using the Natural Language Acquisition Protocol by Marge Blanc(2012) and determined him to be a gestalt language processor. His strengths and needs were evaluated and a new intervention plan was made. Differences were noted in his speech development as an autistic person (Zisk and Dalton,2019). This realisation helped the parents and the school speech therapist to find the right supports and accommodations to develop speech and language. Now in 2024, the child received funding for an AAC device as a speaking autistic student, and he's not showing any symptoms of distress or stuttering anymore. He is using a combination of oral speech and AAC for autonomous communication to connect with his loved ones.

### Aim

This presentation will help clinicians recognise gestalt language processing so they can adequately assess and support their autistic students in language development using the NLA protocol (Blanc,2012). Moreover, the parents in this case study want to communicate to all speech therapists that it is essential to keep an open mind in giving access to AAC to sometimes-speaking autistic students.

### Conclusions/Take home message

Participants will understand that echolalia is meaningful and that it is a part of gestalt language development, requiring different intervention strategies than traditional analytic intervention strategies. Participants will be encouraged to remain open to using a wide variety of communication supports and accommodations for individual differences.

**Keywords:** Autism, echolalia, gestalt language development, Natural Language Acquisition, AAC, case study

PARALLEL SESSION 4 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 4.3 EFFECTIVE TREATMENT APPROACHES IN LATE TALKERS: A SYSTEMATIC REVIEW

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**Background:** Impaired language learning is linked with poor outcomes in academic achievement, social and behavioral development and self-esteem (Collisson, 2016).

**Aim:** The aim is to identify the most effective treatments for late talkers and if they could be meaningful to the Italian context.

**Methods:** PICOM was formulated by referring to EBM. Eligibility criteria were established a priori: diagnosis of language delay, sample's age 18-36 months, RCT or review study design, presence of a pretest and post-test evaluation, studies published in Italian/English. A bibliographic search was conducted on Medline, Cochrane Library, SpeechBite, PsychInfo, Eric databases. Each included study underwent an evaluation of the methodological quality and level of generalizability. PEDro-P Scale was chosen to evaluate the methodological quality and a specific scale starting from the scale, proposed by De Cagno et al. 2018, for the external validity.

**Results:** 3792 studies were identified, seven met the eligibility criteria. Six studies use an indirect parent coaching approach, one study direct speech therapy. All studies report significant improvements at post-test; the difference between the intervention and the control group decreases when follow-up time increases. Parent training programs appear to improve parents' communication skills and reduce the number of direct speech therapy sessions in children who will develop language disorders. However, some studies propose home-visiting, not easily replicable in the Italian context, and they do not achieve a high score at the External Validity.

**Conclusions:** the results can be considered significant for the characteristics of the sample used and the culture of the parents involved. The parent coaching approach can be useful as a prevention approach; an adaptation to the culture of the population is desirable. It cannot, however, be considered a substitute of direct intervention for children when difficulties persist.

**Keywords:** late talkers, language delay, speech therapy, parent training, expressive vocabulary.

PARALLEL SESSION 4 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 4.4 DEVELOPMENT OF A CORE OUTCOME SET FOR CHILDREN WITH SPEECH SOUND DISORDER: THE MISLTOE\_SSD STUDY PHASE 1

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### Background

Trials have shown that intervention for children with speech sound disorder (SSD) is effective. However, comparing studies to determine which interventions are most effective is difficult given variations in SSD classification and how outcomes are measured and reported. The MISLToe\_SSD study sought to address these challenges.

### Aim/Objectives

The aims were to:

1. Develop a robust protocol for collection of a Core Outcome Set (COS) and Minimum Data Set (MDS) for children with SSD that is meaningful to stakeholders and feasible to implement within clinical services.
2. Agree a standard diagnostic protocol for identification of subtypes of SSD.
3. Determine specification of interventions provided for SSD subtypes.

### Methods

An iterative process was undertaken: 1. an umbrella review of metrics of SSD to provide content for the COS and MDS; 2. a virtual participatory workshop with six UK NHS speech-language pathology services to determine a common diagnostic protocol, establish consistent labelling of SSD subtypes and determine a list of interventions for use with the COS and MDS; 3. a two-round modified Delphi and then virtual meeting with an expert panel of academic, clinical specialists and patient representatives to gain consensus on the COS and MDS.

## Results

From the umbrella review, 17 metrics were retained for consideration in the participatory workshops and modified Delphi process. The participatory workshop agreed a feasible diagnostic protocol leading to diagnosis of SSD subtypes in keeping with the Differential Diagnostic Classification System described by Dodd (2014). Consensus on the COS and MDS was achieved. The primary outcome measure being increased speech intelligibility, measured by the Intelligibility in Context Scale (McLeod, 2012).

## Conclusions / Take Home Message

Consensus on the COS and MDS has been achieved through collaboration with clinicians and academics. Phase 2 of this work explores the feasibility of data collection in UK NHS services.

PARALLEL SESSION 4 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 4.5 EXPLORING SOLUTIONS TO REDUCE WAITING LISTS FOR SPEECH AND LANGUAGE SERVICES IN THE NETHERLANDS

*Inge Klatte<sup>1,2</sup>, Ingrid Singer<sup>1,2</sup>, Dr Rob Zwitserlood<sup>1</sup>, Prof Dr Ellen Gerrits<sup>1,2</sup>*  
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**Background:** In the Netherlands, the dominant model for speech and language (SLT) services is individual direct therapy in SLT practices with a dosage of 25 to 30 minute weekly sessions. Currently, Dutch SLT therapy practices have waiting lists of 6 to 12 months for children with speech, language, and communication needs (SLCN). Accessibility of SLT services is under increasing pressure and SLT vacancies remain unfilled. To increase access to services new intervention models and ways of working are needed.

**Aim:** Exploring promising solutions that will reduce waiting lists for children with SLCN according to SLTs and parents.

**Methods:** We conducted an explorative study using an online survey, interviews and focus groups with SLTs. Also, we interviewed parents of children with SLCN on waiting lists about their experiences and needs.

**Results:** According to SLTs, promising solutions can be found in alternative service delivery models, such as group therapy, hybrid therapy, or extended therapy pauses, collaboration with and coaching of parents, and optimizing involvement of SLT students. Also, opportunities were recognized in use of technology in therapy and consultation, and the establishment of stronger collaborations with children's teachers and the preventive healthcare sector. Parents expressed the wish to receive information on language development, practice materials and advice about how to support their children at home.

**Take home messages:** The promising solutions for reducing waiting lists for SLT services need to be further developed. Participatory Action Research, in which SLTs play a leading role, is likely to be a useful approach to establish meaningful, feasible and relevant interventions to reduce waiting lists.

**Keywords:** Speech and language therapy, waiting lists, innovation, children with SLCN



PARALLEL SESSION 4 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 4.6 A WEB-BASED BILINGUAL COMMUNICATIVE-LANGUAGE ASSESSMENT TOOL IN EARLY CHILDHOOD

*Dr Gianmatteo Farabolini<sup>1</sup>, Prof Allegra Cattani, Prof Daniela Gatt, Prof Maria Gabriella Ceravolo*

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### Background

Language exposure is a core variable of indirect early plurilingual communicative-language assessment (Gatt et al., 2015), together with the study of the optimal way to measure bilingual vocabulary. When bilingual normative data is not available, bilingual vocabulary is often measured through different vocabulary measures (Pearson et al., 1993) or monolingual normative data for children with high levels of exposure to a target language (Cattani et al., 2014).

### Aims

To shed light on bilingual communicative-language assessment in early childhood, (i) we analyzed the validity of a parent-report survey developed to measure background information and language exposure on bilingualism and (ii) we tested different procedures to calculate bilingual expressive vocabulary compared to monolingual results.

### Methods

We developed and studied the validity of a parent-report survey to measure multilingualism's features and background information, through a parents' satisfaction rating. We also administered the Italian MB-CDI and the MB-CDI word-checklist in the children native language.

We analyzed differences between bilinguals' (namely total, conceptual or language-specific) scores and a control group of monolinguals' (N=154) scores, to find the optimal way to calculate bilingual vocabulary.

### Results

The parent-report survey, filled in by 34 parents of bilingual Italian-speaking children aged 18-42 months, assigned a mean score of 7.67/10 to the understandability of questions' content clarity, and 7.92/10 to the coherence and logic of questions' sequence. The mean time needed to complete the questionnaire was 10.32 minutes.

Monolinguals significantly outperformed their bilingual peers across the bilingual lexical measures (significance at  $p < .001$  for the three measures). Similarly, cluster analysis was not able to identify a threshold of language exposure allowing to use monolingual normative data to measure bilingual vocabulary.

## Conclusions

We developed a parent-report survey which can be implemented to different languages. Our results did not support any optimal methodology to calculate bilingual vocabulary, and further studies are needed.

## KS2. TELOS & TECHNE: WHY DO WE EAT?

*Paula Leslie, PhD, MA(Bioethics)*

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Center for Bioethics & Health Law, University of Pittsburgh, USA (Research Ethics & Society Initiative) ~ Consultant

Food, drink, dysphagia. Which of these three words is the odd one out? I propose that the word is so far removed from the other two that we might reconsider its use completely. The theme of the ESLA Congress is The Power of Communication in the Quality of Life, so let us consider the role that food plays in our lives and why it is a fundamental form of communication:

“You can end up losing many things, including your language, but food - the ingredients, dishes and flavours - stay with you.” (Einashe, 2021)

Consider published research evidence where in August 2024 the PubMed hits for [dysphagia] were over 82 THOUSAND, filtered with [patient experience/perspective] it drops to double figures, and exclude [cancer] we are left with just TEN papers.

What food means to people is often not what our interventions target or what we think we are helping with. This leads to a feeling of burden and even moral distress for clinicians supporting people and families. Each person is a life story and when that story, that biographical narrative, is disrupted by disease, the person’s story needs adapting. This is part of our role as clinicians and we need to place ourselves in that person’s story line rather than start a new one where they join us in ours.

Food and drink may be the most powerful factor in how we identify as individuals, how we mark life transitions, faith rituals, and connect to others across time and space. Reflecting on this for ourselves will hopefully guide our work to support those people for whom eating and drinking has been impacted by disease. As compassionate clinicians we may come to understand the experience of illness is different to the diagnosis of disease, and reduce our moral distress into the bargain.

For what is life without the pleasure of eating?

“The joys of the table belong equally to all ages, conditions, countries and times; they mix with all other pleasures, and remain the last to console us for their loss.” (Brillat-Savarin, 1884).

Brillat-Savarin, J.-A. (1884). *The Physiology of Taste*.

Einashe, I. (2021). *The wonders of Somali cuisine and a taste of home*. Letter from Africa. Retrieved from <https://www.bbc.co.uk/news/world-africa-58348779>

Keywords: eating & drinking disorders, biographical narrative, quality of life, moral distress

**PARALLEL SESSION 5 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE**

**5.1 ESTABLISHING PRIORITIES ON GOOD PRACTICE  
RECOMMENDATIONS TO PREVENT ASPIRATION PNEUMONIA:  
RESULTS FROM A MODIFIED E-DELPHI STUDY**

*Ms Joana Santos<sup>1,2</sup>, Prof. Oscar Ribeiro<sup>1,2</sup>, Prof. Luis Jesus<sup>3,4,5</sup>, Prof. Pedro Sa-Couto<sup>6</sup>, Prof. Maria Matos<sup>1,3</sup>*

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**Background:** Aspiration pneumonia (AP) is a major threat to older adults living in nursing homes (NH) as it increases the risk for dependency, morbidity, and mortality rates. Multidisciplinary interventions for preventing AP in this population are scarce, despite its high incidence. To address this gap, a modified e-Delphi study was developed to gather and validate the scattered existing recommendations, available from various bibliographic sources, on the prevention of AP in older adults at risk of oropharyngeal dysphagia (OD) living in NH.

**Objective:** This study aims to present recommendations for the prevention of AP in older adults at risk of OD living in NH, based on previously validated items during the first phases of the e-Delphi study.

**Methods:** Best practice recommendations in different categories were obtained through statistical analysis of means and medians obtained from an expert panel ranking during the third round of an e-Delphi study. Based on mean values, a homogeneous subset analysis was conducted to highlight the most important items within each category.

**Results:** For each category, sets of prioritised recommendations with an average of 7 items were defined. The "stroke" category showed the highest interrater variability, limiting the establishment of homogeneous subsets.

The analysis of the expert panel's priorities revealed that the most important items relate to the need for early screening and assessment of OD and malnutrition risk, promoting individuals' independence, referring to dentists and dysphagia and nutrition specialists, rehabilitating or

compensating altered functions, and ensuring patients' quality of life. In the "end-of-life" category, ethical issues regarding risk management of oral feeding were also highlighted.

**Conclusions:** Planning AP prevention programs in older adults at risk of OD living in NH should consider systematic screenings and specialised interventions.

**Keywords:** aspiration pneumonia, oropharyngeal dysphagia, older adults, prevention, best practices, modified e-Delphi study

## **5.2 A SELF-REPORT FOR CLINIC AND RESEARCH IN THE PREVENTION OF COMMUNICATION, LANGUAGE AND ADAPTIVE DIFFICULTIES**

*Speech and Language Therapist Luigi Marotta, Professor Maria Cristina Caselli<sup>3</sup>, Doctor Annamaria Dall'Oglio<sup>1</sup>, Speech and Language Therapist Mirella Mariani<sup>1</sup>, Doctor Pasquale Rinaldi<sup>3</sup>*

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<sup>2</sup> FLI Italian Speech and Language Therapists Federation - Scientific Society

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### **Background**

The significance of surveillance and screening for developmental issues in primary care, especially for children at risk of linguistic, communicative and neuropsychological disorders, is widely acknowledged. Direct observation is preferred but resource-intensive, prompting the use of indirect methods like questionnaires for large-scale screening. This study seeks to broaden the age range for administering the QS4-g parent questionnaire, evaluate developmental aspects in preschoolers to guide teaching strategies, and notify families about children experiencing difficulties.

### **Objectives**

The study aimed to achieve three main objectives. Firstly, to expand the age range for administering the QS4-g parent questionnaire from 4-5 years to 3-6 years. Secondly, to assess the cognitive, communicative, linguistic, and adaptive development levels of preschool children to inform teaching strategies. Lastly, to inform families about any children exhibiting particular difficulties.

### **Methods**

**Materials:** The study utilized the QS4-g Questionnaire, a validated parent questionnaire designed for screening and monitoring the neuropsychological and behavioral development of 4-year-old children. **Participants:** 209 typical preschoolers from various regions in Italy were enrolled, ranging in age from 3 to 6 years. **Procedures:** Parents were administered the QS4-g questionnaire after a comprehensive presentation of the project and its objectives. Individual child profiles and class-wide profiles were analyzed to conduct targeted reinforcement workshops lasting two months. Follow-up assessments were conducted to assess progress made by different classes in cooperation with school teachers.

### **Results**

From the analyses carried out, it was discussed that it is possible to expand the normative sample from the 4-5 year age group to the 3-6 year age group. The results of the enhancement workshops will be presented.

#### Conclusions

The QS4-G is a very valuable observation and indirect assessment tool that provides the clinician, family and school with a comprehensive overview of the various communicative, neuropsychological and adaptive areas of development.

#### Keywords

Language, communication, early intervention, questionnaire.

PARALLEL SESSION 5 – COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

### 5.3 COLLABORATIVE WORKING WITH PARENTS: HOW TO PREPARE STUDENTS?

*Dr. Maja Kelić<sup>1</sup>, Dr. Clare Carroll<sup>2</sup>, Dr. Sam Harding<sup>3</sup>, Inge Klatte<sup>4</sup>, Dr. Rena Lyons<sup>2</sup>, Tina Mantel<sup>5</sup>, Dr. Katelyn Melvin<sup>6</sup>, Dr. Ellie Sugden<sup>7</sup>*

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**Introduction:** Collaborative working with families has positive impacts on outcomes for both families and children. However, implementing a collaborative approach requires SLTs to have knowledge, skills, attitudes, and confidence in working with families. Research has shown that collaboration can be difficult to achieve, and that SLT students may feel particularly unprepared to work in this way. New approaches to preparing SLT students to collaborate with families are needed. These should draw on current research and teaching evidence.

**Aim:** To explore teaching practices used to prepare health and social care students to work collaboratively with families of children under the age of 8 years

**Methods:** A scoping review was conducted to synthesize and map the available evidence for preparing allied health and social care students to work collaboratively with families of children with language disorders. The results of the scoping review are reported using the reporting guideline PRISMA Extension for Scoping Reviews. The data were charted using the Template for Intervention Description and Replication (TIDier).

**Results:** 23, 096 references were screened for inclusion, and subsequently seven studies were retained. These represented practice across health and social care settings and captured different teaching and learning methods. These methods included a component of classroom-based instruction covering theory and a form of skill development practice. Outcomes for students were reported to be positive. However, evaluation of teaching methods represented in current studies did not always represent deeper transformation of practice.

**Conclusions:** Results highlight the need for the design of new, reflexive learning opportunities for SLTs which prepare them to collaborate with families in early intervention. Effective learning via role play and simulation should be explored as a priority considering the identified shortages of clinical placements for SLT students internationally.

**Key words:** collaboration, students, teaching and learning methods



PARALLEL SESSION 6 – SPEECH AND LANGUAGE DISORDERS IN NEUROLOGIC AREAS

## 6.1 METHODS TO MAKE INFORMATION MORE ACCESSIBLE TO PEOPLE WITH ACQUIRED COMMUNICATION DISABILITIES: A SCOPING REVIEW

*Ms Andisiwe Nxoko<sup>1</sup>, Dr Mark Jayes<sup>2</sup>, Professor Shakila Dada<sup>1</sup>*

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<sup>2</sup> Department of Health Professions, Manchester Metropolitan University

### Background

The ability to access information is key to making informed decisions about one's life, and results in superior quality of life and health outcomes. Much of the existing literature on how to make information accessible focuses on people with intellectual disability; less is known about people with acquired communication disabilities.

### Aim / objectives

Aim: to scope and synthesize current literature regarding methods to make print or electronic information more accessible to adults with acquired communication disabilities in health and social care contexts.

Objectives: to describe these methods and their use by paid and unpaid caregivers; evaluate their benefits in terms of making information easier to understand; and evaluate their acceptability to users.

### Methods

The review is being conducted using the Joanna Briggs Institute scoping review methodology and PRISMA-ScR (preferred reporting items for systematic reviews and meta-analyses) guidelines.

The multi-faceted search strategy, developed in consultation with expert advisors and a specialist librarian and refined following a pilot phase, includes database searches, hand searching, and forward citation and ancestry searches. Searches were completed in December 2023.

Two blinded reviewers have screened records at title / abstract and full text stages. Data will be extracted by a single reviewer and independently verified by two reviewers. Included study characteristics will be summarized quantitatively and their findings reported qualitatively.

### Results

8054 records have been screened at title / abstract stage. Full text screening is ongoing. The review will be completed by June 2024.

#### Conclusions / take home message

The findings will be used to identify implications for professional practice, in terms of evidence-based ways to provide accessible information for people with acquired communication disabilities. Gaps in the evidence base will be used to guide future research on accessible information methods for this group.

#### Key words

Accessible information, acquired communication disabilities, adults, scoping review.

## 6.2 PRODUCTION OF CLITICS IN PEOPLE WITH BROCA'S APHASIA: PRELIMINARY INSIGHTS

*Professor Mile Vuković<sup>1</sup>, Lana Jerkić Rajić<sup>1</sup>*

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**Introduction:** Broca's aphasia is a non-fluent type of aphasia, which is primarily manifested in agrammatism. The patients usually produce short sentences in which function words and morphemes are often omitted.

**Aim:** The objective of the research is to examine the production of clitics in people with Broca's aphasia and to compare them with neurologically healthy subjects without a language disorder.

**Method:** The sample included 13 patients with Broca's post-stroke aphasia, who had relatively good auditory comprehension ability. The diagnosis of aphasia was based on the Boston Diagnostic Aphasia Examination. The control group comprised 13 neurologically healthy subjects with no presence of disorders in their language development. The groups were equivalent in level of education. The patients' mother tongue was Serbian. The new Serbian Clitic Production Test (SCPT) was used. The descriptive (Frequency, Percentage, Mean, SD, Min, Max) and inferential (Mann-Whitney U-test) statistics were used in data processing.

**Results and discussion:** We found statistically significant differences between people with Broca's aphasia and neurotypical subjects on the SCPT ( $U = 1.500$ ,  $z = -4.982$ ,  $p = 0.000$ ). The results showed that people with Broca's aphasia achieve low scores on the SCPT, regardless of age, years of education and time post onset. Errors in production of clitics in people with Broca's aphasia are manifested in the omission of clitics and/or production of inadequate clitics.

**Conclusion:** Preliminary results show that the SCPT has the potential to detect clitics production deficits in patients with Broca's aphasia.

**Keywords:** Broca's aphasia, production of clitics, Serbian

### 6.3 PRELIMINARY FINDINGS OF A COMPARATIVE STUDY OF NONVERBAL REPETITION PERFORMANCE IN MULTIPLE SCLEROSIS: GROUP DIFFERENCES AND SUBTYPE VARIATIONS

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Cognitive decline, is a clinically relevant manifestation of MS and mainly involves deficits in information processing speed and working memory (WM).

Phonological working memory (WMP), a subcomponent of WM, consists of a dynamic process involving storage and articulatory rehearsal, enabling the preservation memory traces for short periods of time. The Recall and reproduction mechanisms serve to refresh memory traces, with WM capacity limited by the number of words that can be retained before initial items decay from storage.

The Nonword Repetition (NWR) task serves as a cognitively demanding assessment, requiring high levels of phonological processing and storage. Extensive evidence indicates that a primary factor of accuracy in NWR is the restricted capacity of WMP, the specialized verbal component within the WM framework.

This study presents preliminary findings from an investigating into NWR tasks in individuals with MS compared to healthy controls (HC), with a focus on WMP, speech perception, and short-term memory.

Significant differences were found in NWR accuracy (NWRacc) rate between MS subgroups and HC ( $U=64,2$ ;  $p<0,001$ ). All MS subtypes showed lower NWRacc compared to HC across varying syllable lengths (Mann Whitney U Test: two syllables  $U=2$ ,  $p<0,001$ ; three syllables  $U=7,5$ ,  $p<0,001$ ; four syllables  $U=26,5$ ,  $p<0,001$ ; five syllables  $U=10$ ,  $p<0,001$ ). However, no significant differences were found within MS subtypes based on syllable length. NWRacc did not differ between MS subgroups.

These findings imply that the NWR task, acknowledged for its significant role in evaluating phonological processing and verbal short-term memory, is adversely impacted by potential impairment in WMP in individuals with MS. This highlights the importance of further research to comprehend the specific cognitive aspects of this disease and to develop tailored interventions addressing cognitive-linguistic deficits.

**Keywords:** Multiple Sclerosis, nonword repetition, working memory, short term memory.

PARALLEL SESSION 6 – SPEECH AND LANGUAGE DISORDERS IN NEUROLOGIC AREAS

## 6.4 PROXY AND SELF-REPORT AGREEMENT OF FUNCTIONAL COMMUNICATION IN APHASIA AND / OR APRAXIA OF SPEECH

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### Background

The assessment of communicative abilities in daily life of people with aphasia can be based on both the patients themselves and their family members. However, there is currently little data on the reliability of self- and proxy-assessment (for quality of life, see Hilari et al., 2007). Furthermore, it is unclear to what extent the communication skills rated by the patients or proxies correspond to the assessments of language performance by experts.

### Aim

The purpose of this study was to evaluate the agreement between patient and proxy ratings of functional communication in people with aphasia and/or apraxia of speech (AoS) using the same diagnostic instrument. In addition, the data were compared with diagnostic data analysed by experts.

### Methods

The CETI questionnaire (Communicative Effectiveness Index, Lomas et al., 1989) was used in the original proxy version and in an adapted patient version to assess communication in daily life. Expert ratings of spoken naming and complex picture description were also obtained. A total of 24 people with aphasia and/or AoS and their relatives participated in the study.

### Results

CETI scores showed a significant correlation between proxy and self-report ( $r = .736$ ,  $p < .001$ ) when excluding patient-proxy pairs with a score difference of  $\geq 2$  standard deviations ( $n=3$ ). While there were no correlations with object naming ( $p > 0.05$ ), there were significant correlations with expert ratings of communicative performance in picture description (patient ratings:  $r = .432$ ,  $p < .05$ , proxy ratings:  $r = .598$ ,  $p < .01$ ).

### Conclusion

This study showed good agreement in the assessment of functional communication in the majority of patients with aphasia and their relatives. Correlations between CETI scores and expert measures of picture description indicated good agreement between the proxy and self-report measures of communicative ability and the production of coherent speech in formal tests.

PARALLEL SESSION 6 – SPEECH AND LANGUAGE DISORDERS IN NEUROLOGIC AREAS

## 6.5 HOW A MULTILEVEL PROCEDURE OF DISCOURSE ANALYSIS UNVEILS THE RELATION BETWEEN INHIBITORY CONTROL AND LEXICAL INFORMATIVENESS ON A STORY PRODUCTION TASK IN HEALTHY AGING

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Marika Gobbo<sup>1</sup>, Silvia D'Ortenzio, Giulia Gasparotto, PhD Francesca Marina Bosco<sup>2</sup>*

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### Background

Aging affects cognitive skills and discourse production abilities.

### Aim

We assessed the alterations induced by healthy aging on narrative production skills and their potential relation with the effects of a decline in phonological working memory, sustained attention, and inhibitory control.

### Methods

152 adults formed 3 groups: 60 young adults (aged 20-39; females: 57%); 46 middle-aged adults (aged 40-59; females: 54%); 45 senior adults (aged 60-79; females: 56%). They scored within normal range on the Raven's matrices, MMSE, and on tasks assessing phonological working memory (forward and backward span tasks), sustained attention (Trail Making Test A, TMT\_A), and inhibitory control (TMT\_B-A). Their narrative production skills were assessed with a multilevel analysis (Marini et al., 2011) applied to speech samples obtained with a picture-story description task (2 single pictures, 3 vignettes).

### Results

The 3 groups differed on forward ( $F(2, 151)=4.514, p<.012$ ) and backward ( $F(2, 151)=10.903, p<.001$ ) digit span tasks, TMT\_A ( $F(2, 151)=16.513, p<.001$ ), and TMT\_B-A ( $F(2, 151)=20.855, p<.001$ ). Post-hoc analyses showed that older adults had lower spans and higher completion times for TMT\_A and TMT\_B-A than the other groups that did not differ from each other. The 3 groups produced stories with similar numbers of words but different Speech Rates ( $F(2, 151)=7.096, p<.001$ ), % Complete Sentences ( $F(2, 151)=4.961, p<.008$ ), and % Lexical Informativeness ( $F(2, 151)=4.618, p<.011$ ). Post-hoc analyses confirmed that older adults narrated with lower speech rates, fewer complete sentences and informative words than the other 2 groups. A linear multiple regression showed that the measure of inhibitory control (TMT\_B-A) was significantly associated with % lexical informativeness ( $\beta=-.305; p<.001$ ).

### Conclusions

These findings suggest that the reduced inhibitory control in healthy aging affects the ability to select informative words while producing a story. The implications for clinical practice will be discussed.

#### Acknowledgements

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#### Keywords

aging; discourse; cognition

## 6.6 THE EFFECT OF LISTENER AGE AND EXPERTISE ON THE PERCEPTION OF SPEAKING RATE CHANGES: DATA FROM GREEK

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Current behavioural treatment programs for neurogenic speech disorders focus on global changes of speech production including speaking rate reduction (Behrman, Cody, Elandary, Flom & Chitnis, 2020; Park, Theodoros, Finch & Cardell, 2016). According to key principles of motor learning (Maas, Robin, Hula, Freedman, Ballard & Schmidt, 2008), for the process of speaking rate modification to be successful, the listener (the clinician) provides augmented feedback on the effect of speaker's rate on intelligibility and naturalness, and the speaker (the patient) monitors his/her speaking rate via internal feedback resources.

This study examines how listener's ability to perceive speaking rate changes is modulated by age and expertise. Both factors are clinically relevant; dysarthrias involve conditions prevalent in the elderly population and SLT's expertise might amplify speech perception.

Three listener groups, 30 young, 30 elderly naïve listeners (with no expert knowledge on speech perception and prosody) and 30 young SLTs carried out two perceptual experiments. They listened to pairs of sentences produced with habitual, slow or fast speaking rates and they had to identify which sentence was produced slower and in a more natural manner. Listeners were presented with 264 sentence pairs, randomly selected from a larger data set of 20 sentences produced by 40 Greek speakers.

Listener performance followed similar patterns across groups; listeners were more successful distinguishing between habitual vs. slow than habitual vs. fast rate conditions. All listeners judged slow rate as the least natural, whereas fast and habitual rate conditions were comparable in terms of perceived naturalness. Clinicians did not exhibit superior performance compared to naïve listeners. The elderly group tended to be less accurate than younger listeners in the identification of rate differences.

Conclusively, SLTs should be cautious of the effect of rate reduction on naturalness and the impact of ageing on self-monitoring skills.

Keywords: speaking rate, ageing, SLT



## **6.7 DEVELOPMENT OF A DIAGNOSTIC APPROACH FOR AOS IN THE GERMAN-SPEAKING CONTEXT: ADAPTATION OF ASRS-3.5 AND FURTHER DEVELOPMENT OF S-SPRAX**

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Apraxia of Speech (AOS) is a neurogenic communication disorder (Enderby, 2013), impacting various aspects of individuals' lives including psychosocial domains (Berthier, 2005; Dickson et al., 2008). Diagnosis as well as clinical differentiation from frequently co-occurring aphasia proves to be challenging (Haley et al., 2012; Wambaugh et al., 2019). Nevertheless, in English-speaking areas two assessments capable of objectively evaluating its presence and severity are available. To our knowledge, no standardised assessments exist in the German-speaking domain (Ziegler et al., 2020).

This study aims to develop a quantitative diagnostic approach for the use in German-speaking countries. Part one involves the adaptation of the Apraxia of Speech Rating Scale (ASRS 3.5) by Strand et al. (2014) respectively Duffy et al. (2023) to German. Part two comprises the further development of the “Screening for Sprechapraxie (S-SPRAX)” by Spath (2023), which was previously tested with 45 patients. It will serve as stimulus material for the ASRS and will be developed into a separate instrument with a cut-off value.

The adaptation of the ASRS-3.5 into German follows the guidelines of the International Test Commission (ITC;2017). The stimulus material by Spath (2023) is modified for the use with the ASRS. Psychometric analysis of S-SPRAX is conducted using Classical test theory as well as Item-Response-Theory (IRT) (Ayala, 2022; Müller, 1999) in R (R Core Team, 2021).

The adaptation of the ASRS to German (D-ASRS) was completed successfully following the ITC guidelines. S-SPRAX could be expanded for the use with the D-ASRS and an advanced version (S-SPRAX II) was developed using IRT analyses.

Lack of objective assessment for AOS in the German-speaking context led to creating two assessment options that will be tested from 2024 to 2026. Comparing quality criteria of the two shall result in the selection of one diagnostic tool for use in research and clinical work.

## 6.8 IS THE LEVEL OF COMMUNICATION DIFFICULTY ASSOCIATED WITH CAREGIVER BURDEN IN INDIVIDUALS WITH DEMENTIA?

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**Background:** Dementia is a neurodegenerative syndrome that affects many cognitive functions, including cognition and behaviour. Individuals with dementia experience communication difficulties, even in the mild stage. Carers of individuals with dementia also face many difficulties. However, there are limited studies on the effect of communication difficulties seen in individuals with dementia on the care burden experienced by caregivers.

**Aims / Objectives:** The aim of this study was to investigate the relationship between the level of communication difficulties in individuals with dementia and the care burden of their carers.

**Methods:** The study included 36 individuals with dementia (25 females, 11 males) with a mean age of  $73.2 \pm 8.76$  years and their caregivers (29 females, 7 males) with a mean age of  $50.1 \pm 7.13$  years who were being followed up in the neurology clinic. To assess the communication difficulties of individuals with dementia, caregivers were asked to complete the Holden Communication Scale (HCS). Carer burden was assessed with the Zarit Burden Interview. Correlations between the scores obtained from the scales were analysed.

**Results:** The mean carer burden of the participants was  $31.4 \pm 21.1$ . HCS conversation  $5.5 \pm 4.01$ , HCS awareness and knowledge  $6.42 \pm 4.36$ , HCS communication  $4.47 \pm 4.53$ , and HCS total  $16.4 \pm 11.8$  were calculated. A statistically significant positive moderate correlation was found between the Zarit caregiver burden total score and all subsections of the HCS and the HCS total score ( $p < 0.05$ ). The correlation coefficients were 0.372 in HCS conversation, 0.473 in HCS awareness and knowledge, 0.396 in HCS communication, and 0.452 in HCS total. In this study, it was determined that communication difficulties seen in individuals with dementia were related to the care burden of caregivers. Therefore, by providing suggestions to support communication from the early stages of dementia diagnosis, we can reduce carer burden and increase the quality of life for both the individual with dementia and the carer.

**Keywords:** Dementia, communication, cognitive communication disorder, care burden

PARALLEL SESSION 6 - SPEECH AND LANGUAGE DISORDERS IN NEUROLOGIC AREAS

## 6.9 AWARENESS AND KNOWLEDGE OF APHASIA AND DYSARTHRIA AMONG FUTURE OCCUPATIONAL THERAPISTS AND PHYSIOTHERAPISTS IN AUSTRIA AND GERMANY

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### Background

Interlocutors of people with communication disorders (PWCD) play an important role in the success of a conversation (Wunderlich et al., 2023). Their personal behaviour and attitudes towards PWCD are related to their knowledge about a disorder (Le Dorze et al., 2014).

For aphasia, knowledge is known to be limited, not only among the general public (Simmons-Mackie et al., 2020), but also among health professionals (McCann et al., 2013). No data are available for dysarthria.

### Aim

The aim of the study was to investigate the level of knowledge about aphasia and dysarthria among future occupational therapists and physiotherapists in Austria and Germany.

### Methods

A standardised online questionnaire was developed that included questions on demographics, language impairments in general, as well as specific questions on difficulties encountered with aphasia/dysarthria and possible aetiologies. Data from 255 students/trainees in their final year of study / professional training are presented (Austria: 96 / Germany: 159; occupational therapy: 112 / physiotherapy: 143).

### Results

96.9% of respondents said they had heard of aphasia and 81.6% had heard of dysarthria. Basic knowledge, i.e.  $\geq 50\%$  correct judgements, of the difficulties encountered was found in 85.5% of respondents for aphasia and in 74.9% for dysarthria.

Knowledge of possible aetiologies was significantly lower (aphasia: 49.8%; dysarthria: 42.4%). Completely correct knowledge was very limited (aphasia: difficulties 11.4% / aetiologies 4.7%; dysarthria: difficulties 49.8% / aetiologies 2.4%). There were also many misjudgements.

### Conclusion

Lack of knowledge and inaccurate knowledge about aphasia and dysarthria among future occupational therapists and physiotherapists, as shown in the present study, can have a negative

impact on their communicative interaction with people with aphasia and dysarthria, thus limiting communicative participation of PWCD. There is an urgent need to provide members of other healthcare professions with information about aphasia and dysarthria and about how to deal with PWCD.

PARALLEL SESSION 7 – ALTERNATIVE & AUGMENTATIVE COMMUNICATION

## 7.1 USING CREATIVE PARTICIPATORY METHODS WITH PARENTS AND SPEECH AND LANGUAGE THERAPISTS (SLTs) TO EXPLORE COLLABORATIVE PRACTICE IN AUGMENTATIVE AND ALTERNATIVE COMMUNICATION (AAC)

*Ms Sarah Hayward<sup>1</sup>, Dr Daniel Hayes<sup>1</sup>, Dr Michael Clarke<sup>2</sup>, Dr Steven Bloch<sup>1</sup>*

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### Background

Poor collaboration between SLTs and parents is a major factor in the lack of uptake/rejection of Augmentative and Alternative (AAC) strategies by families. This PhD research addresses that challenge using participatory action research methods (PAR) to generate conceptual models of collaboration. PAR is a co-learning research process between ‘communities’ and researchers which involves problem identification, action and reflection leading to further inquiry and action for change.

### Aim

To explore stakeholder views of collaborative practice in AAC using creative participatory action research methods to inform the development of a novel conceptual model of collaboration.

### Methods

A co-research model was adopted, working with a parent stakeholder to facilitate a series of ten workshops. This approach integrated PAR methods with concept mapping (Trochim, McLinden., 2017). Concept mapping is an integrated mixed method which generates a conceptual framework and subsequently a conceptual model from the ideas of a diverse group of stakeholders.

Concept mapping integrates group processes such as brainstorming, unstructured idea sorting, and rating tasks with sophisticated multivariate statistical methods to produce a well-defined, quantitative set of results in the form of a pictorial view.

### Results

Forty-five participants took part in the workshops (20 SLTs, 25 parents). Participants used creative methods: drawing, clay, mind maps, problem trees and Talking Mats™ to express their views. Sorting and rating tasks were completed using 68 statements which were iteratively generated by stakeholders or derived from theory.

Conceptual models were generated from the integration of qualitative and quantitative data using hierarchical cluster analysis and multidimensional scaling. ‘Best fit’ trials with the data yielded seven statement clusters which form the basis of the conceptual model.

## Conclusions

Using creative participatory methods is an effective way to gauge a range of stakeholder views and generate new theory to inform SLT practice.

Keywords: Co-research, Collaboration, AAC, Action Research

PARALLEL SESSION 7 - ALTERNATIVE & AUGMENTATIVE COMMUNICATION

## 7.2 AAC HIVE: A SECURE COLLABORATIVE PLATFORM FOR AAC ASSESSMENT AND INTERVENTION

*Stéphane JULLIEN*  
University of Neuchâtel

Alternative and Augmentative Communication (AAC) foster social participation and self-determination of children and adults with Communication Disability when deployed in their social context. Socio-developmental approaches (Dodd, 2017) recommend interventions through daily social interactions offering communication opportunities and initiating repairs and expansions (Soto et al., 2020, Cooper et al., 2021). Such intensive and immersive scaffolding proposed by communication partners (CPs) and professionals entail both knowledge and collaboration between stakeholders for interventions as for assessment. Such collaboration is challenging for SLTs.

AAC-HIVE is a secure collaborative platform designed to collect observations from CPs and to support CP-centered interaction training. This platform includes a survey about CPs and AAC-user characteristics and a data collection tool including criteria such as modality, position in dialogue and communication function. Results are visually summarized and accessible for all stakeholders to support collaborative goal-setting and decision-making based on dynamic initial and continuing assessment. Such results allow fitting with Evidence-Based recommendations regarding disorders, communication levels and goals. CPs needs for training are identified and training can be organized and provided through the platform. Platform use is Focus-groups gathering SLTs, educators and families, all concerned by AAC in an institutional setting. Their comments participate to the ongoing process of construction of the platform. First conclusions of these focus-groups and examples of decisions following assessments with the platform will be presented.

Cooper, B., Soto, G., & Clarke, M.T. (2021). Prompting for repair as a language teaching strategy for augmentative and alternative communication. *Augmentative and Alternative Communication*, 37, 251-260.

Dodd, J. L. (2017). *Augmentative and Alternative Communication Intervention: An Intensive, Immersive, Socially Based Service Delivery Model*. Plural Publishing.

Soto, G., Clarke, M.T., Nelson, K., Starowicz, R., & Savaldi-Harussi, G. (2020). Recast Type, Repair, and Acquisition in AAC Mediated Interaction. *Journal of Child Language*, 47, 250-264.

PARALLEL SESSION 7 - ALTERNATIVE & AUGMENTATIVE COMMUNICATION

### 7.3 EXPLORING PARENTAL PERSPECTIVES ON THE IMPACT OF MAKATON PROGRAM ON CHILDREN'S COMMUNICATION: A THEMATIC ANALYSIS

*Mrs Maria Stavrou<sup>1,2</sup>, Mrs Maria Lazarou<sup>2</sup>, Dr Ioannis Vogindroukas<sup>3</sup>, Dr Elena Theodorou<sup>1</sup>*

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Effective communication is essential for social and academic development, enabling individuals to engage meaningfully with their environment. However, children with neurodevelopmental disabilities often require additional support to enhance their formal communication skills. Augmentative and Alternative Communication provides various methods to improve communication for individuals with complex communication needs. MAKATON is a language program that utilizes keyword sign language to address these needs.

Parents play a central role in fostering their children's language development. The successful integration of AAC relies heavily on sustained parental involvement, typically within the family home. Despite this crucial role, research on parents' perspectives and experiences, particularly MAKATON, remains limited.

This study aims to bridge this gap by examining parental viewpoints before and after implementing the MAKATON program. It seeks to address the following research questions: How do parents characterize communication before and after employing MAKATON? What are their experiences with the MAKATON program? How do children and families integrate MAKATON into their lives?

Ten parents of children with diverse neurodevelopmental disabilities were interviewed, using open-ended questionnaires to capture their experiences with MAKATON. The data collected through in-depth face-to-face interviews were analyzed using Braun & Clarke's (2006) inductive thematic analysis method, revealing four overarching themes and subthemes.

The study examined how the use of MAKATON affects children's socialization, communication abilities, and language skills. It described the changes in their communication skills after introducing MAKATON and provided insights into their developmental progress in specific areas. The research also identified the facilitators and barriers individuals face when using the MAKATON program daily. Finally, it explored parental perceptions of MAKATON following its integration into their and their children's lives and how this perception changed from negative to positive.

This study highlights the importance of considering context when evaluating such interventions.



PARALLEL SESSION 7 - ALTERNATIVE & AUGMENTATIVE COMMUNICATION

## 7.4 A CALL FOR SLTS IN THE FIELD OF AAC

*Signhild Skogdal*

UiT The Arctic University of Norway

The aim of this presentation is to raise a discussion on speech and language therapists (SLTs) involvement in the field of augmentative and alternative communication (AAC).

AAC is a multidisciplinary field, where assessments of motor-, cognitive- and sensory functions, communication, speech and language, and literacy skills, form the basis for interventions. Our experience from Norway is that occupational therapists, special education teachers, or paraprofessionals, have the primary responsibility for AAC assessment and interventions. And, the multidisciplinary AAC teams often misses a SLT, who has deeper and crucial competence on communication difficulties, speech and language disorders, and literacy development.

Internationally SLTs are seen as AAC specialists (Lund et al., 2017). The lack of SLTs in the multidisciplinary AAC teams will cause limitations in assessment and intervention for AAC speakers and people who can benefit from AAC. Research stated back in 2009 that SLTs should be encouraged to go beyond the role of programming AAC devices and return to the role of 'language therapist' (Von Tatenhove, 2009). Pitfalls of not focusing on language and literacy in AAC have been raised by several: 1) assessment and interventions are more driven by technology and not communication (Beukelman & Light, 2020), 2) solely focus on expressive language on the expense of language comprehension (Sevcik & Ronski, 2002), 3) lack of focus on literacy skills (Yorke, 2020).

A Norwegian survey revealed that only 14% of the SLTs who worked with AAC reported high competence on the field (Skogdal et al., 2022). The finding coheres with international research stating that SLTs feel lack of confidence and competence in the field of AAC (Conlon & Zupan, 2024).

From this we raise questions to SLTs:

- Do SLTs know their crucial competence in AAC?
- Do SLTs understand AAC as multimodal benefits for several SLT conditions?

PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.1 PALLIATIVE SPEECH AND LANGUAGE THERAPY IN PRIMARY CARE

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**Background:** The opportunities of speech and language therapy (SLT) in palliative care have been recognised by the profession itself for at least twenty years. However, it is more difficult to establish its value amongst the professions already integrated into the palliative care team. A key prerequisite in this regard is a precise definition of what palliative speech and language therapy entails.

**Aims:** The aim of this study is to create a detailed skills and service profile for SLTs who are working with terminally ill patients. This will reveal the possibilities of speech and language therapy within the established multidisciplinary palliative care team. The research question is as follows: What services does palliative speech therapy include?

**Methods:** In order to answer the research question, a literature-based quantitative Delphi-style study is conducted, aimed at speech and language therapists with at least three years of professional experience in working with palliative patients in three German speaking Central European countries. In three consecutive rounds, the participants are asked Likert-scale questions as well as open questions to add potential other skills that need to be voted on. Each survey round is followed by an analysis and the results of the previous round are summarised and presented to the survey participants in the following questionnaire.

**Results:** The study is ongoing at the time of the submission deadline. The results will be published in summer 2024 and the data collection is part of a bachelor's thesis.

**Conclusions:** The first round of the Delphi study already led to a high level of consensus for most of the preestablished items based on the already existing literature. Round two and three are expected to finalise a service profile for palliative speech therapy in Austria, Germany, and Switzerland.

**Keywords:** Palliative Care, speech and language therapy, palliative rehabilitation, end-of-life-care

PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.2 ‘BE YOUR OWN SELF’: A DOCUMENTARY ON THE IMPACT OF DLD ON THE SOCIAL-EMOTIONAL DEVELOPMENT OF YOUNG PEOPLE

*Mr. Eddy W. Hoste<sup>1</sup>, Mss Begga Van De Walle*

<sup>1</sup> vzw CETOS

<sup>2</sup> University college Ghent

‘Be your own self’: a documentary on the impact of DLD on the social-emotional development of young people (Van De Walle Begga & Hoste Eddy, Flemish Centre for DLD)

### Background

As children with DLD grow up they tend to experience more socio-emotional difficulties and internalizing symptoms than their typical developing peers (Samson et al., 2020). It is known that individuals with DLD face challenges in a number of areas of daily functioning through childhood and adolescence (Conti-Ramsden et al., 2016). Unfortunately, they are often confronted with misunderstanding from the environment.

### Aim/objectives

The aim of this project was to make a documentary that illustrates the broader impact of DLD on the emotional development and social participation of teenagers. This documentary aims to raise awareness for this often hidden disorder

### Method

In 2023, VZW CETOS (Flemish Centre for Developmental Language Disorders), together with an enthusiastic group of young people with DLD made the recordings for a short documentary about the difficulties and possibilities they experience due to their language disorder. The youngsters worked on their own story over several days and wrote their own DLD song. They were closely followed by a professional camera and sound crew for a whole week in a homely and family atmosphere.

### Results

‘Be your own self’ is an emotional documentary that illustrates the struggles and emotions youngsters daily face as well as the strengths they develop.

### Conclusion / take home message

This documentary can be used in awareness-raising campaigns about DLD in educational and professional contexts.

### Key words

Developmental language disorder, impact on daily life, quality of life, awareness, sensibilisatio

PARALLEL SESSION 8 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### **8.3 STAGES OF BILINGUAL DEVELOPMENT: SEMANTIC AND SYNTACTIC PATTERNS OF FRENCH LEARNERS AGE 2 TO 12 OVER 4 YEARS**

*Dr. Elin Thordardottir*  
McGill University

Bilingual children's developmental trajectories are known to be influenced by individual language experiences, both the age of first exposure (AoA) and amount and richness of language exposure. A better understanding of these trajectories has great theoretical and clinical significance.

This study followed the French as additional language development of 46 children (12 Spanish L1, 34 Mandarin L1) who were newcomers to Montreal, Canada, with 4 test times spaced roughly a year apart and with the first occurring 1 year after arrival. Age at arrival (AoA) ranged from 2 to 12 years. All children attended French schools or French daycares. The sample thus comprises children of varying ages but with equivalent lengths of residence (LOR) in a French-speaking community.

Over the 4 test times, standard vocabulary scores increased gradually from around 60 to around 90. At test time 4, standard scores were thus still lower than the monolingual norm. Older children achieved higher raw scores than younger children at all test times; however, younger children initially achieved higher standard scores. By time 4, standard scores were unaffected by age.

Mean length of utterance in spontaneous language was significantly impacted by age already at time 1, with older children performing much higher than younger children. For many of the older children, MLU was within the normal monolingual range already at time 1; however, patterns of semantic difficulty and creativity meant many abandoned utterances which made the samples difficult to understand. Over time, these patterns decreased. These stages in semantic and grammatical development call for nuances in how language sample measures are interpreted.

The results of this study have important theoretical implications regarding the impact of AoA versus language exposure on bilingual development. They have important practical implications for bilingual assessment, highlighting stages of early bilingual development, both semantic and grammatical.

PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

**8.4 NASALANCE SCORE VARIATION IN GREEK YOUNG ADULT  
SPEAKERS: RELIABILITY OF THE PORTABLE NASALANCE SYSTEM  
DEVICE AS A BIOFEEDBACK INSTRUMENT**

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Behavioral treatment of velopharyngeal dysfunction in speakers with neurological, structural or functional disorders is founded on principles of motor learning (Maas, Robin, Hula, Freedman, Ballard & Schmidt, 2008). Quantification and real-time visualization of nasalance via instrumentation is in line with a key motor learning principle, structured use of augmented, clinician-guided feedback.

This study assesses the clinical relevance of a portable device for the acoustic assessment of oral-nasal balance, the Nasalance System, that involves processing of acoustic signal from two microphones placed on the two sides of a handheld separation plate. Although this device can be used as real-time biofeedback instrument, it is considered less reliable compared to standard nasometers that employ more robust but less practical means of separation of the oral and nasal signals that are not optimal for routine clinical use. The study aim is twofold: a) to analyze intra-speaker reliability of nasalance scores generated by the device and b) to derive nasalance norms for Greek young adults for the specific instrument.

Participants were 50 Greek speakers, 25 males and 25 females, aged 20-30 year olds. They read aloud a corpus of oral and nasal linguistic material of varying complexity: syllables, sentences and texts. The material is adapted from Okalidou, Karathanasi & Grigoraki (2011); additionally it involves multiple repetitions of the same items to calculate intraspeaker reliability.

Overall, the Intraclass Correlation Coefficient measurements indicated high intraspeaker reliability of the nasality scores. Measurements are adequately predictable in terms of perceived nasality. Mean nasalance scores are comparable to the normative data of Okalidou et al. (2011).

Conclusively, findings indicate the Nasalance System is a potentially appropriate clinical tool that can be effective as biofeedback for patients with nasalance problems. The study is part of an ongoing project that involves data analysis across gender, age and atypical populations. nasalance, hypernasality, Greek

PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.5 NARRATIVE DEVELOPMENT IN TYPICALLY DEVELOPING SCHOOL-AGED CHILDREN AND CHILDREN WITH DLD

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### Background

Narrative abilities are important in children's communication in everyday life. Narrative competence is related to social-emotional development of school-aged children and predicts future academic and linguistic skills (Botting, 2002; Conti-Ramsden et al., 2009).

Narrative abilities are reduced in children with developmental language disorder (DLD), who are known to have lower quality of life than their typical peers (Eadie et al., 2018). Narrative tasks are valid measures for detecting language disorders in children (Norbury & Bishop, 2003; Duinmeijer et al., 2012). The Frog Story Test (FST) and Bus Story Test (BST) are used for testing narrative competence through story generation and story retelling in Dutch children, but developmental normative data are lacking.

### Aim

To study narrative development (plot structure, grammaticality and sentence complexity) in school-aged children with typical development (TD) and DLD.

### Method

We included 180 DLD children and 180 TD children aged 4 to 10 years. The narrative (re)telling production (FST, BST) were transcribed and analyzed according to a well-defined analysis model. Effects of age and group were analyzed by univariate analysis of variance.

### Results

Univariate analysis of variance showed a main effect for age for all outcome measures in (re)telling for both TD and DLD. For plot structure and complex sentences, the TD children outperformed the DLD children and this difference increases with age.

For grammaticality, TD children also performed better than DLD children, but there was no interaction with age.

### Conclusion

Narrative competence develops through school-age in TD and DLD children. For plot structure and use of complex sentences, the difference between TD and DLD increases with age, implying that these skills are more sensitive to identify DLD at older ages. This finding also implies that the relative narrative performance of children with DLD, compared to TD peers, decreases with age.

### Keywords

DLD, storytelling, narrative development

PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.6 LANIS: A PARENT AND PRE-SCHOOL TEACHER SCREENING TOOL FOR 3-YEAR-OLD ICELANDIC-SPEAKING CHILDREN

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**Background:** There is a need for the systematic and accurate identification of 3-year-old children at risk of speech and language disorders. The LANIS (Language in Iceland) parent/teacher survey was initially developed for monolingual Icelandic-speaking children encompassing questions on both sound and language development. Pilot studies with LANIS have shown promising results concerning validity and reliability of the tool. The LANIS parents and teacher report have been shown to correlate positively, with moderately high and significant correlation, with standardized Icelandic tests for children in this age group (speech sound test MHP and language test MUB) indicating appropriate construct validity. Furthermore, results showed moderately high correlation between parents and teachers responses supporting the reliability of the tool. LANIS has been culturally and linguistically adapted and developed to be used in number of contexts, including monolingual Polish-speaking children in Poland, and multilingual children speaking different languages in Iceland.

**Aim:** The study aims to a) to standardize the tool for monolingual Icelandic children b) to investigate the screening values (specificity and sensitivity) of the LANIS -by focusing on testing of children at risk.

**Methods:** Participants include parents and preschool teachers' of 1500 children (1/3 of the population) aged 2;9 to 3;9 years. The LANIS questionnaire will be electronically sent to children's preschools and the parents in April 2024. Standardized norms will be calculated. Approximately 300 children identified at risk (speech and/or language) will be tested in May and June 2024 with standardized Icelandic tests (speech sound test MHP and language test MUB) to calculate the screening value of the LANIS for both monolingual and multilingual children.

**Results:** The study will present both the standardized norms and the screening values of LANIS.

**Discussion:** Accurate identification of communication difficulties is crucial for providing timely support for both mono and multilingual children.



PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.7 A DAY IN THE LIFE OF 12 TODDLERS: STUDYING CHILDREN'S EVERYDAY INTERACTIONS TO INFORM PARENT-CHILD INTERACTION THERAPY

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### Background:

Parent child interaction (PCI) interventions are often used in speech and language therapy for children who present as late talkers (Law et al., 2019). This involves working with parents to modify their interactions in ways thought to be conducive to language development (Falkus et al., 2016). Concerns have been raised about the cultural and ecological validity of PCI interventions, as the strategies promoted are based on observations of mainly white, middle-class parents interacting with their typically developing children in laboratory settings (van Kleeck, 1994).

### Aim:

The aim of this study was to explore the interactions of a diverse range of children during their naturalistic everyday activities, using both quantitative and qualitative approaches.

### Method:

Twelve typically developing children aged between 2 ½ and 4 years old and their parents were recruited via nurseries and cultural organisations in a UK city. Recruitment targeted diversity in terms of socioeconomic status, cultural background and family structure. On a day of their choice, parents took photographs of their child's activities and children wore an automated recording device. Parents then participated in an interview discussing their child's interactions and activities.

### Results:

Results from the automated recording analysis were collated. The activities which led to the highest amount of interaction across families included book reading and structured play. Subsequent analysis of the parent interviews revealed a complex interplay of factors contributing to variation in children's everyday activities and interactions. Themes included parents' priorities, the child's characteristics and external influences from society and wider family.

### Conclusions:

While the quantitative analysis suggests that certain activities may be conducive to parent-child interaction, qualitative results reveal a more complex picture, with variation in how families engaged in activities. Clinical implications for PCI intervention will be discussed, including the importance of considering the socio-cultural context of parent-child interaction.



PARALLEL SESSION 8 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 8.8 LANGUAGE AND COMMUNICATION IN ASD : SURVEY CONTRIBUTION COMPLETED BY RELATIVES IN A LIFE-SPAN PERSPECTIVE

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By means of complementary studies, we want to show how strong collaboration between professionals and close family, friends is a robust mean to improve assessment and language development and communication, particularly in Autism Spectrum Disorders (ASD), throughout child development.

In one hand, our cross-sectional descriptive study specify in detail lexical, morphosyntactic and pragmatic characteristics of language of young autistic children on the basis of the DLPF-A parental report (DLPF-A, Bassano et al, 2005, Bassano and Lavielle-Guida, 2017, 2020) and in comparison with the data collected with the VB Mapp. The computerised questionnaire was offered to 30 parents of children with autism aged between 18 and 42 months of verbal development, and then we compared the results to the baseline study as well as to the VB-Mapp assessment. The results are consistent with the literature (Lavielle, et al, 2003, Lavielle-Guida, 2007, Foudon, 2008, Lavielle-Guida, 2016). In addition, given the lack of French-language tools for assessing social communication in adults with ASD, we have translated the Communication Checklist Adult (Whitehouse et al, 2009). We also wanted to study differences between men and women communication. We put the translated survey online on a secure server, and received 143 responses and 58 responses from adults with ASD. Statistical analyses showed the tests were highly significant between the two populations. Gender analyses showed a significant difference in the area of pragmatic skills only in the neurotypical population.

Above research, these results open up prospects for remediation, making it possible to target lexical, morphosyntactic and pragmatic areas to be strengthened. They show the value of complementarity between direct and indirect assessment tools. We also want to emphasise the importance of an alliance between professionals and close family, friends so essential to support the remediation of language and communication, particularly in the case of individuals with ASD.

PARALLEL SESSION 9 – LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.1 THE ROLE OF SPEECH THERAPIST AS AN ADDED VALUE IN HOME-CARE ARTIFICIAL NUTRITION UNIT (HANU)

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### Background

The Home-care Artificial Nutrition Unit (HANU) deals with both dysphagic patients receiving enteral and parenteral nutrition and patients who can eat orally but with restrictions. In the Lazio region, the HANU prescribes watergels and thickeners, supplied by the National Health Service (NHS), for safe hydration. The HANU of ASL Roma 3 handles 1,570 patients, covering an area of 605,534 inhabitants (<https://www.aslroma3.it/impresa/>). Before Speech Therapists were involved in the HANU (January 2023), prescriptions were standardized: per patient 4 jars of thickener per month and 6 watergels daily.

### Aim / Objectives

The goal of this study is to investigate the qualitative and economic impact related to the introduction of the Speech Therapist in HANU of ASL Roma 3.

### Methods

A descriptive retrospective study was conducted in relation with Speech Therapy activity for the period from January to December 2023. The sample group consisted in 149 patients with different pathologies. Data was obtained in collaboration with the Regional Pharmacy. As ASL Roma 3 reimburses for each prescribed unit, the annual savings has been recalculated based on the cost of products.

### Results

Since January, there has been an increasing trend in Speech Therapy assessments. After the start of this service, personalized therapeutic plans resulted in an annual savings of €31,738.67.

### Conclusions / take home message

This preliminary study shows how Speech Therapists can ensure control of thickener and watergel prescriptions, based on the patient's actual needs.

Moreover, the savings coming from effectiveness of prevention of dysphagia complications are immeasurable.

### Keywords

Dysphagia, Home-care Artificial Nutrition Unit

PARALLEL SESSION 9 - LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.2 ASSOCIATIONS BETWEEN MUSIC-MAKING IN THE FAMILY AND EXPRESSIVE VOCABULARY SIZE AT 24 MONTHS OF AGE

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Much of what happens early in a young child's life is important for the future development of various skills. Many parents sing early on, to and with their young child. Music-making has showed positive effects on cognitive development and mathematical skills. However, the associations between music-making and early language development have not been as much explored. Research has shown an overlap between cortical fields of language and music. Further, research in older children indicate an effect of singing on language development.

The aim of the present study was to examine possible associations between informal and formal musical activities the child is involved in at 13 months of age and vocabulary size at 24 months of age. The study is a sub-study to an ongoing longitudinal study in Finland, Steps to the Healthy Development and Wellbeing of Children (the STEPS Study). Data about informal (singing, listening to music at home, rhyming and singing games) and formal music-making (participating in activities like music play school) was collected with parental questionnaires when the child was 13 months of age. Vocabulary size was assessed with the MacArthur Communicative Developmental Inventories for toddlers. Altogether 936 children participated in the study.

Preliminary results show that music-making at home is associated with larger vocabulary size. The more the children listened to music or sang together with their parents during the first year of life, the larger was their vocabulary size at 24 months of age. More research is needed to disentangle the relationship between music-making and language development. However, evidence suggests that music supports language development through both neurological and social processes, and indications of this can be seen as early as 24 months.

Key words: listening to music, music-making, singing, vocabulary development

PARALLEL SESSION 9 – LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

### 9.3 INVESTIGATION OF THE RELATIONSHIP OF EARLY INDIRECT INTERVENTION TO THE QUALITY OF LIFE AND ATTITUDES OF THE PRIMARY CAREGIVER: A CASE STUDY

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**Background:** Caregiver (CG) involvement increases the effectiveness of early intervention. However, the outcomes of the early involvement with the point of view of the CG is uncertain.

**Aim:** This study aims to find how family-based therapy affects the quality of life of the CG and their interactions with the child.

**Methods:** A case study was conducted with two cases (mean: 34 months) diagnosed with delayed speech and language by a speech and language therapist (SLP) who was offered a family-based therapy for eight weeks. CG's were administered a) Awareness of Speech-Language Communication Questionnaire, b) the Family Interaction Scale, and c) the Beach Center Family Quality of Life Scale. The CG's interactions with the child evaluated by two SLPs before and after the therapy.

**Results:** CG's interactions with their children increased after therapy; by 35.72% for CG1 and 14.29% for CG2. According to the SLP ratings; the CG interactions with their children increased by 76.78% for CG1 and 55.36% for CG2. The quality of life of the CGs increased by 32% for CG1 and 21.6% for CG2. Also, an improvement was observed in children's speech and language skills with standardized language assessment, 38.04% for CG1 and 30.14% for CG2.

**Conclusion:** After a family-based therapy intervention, significant differences were found in both objective and subjective evaluations of the CG interactions with their children. These changes in the CG's attitudes led to significant changes in both the child's language development and their quality of life. This situation supports that the family's taking responsibility in the therapy process leads to an improvement not only for the child but also for their psycho-social health. It is recommended to increase qualitative research on the inclusion of CG in therapy.

**Keywords:** indirect intervention, primary carer, quality of life

PARALLEL SESSION 9 - LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.4 EVALUATION OF THE READABILITY OF TURKISH QUALITY-OF-LIFE QUESTIONNAIRES, WHICH ARE COMMONLY USED IN SLT

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<sup>1</sup> Hacettepe University

**Background:** The World Health Organisation defines health as "a state of complete physical, mental, and social well-being, and not merely the absence of disease." According to this definition, enhancing both the quantity and quality of life hold significance. Therefore, both general and disease-specific quality of life surveys are widely used in speech and language therapy, as in other areas of health. Ensuring these questionnaires are easily comprehensible by respondents is necessary. Readability, influenced by various factors, constitutes a fundamental aspect of text comprehension.

**Aims:** This study aims to assess the readability of commonly used Turkish quality of life questionnaires among speech and language therapists.

**Methods:** We identified quality-of-life questionnaires suitable for speech and language therapy via Google Scholar and the Turkish National Thesis Center. While determining the scales, searches were carried out using frequently used terms in the speech and language subfields and the term quality-of-life together. The content of the questionnaire was transferred to a.txt file. We subsequently obtained readability scores and text-based quantitative features by copying the content into software that calculates Turkish readability values(Ateşman and Bezirci-Yılmaz readability values).

**Results:** Sixteen self-assessment tools evaluating general health were reviewed. The mean Ateşman readability score of the examined scales is 73.83. No statistically significant correlation was found between the text-based features of the scales and readability scores ( $p>0,05$ ).

**Conclusions:** The findings suggest that the readability of 11 Turkish quality-of-life scales examined exceeds the recommended reading level for health materials. It is known that comprehension increases when texts have an easy reading level. Clinical questionnaire applications and result interpretations presuppose respondents' comprehension of questionnaire items. Consequently, evaluating readability assumes increasing importance. To enhance the accuracy of information derived from quality of life questionnaires, it is advisable to consider readability in questionnaire development endeavors.

**Keywords:** Health-related quality of life, Readability, Health literacy

PARALLEL SESSION 9 - LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.5 THE POWER OF TWO: EXPLORING THE IMPACT OF MOTHERS' AND FATHERS' ENGAGEMENT IN SPEECH-LANGUAGE PATHOLOGY TREATMENT FOR CHILDREN WITH AUTISM

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**Purpose:** This study aims to investigate the impact of parental involvement in Speech-Language Pathologists' (SLPs) treatments on parent-child communication, play, and caregiver burden in families with children diagnosed with autism spectrum disorder (ASD).

**Methods:** Data were collected from 51 families (51 fathers and 51 mothers) through questionnaires. The analysis focused on measures of involvement in treatment, parent-child play, parent-child communication experience, child's communication skills, and caregiver burden. The age range of children diagnosed with ASD was between 2.1 and 7.6 years, with 39 boys and 12 girls included in the study. Pearson correlations were conducted to explore associations between parental involvement, child variables, and parental factors. Path analysis was employed to delineate the relationships between parental involvement and treatment outcomes.

**Results:** Mothers exhibited significantly higher scores in involvement in treatment and caregiver burden compared to fathers, while no significant difference was found in parent-child communication experience. Fathers with higher education and fathers of boys were more involved in treatment. Both fathers and mothers demonstrated a direct association between involvement in treatment, enhanced play, and better communication experience with their children. Only fathers demonstrated direct associations between involvement in treatment and reduced caregiver burden, as well as improved communication skills in their children. The involvement of fathers in treatment mediated the association between paternal education level and child's gender to treatment outcomes.

**Conclusions:** The involvement of both fathers and mothers in SLP treatment contribute to positive parent-child communication and promote play. Fathers, in particular, derive benefits from this involvement, including reduced feelings of burden. Consequently, SLP treatment can positively impact not only the child but also the family dynamic. Overall, these findings underscore the importance of considering demographic factors including parental gender, education level, and the child's gender when offering guidance to parents.

**Key words:** fathers, mothers, communication, play, burden

## 9.6 THE FUNCTIONAL ANATOMICAL RELATIONSHIPS OF THE TONGUE (OM) WITH THE BODY SYSTEM IN AN INTEGRATIVE THERAPY

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Breathing, voice, posture and SLT - How can an integrative training program improve SLT effectiveness

Objective: Medical specialization led to the situation several specialties focusing on different pathologies, many diseases we come to the conclusion that one disease has multifactorial pathogenesis. Also come to the conclusion that in order to be effective we either need to form an interdisciplinary team in treatment, or we need to create integrative methods.

Method: In the treatment of oro-motor dysfunctions and neuromuscular disorders associated to orthodontic problems over the last 12 years we have tested many different techniques. Realizing that the conventional unidisciplinary exercises were able to achieve only limited results we started to integrate elements from other specialties. The ultimate goal was to establish stabile body balance and myofunctional balance. We analyzed posture exercises, primitive reflex integration exercises, breathing exercises and voice exercises. First we attempted to include these techniques in an interdisciplinary teamwork, however we realized very soon that patients are not willing to visit so many specialists. This is why we rather developed a 2 level approach. By the establishment of body and craniofacial functional balance we can manage regular problems. However, we can also clarify the real character of the problem with this technique.

Results: Addressing many elements of a multifactorial problem we can improve the effectiveness of SLT. Our results suggest that establishing head, neck and body posture and breathing are essential parts of a successful treatment in non-language disorders of children and adults. Posture screen records, photos and patient reports suggest that the program is successful.

Conclusion: If a medical problem has a multifactorial pathogenesis, we have to provide a multilateral care. Our results suggest that in speech and language therapy such an integrative treatment program can increase the effectiveness of the care.



PARALLEL SESSION 9 – LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.7 AWARENESS OF EU-BASED SLTS ON ETHICAL ISSUES IN SPEECH-LANGUAGE THERAPY FOR CLIENTS WITH DEMENTIA

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**Background:** Dementia is a progressive neurodegenerative condition with more than 400 subtypes. It negatively affects >55 million people worldwide in their communication, cognition, and quality of life. SLTs play a crucial role in supporting individuals with dementia and their families. However, ethical dilemmas arise due to the unique challenges posed by this population.

**Aim/Objectives:** This research explores the state of the art in ethical complexities faced by SLTs when working with clients with dementia. Our objectives are to identify key ethical concerns, propose strategies for addressing them, and emphasize the importance of ethical decision-making.

**Methods:** We conducted a literature review, and examined research articles, clinical guidelines, and case studies related to SLT practice in dementia care. We synthesized findings to highlight common ethical issues encountered by SLTs. We generated upon this information a questionnaire for SLTs practicing in the EU. The questionnaire has been available through the web. Data gathering is still ongoing.

**Results:** Several ethical challenges emerged:

1. **Informed Consent:** Obtaining informed consent from clients can be challenging. Balancing autonomy/beneficence is crucial.
2. **Communication Capacity:** Assessing clients' communication capacity to participate in decision-making requires sensitivity/adaptability.
3. **Family Dynamics:** Navigating family disagreements about treatment options and end-of-life decisions demands ethical competence.
4. **Resource Allocation:** Allocating limited resources (e.g., therapy time, assistive devices) ethically is essential.
5. **Truth-Telling:** Balancing truthfulness with the potential distress caused by disclosing diagnosis and prognosis is delicate.



Conclusions: SLTs must engage in ongoing ethical reflection, collaborate with interdisciplinary teams, and prioritize client well-being. Empathy, cultural competence, and communication skills are vital. Overall, ethical decision-making in dementia care requires a compassionate and holistic approach. Importantly, we need more data on the needs of SLTs on ethical issues related to dementia.

Keywords: Quality of life, ethics, dementia, speech-language therapy, informed consent, communication capacity, family dynamics, resource allocation, truth-telling.

PARALLEL SESSION 9 - LIFE QUALITY, COST EFFECTIVE BENEFITS IN SLT FIELD

## 9.8 ME AT MEALTIMES STUDY – INPATIENTS’ EXPERIENCES OF MEALTIMES (WORKING AGE ADULTS WITH MENTAL ILLNESS)

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### Background

Personal perspectives of mealtime difficulties and dysphagia in working age adults with (non-organic) mental illness are an area of scant existing research. The multiple influences on quality of life at mealtimes and the impact on swallowing safety and enjoyment are poorly understood for this population.

### Aims

This qualitative exploratory study aimed to improve understanding of inpatients’ experiences of mealtimes.

### Methods

Patients advised on the study design. Favourable ethical review was confirmed approving semi-structured interviews with patients, and ward staff in one city. Further interviews were conducted with SLTs working in mental health settings across the UK.

Reflexive thematic analysis was used to summarise and interpret the insights from the participants in each group and then synthesis considered commonalities, differences and absences.

### Results

An overarching theme of ‘heightened emotions at mealtimes’ was constructed. Subthemes included the importance of communication bringing connectedness and positive social mealtimes. Participants highlighted the importance of patients’ cultures, quality of life and individuality. Patients identified stresses relating to lack of choice describing contrasts and conflicts between organizational and personal/home routines. Staff and SLTs also raised widespread concerns and highlighted the variation in personalised care.

Patients’ self-reports of swallowing difficulty were dismissed or overshadowed by their mental illness diagnosis. The stressful nature of inpatient mealtimes was reiterated by participants in all groups with clear implications for mealtime safety and mental health recovery.

### Conclusions

Inpatient mealtimes are often not considered in recovery planning, but they can provoke intense emotions for patients impacting on swallowing, risk of choking and general wellbeing. The positive aspects of mealtimes from patients’ home lives are not incorporated into ward routines -

individual cultures, choices and spiritual needs are neglected. Clinicians' attention to and understanding of patients' concerns are important for informing assessment, treatment and wider recovery.

Keywords

Quality of life, swallowing, mental illness

PARALLEL SESSION 10 - INNOVATIVE NEUROTECHNOLOGIES AND AI IN SPEECH AND  
LANGUAGE THERAPY: CHALLENGES AND ADVANCES

## 10.1 AUTOMATIC RECOGNITION AND DETECTION OF APHASIC NATURAL SPEECH

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### Background:

Standardized aphasia assessment strongly relies on isolated tasks using single phonemes, words or sentences, which lack ecological validity. Clinicians and researchers have therefore been advocating to include natural speech in aphasia assessment.

However, this has been limitedly applied due to the time-consuming nature of manual transcription and a lack of knowledge on how to linguistically analyze such data. Recent advances in automatic speech recognition and analysis can potentially tackle these issues.

### Aims:

We first assess the performance of automatic speech recognition (ASR) for aphasic speech, and second, evaluate the utility of natural speech features to distinguish persons with aphasia from neurologically healthy elderly.

### Methods:

A picture description task was administered in 62 persons with chronic stroke-induced aphasia and 57 neurologically healthy elderly. Transcripts were obtained using an in-house ASR model finetuned on nine hours of natural speech from elderly participants. Next, Montreal Forced Aligner was used to calculate word- and phone-level timings.

We derive both manually and automatically determined acoustic and linguistic features capturing different components of language. These features are provided as input to a nonlinear support vector machine (SVM) classifier to detect aphasia at the individual level. Finally, we investigate the contribution of each feature.

### Results:

Our ASR model outperforms earlier ASR models applied to aphasia with a word error rate of 22.40%. The classifier detected aphasia patients with an accuracy of 86.55%. The SVM had a sensitivity of 79.03% and specificity of 94.74% for aphasia. Speech rate is the strongest discriminative feature, followed by long pauses, grammatical complexity, fluency and semantic errors.

**Conclusion:**

Natural speech features can be used to distinguish persons with aphasia from elderly controls using ecologically valid tasks. The proposed ASR model and automatic feature extraction are promising tools to enable natural speech analysis in a time efficient manner in clinical settings.

PARALLEL SESSION 10 – INNOVATIVE NEUROTECHNOLOGIES AND AI IN SPEECH AND  
LANGUAGE THERAPY: CHALLENGES AND ADVANCES

## 10.2 DIFFERENTIATING DLD IN MONO- AND BILINGUAL CHILDREN USING MACHINE LEARNING APPROACH (HELSELI STUDY)

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### Background:

Since it is not always possible to directly assess the performance of a bilingual child in the heritage language (L1), it is vital to know how accurately the second language (L2) tests can differentiate typical development (TD) and developmental language disorder (DLD). Moreover, knowing which language domains are the most important in classifying DLD and whether this differs between monolingual and bilingual children is essential.

### Aim:

We assessed the machine learning classification accuracy of language assessment tools traditionally used by speech and language therapists. We also investigated which tasks were most accurate in classifying TD and DLD in monolingual and bilingual children.

### Methods:

In total, 364 5–7-year-old children from the HelSELI study with either TD or DLD and either a monolingual or bilingual language environment were recruited from a hospital clinic and daycare centers. To assess L2 performance, a set of expressive and receptive language tasks were administered. In addition, a parental interview addressing early developmental milestones in L1 was included. We investigated the classification accuracy of this test battery using a machine learning approach, namely Random Forest (RF).

### Results:

The preliminary results suggest that linguistic variables can accurately (around 85 %) classify TD and DLD in 5–7-year-old monolingual and bilingual children using machine learning. The best classifiers were variables corresponding to expressive language in monolingual children and receptive language variables as well as L1 early milestones in the bilingual children.

### Conclusions:

TD and DLD can be classified accurately in monolingual and bilingual groups based on the language tests used in one language (L2 in the case of bilingual children). Receptive language and L1 parental reports of early developmental milestones should be prioritized in assessing bilingual children in the early years, whereas expressive tasks are more informative for monolingual children.

PARALLEL SESSION 10 – INNOVATIVE NEUROTECHNOLOGIES AND AI IN SPEECH AND  
LANGUAGE THERAPY: CHALLENGES AND ADVANCES

### 10.3 SPEECH SOUND DISORDERS. AI AND DIGITAL WAYS THAT WE CAN USE TO MAKE A DIAGNOSIS

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#### Background:

Speech sound disorders in Romanian language are a very large and representative diagnosis category. SLTs face in many cases different challenges in making the diagnosis due to the fact that the number of the SLTs is extremely low.

**Aims:** In order to ensure an early diagnosis, ASTTLR Association together with VoxiKids (an IT company) started a project, implemented through the VoxiApp, through which it was aimed to record as many as possible speech samples from children with ages between 4-6 years, who may have or not speech sound disorders, S, Ş, Ț, Z, J, R, Č and Ğ sounds were targeted.

#### Method

The list of words used in order to collect the data was organized based on the position of the targeted sound within the word, thus, for each position 10 different words were used. This list of words is available on the application. The SLT who collects the speech sound sample record the sample and establish if the targeted sound is correctly pronounce, distorted or replaced with another sound. Sounds were assessed in initial, median and final position of the word. A total of 240 words were enclosed in the assessment list. Based on the collected speech sound samples a AI machine was learned to make a diagnosis in the speech sound disorders field or, at least, to raise awareness for the parent, that in his child case there is high risk to face a speech sound disorder. The VoxiApp is available for both parents and specialists in the speech disorders field.

#### Results:

The speech sound samples collected were numerous, more than 9000. Based on them the AI system is able to correctly make a diagnosis in 94% of the cases.

#### Conclusions:

Now VoxiKids are trying to expand this VoxiApp tool to Spanish, Italian and English languages.



PARALLEL SESSION 10 – INNOVATIVE NEUROTECHNOLOGIES AND AI IN SPEECH AND  
LANGUAGE THERAPY: CHALLENGES AND ADVANCES

## 10.4 AUTOMATIC SPEECH ANALYSIS AS AN EMERGING TOOL FOR LANGUAGE MARKERS OF CLINICAL DEPRESSION

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Major depressive disorder (MDD) stands as a prevalent mental condition, ranking among the most frequent diagnoses in mental health. According to the World Health Organization (WHO), approximately 5% of adults presently grapple with depression or conditions aligned with its diagnosis. Management of major depressive disorder (MDD) requires assessment tools with appropriate psychometric properties and a state-of-the-art research direction in MDD is the identification of biomarkers for rapid diagnosis. Language can be a natural way through which we can understand the thinking of the person with depression.

**Aim:** The present study aims to identify language markers specific to major depressive disorder (MDD) through an automated analysis process based on RO-2015 LIWC.

**Materials and Methods:** A sample of 62 patients with clinical depression (MDD) and a sample of 43 controls were assessed with cognitive and language tests. Each participant provided language samples and described something that made them happy or was pleasant for them.

**Results:** Depressive patients exhibited distinct language patterns both in structure and content. Notably, they employed shorter sentences, necessitating frequent use of periods, indicative of directive communication and constrained idea exchange. They predominantly utilized impersonal pronouns and plural first-person pronouns, limited prepositions and an elevated frequency of conjunctions, auxiliary verbs, negations, past tense verbs, and less present tense verbs. Furthermore, they use more words for negative affect and anxiety, and limited terms denoting positive emotions.

Leisure, time, and money emerged as favored topics among individuals with depression, particularly in discussions surrounding relativity and informal language.

**Conclusion:** Expressive language, viewed as an external manifestation of inner thoughts and mental workings, reflects the intrinsic characteristics of spoken language. Consequently, the structure of language influences cognitive frameworks, while cognitive frameworks, in turn, shape language.

**Keywords:** natural language processing, clinical depression, language biomarkers

PARALLEL SESSION 11 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 11.1 TESTING THE TOLERANCE PRINCIPLE: CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER

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**Background:** Understanding the mechanisms underlying the generalization of linguistic rules is essential to studying language acquisition, particularly for children with Developmental Language Disorder (DLD), who display persistent difficulties in acquiring and using language—oftentimes in the morphosyntactic domain—with heterogeneous linguistic profiles and degrees of severity that can strongly impact life’s quality. The Tolerance Principle (TP) (Yang, 2016) provides a framework for investigating linguistic productivity in typical development. It states that morphological rules are generalized when the cost of memorizing exceptions does not outweigh the efficiency of applying the rule. The TP applicability to children with DLD has not yet been assessed.

**Objectives:** Investigate whether the TP can predict regular plural generalization in children with DLD and compare their learning patterns to their non-DLD peers. We seek to connect theoretical psycholinguistics with clinical practice, potentially guiding targeted therapeutic strategies.

**Methods:** In a within-subjects design, 200 Portuguese speakers (100 DLD children, 50 typically developing children, and 50 adults) will undergo a controlled artificial language learning paradigm. Across two conditions (one that triggers rule acquisition and one that does not), participants will learn pseudowords in singular and plural forms (e.g., zɔmu/zɔmupa). Rule acquisition will be tested in a “Wug test” format to evaluate the predictive accuracy of the TP.

**Results:** Data collection is ongoing. We predict one of two possible outcomes for the DLD group: (a) they demonstrate TP-consistent rule generalization, paralleling typically developing peers; or (b) they follow input frequency patterns but fail to acquire a regular morphological rule.

**Conclusions:** The findings will clarify the applicability of the TP to DLD and discuss how their profiles and severity affect language learning, informing both linguistic theory and evidence-based clinical practice for language disorders.

**Keywords:** Developmental Language Disorder, Tolerance Principle, Morphological Generalization

PARALLEL SESSION 11 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 11.2 INVESTIGATION OF THE EFFECTIVENESS OF THE DTTC METHOD IN A CHILD WITH CAS: CASE STUDY

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### Background

Childhood apraxia of speech (CAS) is a neurological speech sound disorder without neuromuscular deficits, characterized by disorders in the planning and/or programming of spatio-temporal parameters of movement sequences. Dynamic Temporal and Tactile Cueing (DTTC), one of the evidence-based therapy methods for children with CAS. DTTC is used in children aged 2 years and older with moderate to severe CAS. The clinician gives the child the instruction 'listen to me, watch me and do what I do'. Implementation occurs at four levels: Simultaneous Production, Direct Imitation, Delayed Imitation, and Spontaneous Production.

### Aim

The aim of this study is to investigate the effectiveness of the DTTC method applied for a short-term to a case with CAS.

### Methods

A boy aged 5 years and 7 months with CAS was included in this study. The assessment was made with the Test of Early Language Development Third Edition-Turkish (TELD-3), The Turkish Articulation and Phonology Test (SST), Oral Motor Assessment, Stimulability Assessment and Dynamic Evaluation of Motor Speech Skill-Turkish (DEMSS-TR). Additionally, the parent was asked to fill out Focus on the Outcomes of Communication Under Six-34-Turkish (FOCUS-34-TR). After the assessment, therapy was planned in line with the DTTC method. The therapy was applied face to face, once a week, in 8 sessions of 45 minutes.

### Results

On the articulation subtest of the SST, his raw score decreased from 62 to 36 and his standard score increased from 1 to 2. DEMSS-TR total score increased from 312 to 408. FOCUS-34-TR total score increased from 141 to 161. The phonemes /dʒ/ and /l/, which were not stimulable in the first assessment, became stimulable.

### Conclusions

This study provides the first data on the positive effect of the short-term DTTC method in a Turkish-speaking child with CAS.

### Keywords

Childhood apraxia of speech, Therapy, DTTC

PARALLEL SESSION 11 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 11.3 HOW TO IDENTIFY BILINGUAL CHILDREN WITH DLD IN FLANDERS?

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**Background** - The identification of a developmental language disorder (DLD) in bilingual children is not an easy task (e.g. Boerma & Blom, 2017; Bonifacci et al., 2020). Therefore, a protocol was developed for language assessment in bilingual children in Flanders (Belgium) aged 4 to 6 years (Mostaert & Leysen, 2022). A combination of three tasks showed good discriminant validity, with 86% of the participating children identified correctly (sensitivity: 100%; specificity: 82%).

**Aim** - The goal of this study was to extend the age range of the protocol.

**Methods** - A test group of 52 bilingual primary school-aged children (5;02 – 8;10) participated in this study, consisting of both children with a typical development (n = 38) and children with DLD (n = 14). Children with a typical development were selected from mainstream schools, children with DLD were recruited via speech language pathologists (SLPs) with specific expertise in multilingualism.

Data collection consisted of: demographic information and linguistic history, a standardized language assessment in their second language (Dutch) and parental report on first language development. Machine learning was used to indicate which tasks are most decisive in identifying participants with DLD.

Another 26 bilingual children (5;11 - 8;11), assessed by SLPs, acted as a validation group.

**Results** - Results showed that the children with DLD scored significantly lower on almost all linguistic tests compared to children with a typical development. A combined model that included (1) the ALDeQ-NL, (2) the core language score of the CELF-5-NL and (3) the MAIN story comprehension after retelling reached good discriminant validity, both in the test group (90% identified correctly) and validation group (81% identified correctly).

**Conclusions** - The protocol is a valuable tool to identify bilingual children with DLD and determine which children are in need of speech language therapy.

**Keywords** - bilingual, assessment, DLD

PARALLEL SESSION 11 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 11.4 HOW TO ASSESS COMMUNICATIVE-LANGUAGE SKILLS IN PLURILINGUAL CHILDREN? A GOOD PRACTICES POSITION PAPER

*Dr Gianmatteo Farabolini<sup>1</sup>, Ms Ilaria Ceccarelli, Mr Simone Giacometti, Ms Anna Giulia De Cagno, Dr Silvia Piazzalunga, Prof Maja Roch*  
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### Background

Speech and Language Pathologists (SLPs) are called to provide reliable assessment of communicative and language skills to investigate language disorders in plurilingual children. However, language difficulties in plurilingual children might be underestimated or overestimated, especially when the assessment is carried out only in the institutional language. Currently, there is a notable absence of standardized communicative-language assessment tools tailored for plurilingual children in Italy.

Therefore, Italian SLPs are currently struggling in distinguishing between language disorders stemming from language-processing difficulties versus those arising from language-specific exposure leading to a heterogeneous approach to the assessment.

### Aim / Objectives

The current project aimed to design clinical guidance for the communicative-language assessment for plurilingual preschoolers in Italy.

### Methods:

To identify communicative-language assessment procedures based on scientific consensus and feasible within the clinical context, based on scientific consensus and feasible within the clinical context, for plurilingual children in Italy, a group of trained researchers and SLPs focused on some sub-domains related to bilingual communicative-language assessment (namely bilingual history, articulatory and phonological skills, morpho-syntax and narrative competence).

Following a literature review, the areas and competencies to be assessed, as well as potential adjustments and strategies, were identified.

### Results

For each subdomain, drawing from scientific literature, we have outlined the areas that should be assessed within the plurilingual communicative-language assessment, as well as possible methods and strategies.

## Conclusions

The main aim of the current project was to develop a communicative-language assessment framework based on scientific consensus to both shed light on and provide guidance to employ in investigating language difficulties among plurilingual children developing in Italy.

Further studies should focus on collecting data on representative samples of plurilingual children in Italy, in order to develop reliable assessment tools for plurilingual children based on standardized assessment, which should help the plurilingual communicative-language assessment for Italian SLPs.

PARALLEL SESSION 11 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 11.5 MEASURING THE IMPACT ON DAILY ACTIVITIES AND PARTICIPATION IN CHILDREN AND YOUNGSTERS WITH DLD

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### Background

With a prevalence of 6 to 7% Developmental Language Disorder (DLD) is one of the most occurring neurodevelopmental disorders in children. Social-emotional, cognitive and motor problems are significantly more reported in children with DLD than typical developing children (Conti Ramsden et al., 2018; Samson et al., 2020). As children grow up, these problems seem to increase and affect their daily activities and quality of life (Hubert-Dibon, 2016).

### Objectives

The aim of this project was to develop a valid and standardised instrument to measure the impact of DLD on daily activities and participation in children and youngsters with DLD between 10 to 14 years.

### Methods

Based on literature review, an initial selection of indicators was made and presented to a focus group of DLD-experts and children/youngsters with DLD and their parents. Finally 105 items were retained for the questionnaire 'Impact DLD on children' and were divided into 7 categories. A parent version was added, with the same items, but from parents' view.

The questionnaire was then presented to a group of 22 monolingual children with DLD and 66 controls between 10 and 14 years old.

### Results

Differences between the experimental and the control group are statistically significant for all subscores of the questionnaire ( $p=0.001$ ). Correlation between the child and parent version was strong ( $r=.627$ ) as was test-retest reliability for the questionnaire 'Impact DLD on children' ( $r=.885$ ).

### Conclusion / take home message

The questionnaire 'Impact DLD on children' appears to be a valid and reliable tool to measure the impact of DLD on daily activities and participation of children. This questionnaire allows clinicians, in addition to language therapy, to set common goals for psycho-education in the treatment of DLD.

### Perspectives

Research is started on the implementation of the questionnaire in other age groups as in bi- and multilingual contexts.

PARALLEL SESSION 11 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 11.6 EXPLORING THE RELATIONSHIP BETWEEN NATIVE LANGUAGE ARTICULATION SKILLS AND FOREIGN LANGUAGE ARTICULATION IN SCHOOL-AGED CHILDREN

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<sup>1</sup> Serbian Logopedics Association

### Background

In elementary education in Serbia learning foreign language is mandatory for children with developmental speech and language disorders. Because of their difficulties in acquiring their first language, learning a foreign language at school can be challenging. To date, almost no literature on children with speech or language disorders in Serbian as a mother tongue and foreign language learning exists.

### Aim

The aim of this study is to investigate the relationship between articulation proficiency of Serbian children and learning French and English as a foreign language.

### Methods

Study included convenient sample of younger school-aged children from few schools in Belgrade who learn French and English as a foreign language from first grade. The Global Articulation Test of Serbian language was used to assess articulation errors and Phonological Test for determination eventually phonological disorders in Serbian. For French and English articulation and define basic non salient morphosyntactic markers was used rapid naming of pictures.

### Results

Study demonstrated significant relationships between articulation errors in Serbian and French and English language in Serbian children with articulation disorders. Children with and without articulation disorders demonstrated significant differences in foreign language morphosyntactic markers in two tested languages.

### Conclusions

Results indicate that children with articulation disorders in Serbian language are in higher risk of new language acquisition and communicative problems. This study could be seen as a starting point in the field of research regarding the relations between the articulation background of the mother tongue and the ability to perceive new language through linguistic information from spoken input in new language, especially in domain perceptually non salient morphosyntactic markers.

**Keywords:** articulation, articulation disorder, morphosyntactic markers, foreign language



**PARALLEL SESSION 11 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS**

**11.7 MAKING A SPEECH SOUND-SCREENER FROM A STANDARDIZED ASSESSMENT TOOL: DOES LENGTH MATTER?**

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<sup>2</sup> Charles Sturt University

<sup>3</sup> Kjarkur endurhæfing

**Background:** Screening for potential speech and language disorders is an important component of assessment which aims to identify children at risk so that they can be referred for a thorough evaluation.

**Aim:** The purpose of this study was to develop a screening tool for identifying Icelandic-speaking children who may have a speech sound disorder (SSD). Two potential tools were tested – one with 40 words and one with 50 words.

**Method:** Two short versions of Málhljóðaprófið (speech sound test; MHP) were created from the complete set of 105 words. The PCC (Percentage of Consonants Correct) and WWM (Whole Word Match) of 465 children (M=4;7, range 2;6-7;11) were analysed for each word list. The sample included 32 children with SSD and 433 children with typical speech development (TD). Correlations were calculated for PCC and WWM between the full length MHP and each screening list. ROC (Receiver Operating Characteristics) analysis was performed to evaluate the predictive ability of both screening lists.

**Results:** Both lists were well correlated with the full MHP for both PCC and WWM for combined groups of participants. Correlations for children with SSD (full MHP vs screening lists) were low and non-significant for WWM. Correlations for TD children was significant, high, and positive, regardless of list length and measurement method. The area under the ROC curve (AUC) was high (0.961-0.969) for each list using each measurement method, indicating no differences in their predictive ability.

**Conclusions:** It is viable to use both lists to screen for SSD. All lists and measurement methods had a similar ability to distinguish between children with and without SSD. Repeating these analysis including more children with SSD in all age groups will allow identification of a cut-off value with optimal sensitivity and specificity for each age group.

**Key words:** Assessment, speech, speech sound disorder, Icelandic

PARALLEL SESSION 12 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 12.1 MARKED AND UNMARKED SENTENCE RECEPTION AND PRODUCTION IN PRESENT AND PAST TENSE IN KINDERGARTEN CHILDREN

*Jona Brodar Litrop*  
Gradec Primary School

Children in early childhood often generalize grammatical rules, contributing to their language development. By the age of three, toddlers' speech is typically conservative, consisting of simple words from their everyday environment, aiding in the acquisition of new words and more complex grammatical structures. Around the age of four or five, typically developing children begin to perceive grammatical errors due to their metalinguistic abilities, enabling them to correct speech mistakes.

The sequence of words subject-verb-object is the basic form that children understand most easily. In these sentences, the first noun is clearly identified as the subject, whereas in sentences with an unmarked vocabulary in the past tense, the subject is at the end of the sentence, increasing the complexity of understanding for younger children.

Our goal is to develop test material with pictures to assess children's understanding of transitional sentence structures in marked and unmarked word orders in the present and the production of transitional sentence structures in marked word order in the past.

The test will be specifically designed for the study and validated on a sample of at least 60 children aged 3 to 6 years. The language comprehension part will involve pictures to assess comprehension in both marked word order (subject-verb-object) and unmarked word order (object-verb-subject), while the sentence production part will use pictures designed based on unmarked word order.

Through this research, we aim to confirm the measurement characteristics of the test and identify differences among children of different ages in recognizing and forming sentence structures. The development of a new language test will be a significant asset for speech therapists in Slovenia, aiding in both diagnostic processes and further research in the field of speech and language development.

Keywords: transitional sentence structures, marked and unmarked word order, language test

PARALLEL SESSION 12 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 12.2 VALIDITY OF THE BRAZILIAN-PORTUGUESE VERSION OF INTELLIGIBILITY IN CONTEXT SCALE

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Intelligibility is usually impaired in children with speech sound disorder characterized by a restricted phonetic inventory and several phonological processes that can lead to unintelligible speech, causing problems in the act of communicating. The Intelligibility in Context Scale is a quick parent report measure of children's intelligibility, developed to provide speech-language pathologists with information relating to speech sound disorders. The 7-item questionnaire rates the degree to which children's speech is understood by different communication partners (parents, immediate family, extended family, friends, acquaintances, teachers, and strangers) on a 5-point scale. It was originally carried out in an Australian study with an English version and currently has validated versions for several languages such as German, Italian, Japanese, European-Portuguese and others. The aim of the study was to validate the Brazilian-Portuguese version of the Intelligibility in Context Scale (ICS-BP). Seventy children (mean age in months = 55.05, SD = 4.2), 25 with parental or teacher concerns regarding their speech and 45 without concerns, underwent assessment using the ABFW – Brazilian Child Language Test. The percentage of phonemes correct (PPC) was calculated and parents completed the ICS to evaluate their children's intelligibility with various communication partners. The majority of children in this study presented a mean score of 4.6 (SD .10), represented by “usually” to “always” (4 or 5) at the ICS responses with different listeners, with better performance with other acquaintances and members of family. The ICS demonstrated excellent internal consistency ( $\alpha = 0.95$ ). Positive correlations were found between ICS scores and PCC ( $r = .790$ ) and a simple linear model was established between the ICS mean score and PCC. Sensitivity (0.98) and specificity (0.87) were considered high. The ICS-BP indicated high psychometric values, suggesting that this instrument can be used to measure the intelligibility of Brazilian children.

### **12.3 EXPLORING NARRATIVE SKILLS IN BILECTAL CYPRIOT-GREEK CHILDREN WITH AND WITHOUT DEVELOPMENTAL LANGUAGE DISORDER**

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Extensive research has been conducted to explore the language skills of monolingual and bilingual children. However, there is still a critical gap in understanding the language development of bilingual individuals, which is a prevalent linguistic phenomenon worldwide. Additionally, accurately assessing the language skills of bilingual children poses a challenge. Existing literature suggests that children with Developmental Language Disorder (DLD) often struggle with oral narrative production at both macrostructural and microstructural levels.

This study aims to thoroughly examine the narrative macro and microstructure of 5-9-year-old Cypriot Greek-speaking children with DLD alongside their typically developing peers. Additionally, it endeavours to establish normative data specific to Greek Cypriot children.

Our research involved 100 Cypriot Greek-speaking children aged 5 to 9, divided into four groups: two comprising children with DLD and two comprising typically developing children of the same age. Language samples were collected using the Bus Story test and then analyzed at macrostructural (story grammar and episode elements) and microstructural (number of utterances, mean length of utterance, number of different words, and number of subordinated clauses) levels. Our findings reveal substantial discrepancies in storytelling abilities between children with typical language development and those with DLD across microstructural and macrostructural dimensions. This study underscores the accuracy of the retelling task for assessing narrative performance. It highlights the importance of establishing normative data for bilingual Greek Cypriot children to enhance clinical assessments and support clinicians in diagnostic and intervention practices.

Understanding the narrative abilities of bilingual Greek Cypriot children is crucial for identifying and intervening early in those with DLD. This can enhance their communication skills, academic performance, social interactions, and overall well-being, leading to better quality-of-life outcomes for children and families. This study provides important insights for designing targeted interventions and establishing normative data for accurate assessments.

## 12.4 EXPLORING DISFLUENCY PATTERNS IN BILINGUAL AND MONOLINGUAL CHILDREN WITH AND WITHOUT AUTISM: A PRAGMATIC PERSPECTIVE

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**Background:** Previous research has examined disfluency production in autistic children compared to typically-developing monolingual peers and explored the impact of bilingualism on disfluency in bilingual versus monolingual typically-developing children, yielding conflicting findings.

**Aim:** The current study is the first to evaluate the impact of clinical status (autistic vs. non-autistic) and bilingualism on disfluency production.

**Methods:** The participants in the study included bilingual Russian-Hebrew autistic (n=20) and non-autistic children (n=27); monolingual Hebrew-speaking autistic (n=20) and non-autistic children (n=22), aged 5-9. Narratives told in Hebrew using a LITMUS-MAIN picture-supporting task (Gagarina and Lindgren, 2020) were transcribed and coded using CLAN tools (MacWhinney, 2000).

**Results:** Mixed effect modelling revealed that autistic children produced more disfluencies overall compared to non-autistic children. Additionally, bilingual children displayed higher disfluency rates compared to monolinguals. Monolingual autistic children exhibited reduced use of 'and' and filled pauses (), while bilingual autistic children produced more 'and' and prolongations compared to non-autistic peers. Monolingual autistic and non-autistic children exhibited more prolongations but fewer instances of 'and' (for monolingual autistic) and 'and then' (for monolingual non-autistic), as well as fewer intra-utterance silent pauses compared to bilinguals. Correlational analysis revealed a positive correlation between a false-belief Theory of Mind task and the occurrence of filled pauses and discourse marker 'and' in autistic children.

**Conclusions:** The diminished usage of 'and' and filled pauses among monolingual autistic children is consistent with prior studies (Heeman et al., 2010). Furthermore, the lack of disparity in filled pauses between bilingual autistic and non-autistic children suggests a bilingual advantage in pragmatic skills among individuals with autism (Beauchamp et al., 2023). Autistic children's reduced usage of prolongations, filled pauses, and discourse marker 'and' suggests a lower implementation of pragmatic strategies for time-buying and maintaining discourse coherence compared to non-autistic peers.

**Keywords:** autism, disfluencies, bilingualism, pragmatics.

PARALLEL SESSION 12 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 12.5 PATTERNS OF LANGUAGE DEFICITS IN CHILDREN WITH AND WITHOUT DLD DIAGNOSIS

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Developmental language disorder (DLD) is widely recognized as a condition with high prevalence affecting academic success, social interactions, emotional development and quality of life. However, children with DLD often remain undiagnosed resulting in severe social, learning and behavioural difficulties (SLBD) during their school years. Previous research suggests that the rate of identification might be influenced by children's language profiles. Our study aims to explore core spoken language abilities in children characterised by SLBD and compare their performance with children identified with DLD.

We assessed 103 children aged 7-12 years with social, learning and behavioural difficulties (SLBD) and a group of 44 children with DLD aged 7-13 years (DLD). 4 subtests of the KOBAK complex language abilities test (Lukács & Kas, 2024) measuring sentence comprehension, expressive vocabulary and sentence repetition have been analysed for the present study.

We observed great variance in both groups with mean scaled scores at least 1SD below population means in both groups in all 4 subtests. Groups did not differ on mean scaled scores of subtests assessing receptive language whereas children with SLBD scored higher than those with DLD in expressive vocabulary and sentence repetition. Based on scaled scores at least 1SD below mean in at least 2 out of 4 subtests, 80.6% of the SLBD group and 86.4% of the DLD group exhibited significant language deficits. Low contingency coefficient (0.0692) revealed virtually no relation between original (DLD vs SLBD) and observed classifications.

The majority of school-aged children with SLBD previously undiagnosed with DLD showed significant deficits in spoken language skills. Their receptive language skills were comparable to those with DLD with less severe but clinically relevant difficulties in expressive language. Results suggest that DLD diagnoses are mostly based on deficits in expressive language while receptive difficulties might be overlooked during diagnostic assessments.

## 12.6 SPEAKABOO: ASSESSING SPEECH PRODUCTION IN MULTILINGUAL CHILDREN BY NON-NATIVE SPEAKERS

*Lisa Verbeek<sup>1,2</sup>, Charlotte Mostaert<sup>3,4</sup>, Heleen Leysen<sup>3,4</sup>, Inge Segers<sup>4</sup>, Liesbeth van der Zijden-Holstvoogd<sup>1</sup>, Mirjam Blumenthal<sup>1</sup>*

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and Audiology

### BACKGROUND

Current best-practice guidelines for speech-language therapy in multilingual children emphasise the importance of assessing all languages the child speaks. Nonetheless, many professionals struggle to do so in practice for reasons such as not being fluent in the child's home language or lacking appropriate tools (e.g., Van Straaten et al., 2023). The tool Speakaboo was developed to address these issues. Speakaboo enables speech-language therapists (SLTs) to evaluate speech production in 20 languages by assessing single-word speech.

### AIM

This study aimed to evaluate Speakaboo's reliability, validity, and suitability for assessing speech production of multilingual children in the Netherlands and the Flemish region of Belgium.

### METHOD

Between 2018 and 2023, 659 monolingual and multilingual children aged two to seven years were assessed with 15 different language versions of Speakaboo, resulting in percentage of consonants (PCC) scores. Additionally, Intelligibility in Context Scale (ICS; McLeod et al., 2012) scores were available for 345 children. We analysed several psychometric characteristics of Speakaboo across languages.

### RESULTS

For construct validity, positive age-PCC correlations were found for typically developing (TD) children, with stronger relationships for monolinguals than multilinguals. No significant correlations between age and PCC were observed in children with developmental language disorders (DLD), who scored significantly lower on Speakaboo and ICS than TD peers. Regarding criterion validity, moderate associations were observed between PCC scores (in both languages) and ICS scores. Speakaboo effectively differentiated between TD and DLD children across three age groups, with good to excellent sensitivity and specificity. Furthermore, reliability analysis indicated excellent interrater reliability among native and non-native researchers. In qualitative

feasibility analyses, it was found that using Speakaboo largely alleviated the challenges of assessing speech development in languages SLTs do not speak.

#### CONCLUSION/TAKE-HOME MESSAGE

Speakaboo can be a valuable tool for a first assessment of speech in young multilingual children by non-native speakers.



## 12.7 LANGUAGE SAMPLES IN ICELANDIC – NORM REFERENCED DATA

*Dr Jóhanna Einarsdóttir*<sup>1</sup>

<sup>1</sup> University of Iceland

**Background:** Language samples obtained in natural settings provide an important aspect of assessing language use in daily life. Language samples are a necessary addition to standardized tests when assessing children with or at risk for Developmental Language Disorders (DLD). Icelandic is the main language in Iceland spoken by the approximately 390.000 inhabitants. Icelandic is highly inflected; for example, nouns, adjectives, and pronouns have endings to mark gender (masculine, feminine or neuter), number (singular or plural) and case (nominative, accusative, dative or genitive).

**Aim:** The aim of the study was to obtain age reference data for oral language samples from monolingual Icelandic children aged 2 to 6 years.

**Method:** We collected language samples of 300 children aged 2-6 years through spontaneous speech. We used the software Málgreinir <http://malgreinir.herokuapp.com/>, specially developed for this research, to analyze the samples.

**Result:** The results demonstrate that Mean Length of Utterance in words (MLUw) increased with age. For 2-year-old children, the mean was 2.7 words per sentence, whereas for 6-year-old children, the mean was 5.5 words per sentence. The number of tokens (TW) increased from 134 words for 2-year-olds to 273 for 6-year-olds. Similarly, the number of different words (NDW) increased from 64 words for 2-year-olds to 130 for 6-year-olds. Despite Icelandic being a highly inflected language, grammatical errors were relatively rare in the children's spontaneous speech. Notably, there was considerable variability within each age group for every calculated metric.

**Discussion:** Collecting language samples is a necessary part of language assessment for highly inflected languages as well as other languages. Analyzing language samples in highly inflected languages should take into consideration general approaches developed for English as well as special characteristic of each language.

PARALLEL SESSION 13 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 13.1 E-BOOK ABOUT SPEECH OF PEOPLE WITH CLP FOR FAMILY MEMBERS/CAREGIVERS IN EUROPEAN PORTUGUESE: CONTENT VALIDITY

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Literature indicates that more than 50% of children with CLP require speech therapy intervention during childhood, since speech disorders are often persistent and have a significant impact on their development. These are one of the major concerns of family members/caregivers of people with cleft lip and palate (PwCLP) and one of the targets of intervention in SLT.

To develop and validate a guide about the possible speech disorders of PwCLP. It is aimed for family members/caregivers of PwCLP. The purpose is to answer different questions frequently asked by them, as well as enabling them to be involved in the therapeutic process. Furthermore, it aims to address the lack of resources and information available in European Portuguese.

The guide and its contents in digital format were created. To do so, it was conducted research for assets with similar goals in other languages. The contribution of world experts was requested. Subsequently, two questionnaires were made (SLTs and family members/carers), for a better understanding of access, format and usability of resources developed about the topic in European Portuguese.

Afterwards, the guide's content validity index was calculated based on the responses of various health professionals.

Research is still ongoing.

cleft lip and palate; speech disorders; family members/caregivers; e-Book

PARALLEL SESSION 13 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 13.2 ENHANCING SOCIAL PARTICIPATION ACROSS IRELAND FOR PEOPLE WITH COMMUNICATION DISABILITIES AND DIFFERENCES (ENSPIRED)

*Dr Ruth McMenamin<sup>1</sup>, Ms Yvonne Fitzmaurice<sup>1</sup>, Dr Orla Duffy<sup>2</sup>, Ms Dorothy Clarke<sup>2</sup>, Dr Helen Kelly<sup>3</sup>, Dr Lynda Kennedy<sup>2</sup>, Dr James Green<sup>4</sup>, Dr Caroline Jagoe<sup>5</sup>, Dr Áine Kearns<sup>4</sup>, Dr Molly Manning<sup>4</sup>, Ms Rosalind Gray Rogers<sup>2</sup>, Dr Rachael Stoochdale<sup>3</sup>*

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<sup>5</sup> Trinity College Dublin

### Background

Healthcare professionals and researchers frequently exclude people with communication disability and difference from research because of methodological challenges. By ignoring the voices of people with lived experience, we are exacerbating exclusion, social isolation, and restricted participation. Following policy imperatives for public and patient involvement (PPI), these hard-to-reach groups need to be involved to enhance the quality, and integrity of the research process and ensure relevant outcomes.

### Aim

The ENSPIRED Project, aims to identify best-practice priorities for delivering communication access rights across Ireland for all people with communication disability and difference. Phase 1 involved a critical review of national and international literature policies and documentation related to communication rights and access. Phase 2 (reported here) involved people with communication disability (stroke survivors and people with dementia) and difference (Irish Travellers and deaf community members) in the role of PPI advisors. The individual PPI groups reviewed the findings from Phase 1 and identified: 1) barriers to social inclusion and 2) participation across Ireland.

### Methods

Using supportive communication to meet the needs and preferences of individual PPI groups: Irish Travellers (n=14); the Deaf community, (n=8); Stroke survivors (n=8); people with dementia (n=2) and 3rd sector representatives (n=6) the six themes that emerged from Phase 1 findings were reviewed and refined across 11 meeting (approximately 21 hours).

Results Themes from phase 1 related to Issues of discrimination, bias, exclusion, cultural identity, health care and education access were validated, revised, and extended from by the PPI groups.

## Conclusion

The lived experience and unique perspectives of PPI contributors enhanced the validity, relevance, and accuracy of literature findings. The refined themes will contribute to a best practice conceptual framework to promote communication access rights on the island of Ireland for all people with communication disability and difference.

Public and Patient Involvement; Communication disability and difference

PARALLEL SESSION 13 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 13.3 ENHANCING SOCIAL COMMUNICATION IN AUTISM SPECTRUM DISORDER THROUGH GROUP THERAPY: A COHORT STUDY

*Humeyra Ozozgur<sup>1</sup>, Tuğçe Karahan Tığrak, Dilan Mertoglu, Zehra Savaş*  
<sup>1</sup> Hacettepe University

**Background:** The negative impact of inadequate social skills in individuals with Autism Spectrum Disorders (ASD) underscores the need for support in enhancing their abilities in social interaction and communication (Wetherby et al, 2007). Children with autism often exhibit limitations in creative, playful pretend play, which are linked to their constrained interactive communication and participation. Numerous studies have noted that an increased severity of fundamental traits of autism, notably challenges in social-communication, is closely associated with reduced subjective QoL in individuals with ASD (Chiang & Wineman, 2014; de Vries & Geurts, 2015). Therefore, social-emotional development needs to be supported.

**Objectives:** The purpose of this study is to support the social-emotional developmental and communication of children with ASD within an unstructured group therapy.

**Methods:** A cohort of eight children (seven male, one female) diagnosed with ASD, aged 48 to 98 months, was selected for a single intervention group. This group met for a session lasting two hours weekly over a total of 16 weeks, aiming to foster essential elements of social interaction and understanding. Data were collected pre-test, post-test, and follow-up. The Early Social Communication and Interaction Scale (ESCI), direct observations, and video coding of interventions were employed to gather data. Comparisons between pre-test and post-test were performed using the Wilcoxon signed-rank test.

**Results:** Significant advancements were documented, including increased percentages of time spent initiating or maintaining social interactions, higher frequencies of appropriate responses, and increased instances of adaptive behavior.

**Conclusion:** Participation in group interventions aimed at improving social interaction and comprehension can enhance the social communication abilities of children with ASD.

**Keywords:** autism spectrum disorder, social interaction, communication, group intervention

### 13.4 DEVELOPMENT OF A SEVERITY MEASURE FOR SSD

*Msc. Anniek van Doornik<sup>1,2</sup>, Professor Sharynne McLeod<sup>3</sup>, Dr Hayo Terband<sup>4</sup>, Professor Ellen Gerrits<sup>1,2</sup>*

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#### Background

When SLTs determine severity of SSD, they consider three main severity factors: (I) Speech accuracy, (II) The child's perception of the impact of their speech, and (III) Intelligibility in communication (Doornik et al., in prep.).

Other severity factors were Concomitant factors and Impact. Expertise and Support were identified as facilitators or barriers.

#### Aim

The first aim of the current study was to examine how the severity factors contributed to the severity of SSD. The second aim of the study was to develop a measure of the severity of SSD that can be used in SLT practice.

#### Methods

Data was collected in a cross-sectional study with 214 Dutch children aged 4-7 years old (95 TD; 119 SSD). Speech assessment included evaluation of speech accuracy (CAI, PCC), intelligibility in context (ICS-NL), communicative participation (FOCUS-34-NL) and the children's communicative attitude (KiddyCAT-NL).

Intelligibility judgments of spontaneous speech by naive listeners were used as the outcome measure. A hierarchical multiple linear regression analysis was applied to the data.

#### Results

In the second step, the severity factors of speech accuracy, intelligibility in communication, and the child's perception of the impact of their speech explained a significant proportion of the variance of the naive listeners' intelligibility judgments ( $\Delta R^2 = .74$ ;  $\Delta F(1, 59) = 10.74$ ,  $p = .002$ ). The formula for determining the severity of SSD included the weight of each factor that contributed to severity.

#### Conclusions

The formula for determining the severity is a first step in the development of a severity measure for SSD. Intelligibility and communicative participation appear to be closely related concepts in

children with SSD. SLTs should include the evaluation of the children's speech accuracy, their intelligibility in context and the child's perception as a standard in speech assessments.

**Keywords**

Severity, Speech Sound Disorder, speech accuracy, intelligibility, communicative participation, children's perception

### 13.5 CAPTURING GROWTH IN SPEECH PRODUCTION DEVELOPMENT OF CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER

*Ma Anouk Scheffer<sup>1,2</sup>, dr Brigitta Keij<sup>2</sup>, dr Britt Hakvoort<sup>1</sup>, prof. dr. Ellen Gerrits<sup>2,3</sup>, prof. dr. Frank Wijnen<sup>2</sup>*

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<sup>3</sup> HU University of Applied Sciences Utrecht

**Background:** A considerable subgroup of children with developmental language disorder (DLD) experience difficulties in their speech production development. To monitor their speech production, clinicians need sensitive measures that can show subtle changes in children's development over short periods of time. We developed two new Dutch speech performance measures; a Dutch version of the Word Complexity Measure (WCM) and the FONO-P (phonology-points).

**Aims:** To examine whether (1) the two new performance measures can capture change in speech production skills over a period of three months, (2) these measures are more sensitive to change than an established, frequently used accuracy measure (i.e., PCC-R), and (3) performance and accuracy measures can have different change rates on an individual level.

**Methods:** We examined single word productions of 54 children with DLD and speech production difficulties (mean age = 4;0, SD = 9 months), elicited at two time points. We used Wilcoxon signed-rank tests to check whether the children improve on the WCM and FONO-P between T1 and T2, and a mixed effects analysis to examine whether these measures show more change than the PCC-R. Finally, we did an exploratory analysis on the three measures on an individual level to see whether children's change rates are similar for the performance and accuracy measures.

**Results:** Children show significant growth on the WCM and FONO-P between T1 and T2. There was no evidence that the WCM, FONO-P, and PCC-R differ in their sensitivity for monitoring change. Our exploratory analysis suggests that different change rates between performance and accuracy measures are possible for certain (groups of) children.

**Conclusions:** Our results demonstrate that the performance measures are of added value for monitoring speech production skills of subgroups of children with DLD, especially for younger children, and, more generally, children with relatively low levels of speech production ability.



PARALLEL SESSION 14 - LIFE QUALITY COST

## 14.1 DO COMMON VOICE DISORDER DIAGNOSES HAVE DIFFERENT EFFECTS ON VOICE-RELATED QUALITY OF LIFE?

*MSc Ayşe Nur Demirci<sup>1</sup>, PhD Önal İncebay<sup>1</sup>, PhD Fatma Esen Aydın<sup>1</sup>, MSc Elif Tunç Songur<sup>2</sup>*  
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<sup>2</sup> Selçuk University

**Background:** Dysphonia directly affects a person's communication. This can cause a person's quality of life to deteriorate. Therefore, the evaluation of dysphonia should include patients' problems with their daily voice-related life.

**Aims:** To examine perceptions of voice-related quality of life (VRQOL) in patients with vocal nodules (VN), muscle tension dysphonia (MTD) and unilateral vocal cord paralysis (UVFP).

**Methods:** Participants aged 18 to 75 were included in the study group (n=44). The study group was studied in 3 subgroups (Group 1: VN (n=15), Group 2: MTD (n=15), and Group 3: UVFP (N=14)). The normophone group included 44 participants matched by age and sex without voice complaints (Group 4). The participants' voice disturbance was diagnosed by an ear nasal throat specialist and a speech and language therapist with more than 10 years of experience in the field of voice. All participants were asked to complete the Turkish version of the VRQOL survey. The group comparisons were made using the Mann Whitney-U and Kruskal Wallis tests.

**Results:** The average age of participants is as follows: Group 1=37.3(±15,67); Group 2=44.33(±19,81); Group 3=40.43(±16,81); Group 4=40.70 (±17,37). The study group had a lower survey score than the normophone group (p<0,001). The female participants scored lower than the male, regardless of the diagnosis subgroup. Compared to the diagnosed subgroup of patients in the study group, the survey scores of the group 3 were statistically significantly lower than in the other two groups (p=0,03).

**Conclusions:** The results clearly show that V-RQOL scores are lower in the study group. Female participants achieving lower scores showed poorer voice status. It indicates that women tend to perceive dysphonia, especially its social-emotional effects, more. Lower survey scores in the group 3 may be associated with a poorer voice status. The fact that this group suffered from glottal insufficiency in particular may have affected their VRQOL.

**Keywords:** Dysphonia, voice related-quality-of-life, voice disorders

PARALLEL SESSION 14 - LIFE QUALITY COST

## 14.2 SPEECH AND LANGUAGE THERAPY STUDENTS' QUALITY OF LIFE: WHAT DO FUTURE PROFESSIONALS NEED NOW?

*Dr. Lidia Rodríguez García<sup>1</sup>*

<sup>1</sup>University Of Castilla-la Mancha, Spain

- **Background**

Professional practice supposes new challenges differing the ones of a decade ago. This also applies to the initial training of students in Speech Therapy. The Quality-of-Life (QoL) model (Schalock & Verdugo, 2007) is increasingly present in clinical or natural environments intervention; however, the SLT curricula do not always contemplate students' QoL, even though students will be, precisely, future professionals who must contribute to the QoL of individuals and groups.

The university setting demands greater mobilization abilities, which can expose the students to potentially stressful situations (Soares et al., 2016). Besides, the pandemic has increased college student anxiety and depression (Huckins et al., 2020), others may be disproportionately affected by stress (Castelli & Sarvary, 2021), and a virtual mode may add anguish or trauma (Baltà-Salvador et al., 2021). Evidence from the literature suggests that learning may be impeded unless a student's affective needs are attended to (McAllister & Lincoln, 2004).

- **Aim / Objectives**

Consequently, the purpose of this work is to develop a pedagogical practice integrating students' emotional processes, worries and needs within the design of the classes to contribute to improving the quality of their lives.

- **Methods**

We work from an Emotional and Wellness perspective (Holland, 2018; Stokes, 2015), a Narrative approach (Bruner, 2004), an Ecological view (Rodríguez, 2015) and Reflective listening (DiLollo, 2004).

- **Results**

This emotional approach reinforces the belief that individual learning and well-being are intimately connected to group learning and well-being. What do future professionals need now? Just to be heard. The reality needs to be heard. Our students' realities too.

- **Conclusions**

The classroom is a living organism that requires collaboration, self-care and collective care. The classroom is one more ecosystem. Let's take care of it. Let's take care of ourselves in the present moment and in the future.

PARALLEL SESSION 14 - LIFE QUALITY COST

### **14.3 COGNITIVE-COMMUNICATION THERAPY FOLLOWING TBI IN UKRAINIAN MILITARY COMBATANTS: CHALLENGES AND BENEFITS**

*Dr Oksana Lyalka<sup>1</sup>*

<sup>1</sup>Ukrainian Society For Speech And Language Therapy

Due to the war started by Russia in 2014 against Ukraine, the number of Ukrainian combatants with acquired communication disorders constantly increases, and drastically upon the escalation in the last two years.

Unfortunately, SLT services for military combatants have not been included into standard practices in military hospitals; thereafter, the majority of defenders receive little or no SLT services. The goal of this project, to show the breadth of SLT services that should be provided for military servants as well as prove the advantage evidence-based services in improving quality of their life.

Due to the lack of dedicated training in Ukraine, this project began with the training program and then enriched with the adaptation of relevant documentation, development and validation of assessments tools, application of evidence-based therapeutic techniques, goal oriented interventions, as well as supervised clinical practice.

Since the beginning of the program, over 500 sessions have been provided to over 30 combatants with acquired communication disorders caused by TBIs varying from severe to mild, stroke, as well as functional speech disorders (stuttering and dysphonia). Sessions were delivered online which helped to include defenders from different regions of Ukraine as well as one subject from Moldova. Every subject underwent thorough assessment, and goal-oriented intervention.

One defender with severe TBI and two with functional speech disorders returned to their duties. All defenders showed improvement in their communication and cognitive functioning as scored in dedicated assessment tools and questionnaire of disability, as well from the interviewing personnels from their environment. Despite the positive outcomes in communication performance, some defenders reported no difference or worsening in quality of life. This might be explained by the increase of self-awareness caused by the improvement of cognitive functioning. Further implications of the project will be discussed during the presentation.

PARALLEL SESSION 14 - LIFE QUALITY COST

## 14.4 AN EXPLORATION OF POLICE CUSTODY AS A SITE OF COMMUNICATION ACCESSIBILITY

*Ms Claire Westwood<sup>1</sup>, Ms Keira Radice<sup>1</sup>*  
<sup>1</sup> Birmingham City University

**Background:** When an arrested person is detained, it is often an unpredictable and stressful experience (Newburn and Hayman, 2013) and requires a high level of linguistic competence to navigate successfully.

Speech, Language and Communication Needs (SLCN) are much more prevalent in the offending population than in general society, with over 60% of young offenders experiencing SLCNs (Hughes et al, 2017).

The Equality Act (2010) in the UK and UN Declaration of Human Rights internationally require disabled people (including those with communication disabilities) to have access to a fair trial. This is especially important in situations where a person does not have control, such as being taken into custody (Fisher and Roccotagliata, 2017).

Despite these huge implications, no research has investigated the custody suite as a site of communication accessibility.

**Aim:** To explore the communication opportunities and barriers within a custody suite setting.

**Methods:** A communication accessibility audit of a custody suite was completed, via an adapted version of the Communication Supporting Classroom Observation Tool (CSCOT, Law et al, 2017).

**Results:** The audit revealed good practice, e.g. officers using straightforward language with detainees during interactions and having awareness that Easy-Read documentation was available. However, several aspects of the custody suite were identified as requiring reasonable adjustments for those with communication disabilities. This talk aims to discuss these and further recommendations in more detail.

**Conclusions:** Communication is complex and fast-paced at the point of criminal arrest and detainment and is therefore a key site for communication access to enable equity to a fair trial for a person with SLCNs. It is important that SLTs play a part in supporting optimization of this environment to enable all persons to have fair participation in criminal proceedings.

**Keywords:** custody, arrest, accessibility, equity, inclusion

PARALLEL SESSION 14 - LIFE QUALITY COST

## 14.5 INFORMEDNESS ABOUT THE SLT PROFESSION IN HUNGARY

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<sup>1</sup> The University Of Győr, Győr, Hungary

### Background

Knowledge and understanding of society members of the SLT profession determine to a great extent whether SLT services are used when the need arises. Lack of information can be a barrier to equitable access: it can lead to delays or failure to initiate treatment, thus jeopardizing the client's chances of recovery. Informedness about the SLT profession has never been assessed in the Hungarian population despite being recognized for over a century.

### Aim / Objectives

This research aimed to assess the knowledge and perceptions of the Hungarian population about speech and language therapy, including clinical speech and language therapy. The results will allow for the design of awareness-building strategies that are needed to further educate the general public.

### Methods

A survey was conducted by creating and administering a questionnaire with 7 demographical, 21 closed and 9 open questions. A representative sample was constructed by using the most recent data from the Bureau of Statistics about present-day Hungarian society.

### Results

The questionnaire was completed online or on paper by respondents (n=1000). Data were processed using frequency analysis and word cloud methods. Respondents had minimal knowledge of the diseases affecting children and the therapies used. They had virtually no knowledge of clinical speech therapy. Almost half of those experiencing speech problems after stroke were reported not to receive appropriate care.

### Conclusions / take-home message

Currently, the general public knows very little about the field itself, the competencies of SLTs and how to get access to services. Results call attention to and constitute major obstacles to conceptualizing the role of SLT in life and getting equitable access to SLT services when needed, ultimately determining the quality of life in those needing services to a larger or a smaller extent.

PARALLEL SESSION 15 - DYSFLUENCY AND STUTTERING IN CHILDREN AND ADULTS

## 15.1 TEMPERAMENT AND STUTTERING SEVERITY IN SCHOOL AGE CHILDREN

*M.Sc. Kübra Miraloğlu<sup>1</sup>, Professor Maviş Emel Kulak Kayıkcı<sup>2</sup>, Assoc.Prof. Meltem Çiğdem Kirazlı<sup>2</sup>*

<sup>1</sup> Kütahya Health Sciences University

<sup>2</sup> Hacettepe University

**Background:** The tendency to react to stimuli in certain ways and the ability to regulate these reactions are largely explained by temperament. Temperament affects the children's emotional development and coping skills with stressors such as stuttering. The association between temperament and stuttering may change as children get older and their stuttering becomes chronic.

**Aims:** There were two aims of this current study. The first aim was to compare the temperament in children who stutter (CWS) and children who do not stutter (CWNS). The second aim was to examine the relationship between temperament and stuttering severity of CWS.

**Methods:** 66 CWS and 66 CWNS aged 8-11 years were included in the study. School Age Temperament Inventory (SATI) was completed by their parents. Speech and reading samples were recorded, transcribed and the Stuttering Severity Instrument-4 (SSI-4) was used to assess the severity of stuttering. The independent samples t-test was used to compare the temperament of CWS and CWNS. Spearman correlation analysis was used to determine the association between temperament and stuttering severity.

**Results:** There were no significant differences between CWS and CWNS in the SATI dimensions of negative reactivity, task persistence, approach/withdrawal and activity. In CWS group, no significant correlation was found between negative reactivity, task persistence, approach/withdrawal and frequency score, duration score, secondary behavior and total score from the scale scores of SSI-4. Only a weak negative correlation was found between activity and total score.

**Conclusions:** Temperament differences between CWS and CWNS remain controversial in the literature. This study is one of the very few studies investigating the relationship between temperament and stuttering severity in school-age CWS. To fully comprehend the changes observed in children during their developmental stage, more research is required.

**Keywords:** Stuttering, temperament, stuttering severity, school-age children

## 15.2 SPEECH TEMPO AND FLUENCY IN CLUTTERED SPONTANEOUS AND READ SPEECH

*Dr Judit Bóna*  
ELTE Eotvos Lorand University

According to the lowest common denominator definition of cluttering this is a fluency disorder in which the speech is perceived as too fast, too irregular, or both. In addition to the rapid and/or irregular speech rate one or more of the following symptoms occur in cluttering: “(a) excessive “normal” disfluencies; (b) excessive collapsing or deletion of syllables; and/or (c) abnormal pauses, syllable stress, or speech rhythm” (St. Louise & Schulte, 2011: 241-242). Previous studies (e.g. van Zaalen et al., 2009) show that the speech task is a major determinant of the articulation rate and of the proportion of typical and stuttering-like disfluencies in cluttering. However, there are only a few papers about speech and articulation rate, detailed pausing strategies and disfluencies in cluttered speech in different speaking tasks.

The aim of this presentation is to analyze how the above mentioned temporal variables differ in spontaneous speech and oral reading. 10 PWC and 10 age-, sex- and education-matched control speakers participated in the study. Speech samples were recorded from each speaker in both speaking tasks. The annotation was carried out by Praat. Speech rate, articulation rate, mean duration, frequency and proportion of pauses, and frequency of disfluencies were calculated, and the relationships of the different data were compared. Statistical analyses were carried out by SPSS.

Results show that there is a difference between the speaking tasks in the analyzed parameters. Comparing the data with those of typical speakers, results show that there are more differences between the speakers’ groups in spontaneous speech than in read speech. The results contribute to the assessment, diagnosis and therapy of cluttering.

Key words: cluttering; temporal variables; fluency; speaking tasks



PARALLEL SESSION 15 - DYSFLUENCY AND STUTTERING IN CHILDREN AND ADULTS

### 15.3 INTERACT: A PROGRAM TO PREVENT STUTTERING STEREOTYPES IN PRESCHOOL AGE CHILDREN

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Several studies have indicated that children often develop negative attitudes towards their peers who stutter as early as preschool age (Kikuchi et al., 2021). Consequently, CWS are at an increased risk of being subjected to bullying (Berchiatti et al., 2020), and in Italy, there appears to be a particularly pronounced stigma against individuals who stutter compared to other European countries (St. Louis et al., 2016). Interventions such as the Attitude Change & Tolerance program (InterACT), as demonstrated in studies conducted in the United States, have shown promise in fostering improved attitudes towards stuttering among American children (Weidner, St. Louis, & Glover, 2018).

**AIMS** This study aimed to assess the efficacy of a specific educational program, the Attitude Change & Tolerance program, in fostering positive attitude changes towards stuttering and CWS among fluent preschoolers.

#### METHODS

**Participants:** Nine preschool children (male: 4, female: 5; aged 5 to 6 years).

Participants watched a video featuring two characters who stuttered, followed by assessment using the POSHA-S/Child scale.

**FIRST LESSON:** Conducted by a speech therapist, involving video viewing and group discussions. Participants engaged in activities focused on human diversity, characteristics, and causes of stuttering.

**SECOND LESSON:** Conducted by a speech therapist, involving video viewing and group discussions. Participants engaged in activities focused on appropriate interactions with CWS.

**TEACHER LESSON:** Conducted by a trained speech therapist.

Participants were reassessed using the POSHA-S/Child scale.



**RESULTS** The results revealed significant changes in the following POSHA-S/Child subscales: 2 - Accommodating/Helping (Pre: 129; Post: 151); 3 - Stuttering is Caused by (Pre: 133; Post: 140); 5 - Stuttering Should Be Helped by (Pre: 92; Post: 102).

**CONCLUSION** The adaptation of the InterACT program in Italian demonstrated its efficacy in promoting positive changes in preschoolers' beliefs regarding stuttering and CWS, particularly concerning the causes of stuttering and appropriate interactions with CWS.

## 15.4 VIRTUAL REALITY EXPERIENCE: ADULTS WHO STUTTER'S PERCEPTIONS ON SEVERITY, LOCUS OF CONTROL, AND AVOIDANCE

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Stuttering poses challenges in communication and quality of life. Assessing stuttering involves examining various factors, e.g., individual behaviors, emotional responses and perceptions, communication partners, and contextual engagement. Traditional assessment methods, often conducted in therapeutic settings, lack reliability and validity in representing real-life communicative situations. To address this, the study explores the use of Virtual Reality (VR) for a more authentic assessment of stuttering-related perceptions.

This study aims to compare the impact of supportive and challenging communicative partners on the perception of severity, locus of control, and avoidance in a VR immersive experience undergone by adults with stuttering during the stuttering assessment process. Eighteen participants signed informed consent for the study, utilizing the iStutter VR solution. This VR tool incorporates interactive video experiences displayed in a headset, simulating an employment interview with different partners: a supportive receptionist and challenging interviewers. Perceptions of severity, locus of control, and avoidance were assessed using a modified Subjective Stuttering Scale (SSS) to the specific audiences referred above, using a scale from 1-9, in which 1 represents the target level and 9 the most severe level.

Results indicated an increase in the median for 87.5% of SSS items when comparing supportive and challenging partners. This suggests a shift towards more external locus of control, increased avoidance, and heightened severity with challenging partners. The findings imply that VR experiences can evoke stuttering-related perceptions similarly to real-world interactions, offering a more ecologically valid assessment in therapeutic contexts.

In conclusion, the study highlights the potential of VR for stuttering assessment, emphasizing its ability to replicate real-world situations. The use of VR in assessing individuals who stutter provides a more accurate representation of their communicative challenges, addressing limitations associated with traditional assessment methods. This research contributes to the growing exploration of innovative technologies for enhancing the evaluation of stuttering.

PARALLEL SESSION 15 - DYSFLUENCY AND STUTTERING IN CHILDREN AND ADULTS

## 15.5 THE MEASUREMENT OF PARENTAL STRESS IN RELATION TO THE THEIR CHILD'S STUTTERING: IMPACT ON THEIR QUALITY OF LIFE

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Therapie CvSt

Background: Stuttering in a child raises many questions for the parents and triggers reactions. Often, a stuttering child means parental concern and stress which can affect their quality of life.

Aim / Objectives.

(a) The processing of stress in general is discussed (b) and illustrated with examples from clinical practice. (c) The results of research to evaluate parental stress levels related to the child's stuttering will be discussed. (d) The implications for the clinical practice are given.

Methods.

Case reports are used to illustrate some examples of parental stress observed in the clinical practice. Research is conducted with a validated Questionnaire for Parents of Stuttering Children (VOKIS) allowing parents to report very specific stress experiences related to their child's stuttering. Descriptive and analytic statistics were calculated in relation to subcomponents of the VOKIS and different variables. The relationship between the measurements with the VOKIS and the estimation of parental stress level by an SLT was calculated.

Results.

Research suggests that the way of coping with the child's speaking, the support to be received or not, and the concerns triggered by the potential problems with the child's speech contribute to the parental stress level and reduces their quality of life to varying degrees. Speech therapists' observation of parental stress is more limited than the results with the VOKIS indicate..

Conclusions / take home message.

The assessment of parental stress by means of the VOKIS justifies specific therapeutic interventions, e.g. through parental guidance in group and individual, through interactions between parents and their child in treatment. For example, obtaining good supervision of the child at school and elsewhere also helps to reduce parental stress. Together with the results, this will improve the parents' quality of life.

PARALLEL SESSION 16 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## **16.1 DEVELOPMENT OF VOCABULARY AND PHONOLOGICAL AWARENESS IN CHILDREN AGED 5-7 YEARS IN KOSOVO**

*Mrs Bardha Kika*  
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Heimerer College

Vocabulary refers to the words that a child understands and uses to communicate with others. The development of vocabulary occurs as a child grows. Environmental factors play a crucial role in their early vocabulary development. Phonological awareness, on the other hand, refers to a child's ability to manipulate sounds to form words. The main objective of this research is to analyze the correlation between vocabulary development and phonological awareness. This research study involves 177 children between the ages of 5 and 7. The children were recruited from four different cities in Kosovo, specifically from preschool, first grade, and second grade. The instruments used for assessing the participants are, The Peabody Picture Vocabulary Test – Forth Edition (PPVT-IV) by Dunn & Dunn (2007) and the Articulation Test by Kačka & Poposka (2022). The study found that children's performance on the phonological awareness test has a significant positive correlation with vocabulary development. It also found that there are no significant differences between male and female performance on the phonological skills test and the vocabulary development test. The third finding is that children who are exposed to a second language have better phonological skills than monolingual children. It is also worth noting that significant differences have emerged in the performance of both tests, of vocabulary and of phonological awareness, among children of the age groups of 5 years, 6 years and 7 years. The obtained results are of great importance in research in the field of speech therapy and are arousing the interest of other researchers. In addition to the correlation of vocabulary skills and phonological awareness, on the next studies will be also investigated the impact of these variables on reading in monolingual and bilingual children.

Key words: vocabulary development, phonological awareness, bilingual children, monolingual children.

PARALLEL SESSION 16 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

**16.2 MONO- AND BILINGUAL CHILDREN'S PHONOLOGICAL  
PROCESSING SKILLS MEASURED BY A GREEK NONWORD  
REPETITION TASK**

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<sup>1</sup> Task Force for Bilingualism/ Multilingualism P.A.L

**Background:** Research supports the use of non-word repetition (NWR) tasks for detecting phonological processing and language disorders. NWR tasks have promising diagnostic accuracy in detecting deficits that may not be apparent during verbal communication/oral expression and comprehension assessments, differentiate language disorders, and provide predictive indicators of language abilities. The cross-linguistic validity of NWR tasks further enhances their clinical utility by enabling evaluation in diverse linguistic contexts while including measures of language processing rather than acquired knowledge.

**Aim/Objectives:** There is a significant lack of appropriate diagnostic instruments regarding the speech and language evaluation of bi/multilingual children within the Greek context. This pilot study aims to create a baseline measurement of this population's phonological processing and memory skills by comparing the performance of typically developing monolingual children 5-7 years old with that of their bilingual peers.

**Methods:** The sample consists of 20 simultaneous bilingual and 32 monolingual children, aged 5-7 years ( $M=6$ ,  $SD=0.82$ ). Children with cognitive, hearing and developmental impairments were excluded. The NWR task implemented is part of an assessment battery for the assessment of speech-sound disorders (DOMA-PAL).

**Results:** Data is analyzed using the SPSS v.24.0. The mean performance of both groups was compared using a two-tailed t-test and was found to be non-significant ( $p=.131$ ). Further analysis will present the comparison of these group performances with that of sequential bilinguals to gauge any differences in this task.

**Conclusions/take-home message:** Our results support previous findings that NWR instruments are less language-dependent. Mixed research evidence regarding the importance of NWR tasks as an indicator of bilingual language development, suggest the need for further analysis with different types of samples since this may have implications for differential diagnosis.

PARALLEL SESSION 16 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 16.3 LONGITUDINAL ASSESSMENT OF GRADE REPETITION: EXAMINING SPEECH AND LANGUAGE DEVELOPMENTAL CHALLENGES IN GREEK KINDERGARTEN RETENTION

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Research studies suggest a link between speech and language difficulties in preschool-aged children and literacy challenges later on. In the Greek educational system, preschoolers encountering difficulties in transitioning to primary school may attend an additional year of kindergarten. Grade repetition is implemented to tackle issues of inadequate academic readiness, yet benefits of this approach are debatable.

This study investigates longitudinally the speech, language, and cognitive abilities of Greek-speaking children retained in kindergarten to identify potential weaknesses compared to children progressing through kindergarten as expected.

Participants: Group 1 (n=10) attending kindergarten as anticipated; Group 2 (n=9) attending an additional year of kindergarten. Children were assessed twice (T1 and T2) with a four-month intermission. Assessment involved various tasks: speech production and phonological development evaluated using the Phonological Assessment for Greek; language comprehension and production; phonological awareness; and cognitive abilities evaluated via the Immediate Verbal Recall task.

Results revealed improved performance at T2 for both groups across all assessment tasks. Paired-samples t-tests indicated certain significant differences in performance over time: Group 1 demonstrated improvements in whole word accuracy, percentage of consonants correct (PCC), nonword repetition, language comprehension and production; Group 2 showed developmental gains in PCC, language comprehension, real word auditory discrimination with picture choice, phonological awareness. Moreover, descriptive statistics showed that participants in Group 2 scored lower than those in Group 1 across tasks at both assessment points. Independent samples t-tests indicated a significant difference in performance at T2, in PCC and sentence repetition, suggesting that children retained performed lower than children of younger age attending kindergarten as anticipated.

These findings imply that children with low school readiness may experience ongoing difficulties in speech, language, and cognitive skills, which cannot be fully resolved solely through grade repetition. There is a necessity to reassess educational retention strategies and implement focused interventions and support.

PARALLEL SESSION 16 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 16.4 THE EFFECT OF THE SPEAKER GENDER ON REACTION TIME IN AUDITORY SPATIAL DIRECTIONAL TASKS

*Evija Lavrane<sup>1</sup>, Baiba Trinite, Anita Zdanovica, Daiga Kurme, Ilva Magazeina, Anita Jansone*  
1 Voice and Speech Research Laboratory, Liepaja University

The effect of the speaker gender on reaction time in auditory spatial directional tasks

**Objectives:** This study investigated whether the speakers gender can affect the performance of auditory spatial directional tasks.

**Methods:** Forty-two right-handed and healthy Latvian-speaking listeners (23 female, mean age  $21.11 \pm 2.41$  years) listened to 270 semantically neutral voice samples produced in neutral intonation by ten professional actors. Experimental stimuli were four vocal directional instructions in Latvian (left, right, up, down) spoken by female and male actors. Responses were submitted by moving custom-adjusted joystick button allowing only fixed movement up, down, left, and right. Participants were asked to respond as fast and accurately as possible. The performance quality of the experimental tasks was measured by the reaction time and accuracy of the perceived vocal instruction.

**Results:** Statistical analysis revealed a difference of vocal stimuli recognition speed of male and female voices ( $p < 0.001$ , Mann-Whitney U Test), with a median reaction time of 0.553 s (SD = 0.395 s) for males' voices compared to 0.537 s (SD = 0.334 s) for females' voices.

**Conclusions:** Speakers' gender can affect reaction times in spatial direction tasks. The results suggested that processing of voice stimuli produced by females resulted in faster reaction time than instructions produced in male voices. Female vocal stimuli neural recognition and processing is faster than male vocal stimuli recognition and processing. The following study phase will examine the speed of the neural mechanisms associated with processing perceived voice stimuli.

**Keywords:** voice, perception, gender, reaction time

**Funding:** This work was supported by the Latvian Science Council [Nr. lzp-2021/1-0159], project "Affective and disordered vocal stimuli neural processing during mobile tasks."

PARALLEL SESSION 16 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 16.5 THE EFFECT OF WORD FREQUENCY AND IMAGEABILITY ON INDIVIDUAL DIFFERENCES IN ANAPHORA RESOLUTION

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The process of anaphora resolution involves determining the referents of anaphoric expressions (pronouns or ellipses) within a discourse (Halliday & Hasan, 1976; Mitkov, 2014). This process is guided by various constraints, including psycholinguistic word features- frequency and imageability. High-frequency words are typically processed more easily and faster, thereby enabling their meaning to be accessed more successfully, than low-frequency words. However, contradictory findings exist regarding the effects of these features on anaphora processing, especially in populations with language-based disorders (e.g., poor decoders (PD) and poor comprehenders (PC); Bishop & Snowling, 2004; Ehrlich & Remond; 2011; Ramus et al., 2013; Catts, 2017; Kim & Hwang, 2017).

This study (part of doctoral research) aims to investigate the language processing online behavior of 5th and 6th-grade primary students (N=70), in anaphora resolution, by manipulating both the antecedent's and anaphora's frequency and imageability within stories, using eye-tracking methodology. Children were categorized into PD, PC, and typical language development (TLD) groups based on their reading profiles and other language-based skills. The eye-tracking measures (total reading time, fixation duration, N of regressions, etc.) in anaphora and antecedent were observed during children's reading.

Preliminary results suggest that word frequency and imageability may have varying effects on anaphora resolution among PD, PC, and TLD groups- PD and PC will exhibit distinctive eye movement patterns on both anaphora and antecedent due to the linguistic complexity of the task. It may manifest as longer fixation times, a higher frequency of fixations, and regressions, indicating potential differences in mental representations' quality during anaphora processing.

Understanding the mechanisms underlying anaphora resolution and its variability contributes to the improvement of persistent language processing and comprehension models. Moreover, it may inform educational practices aimed at improving reading comprehension skills, particularly in populations of children with language-based disorders.

Key words: language-based disorders, anaphora resolution, eye-tracking



### **KS3. THE ROLE OF THE SPEECH AND LANGUAGE PATHOLOGIST IN WORKING WITH ADOLESCENTS AND YOUNG PEOPLE WITH SPEECH, LANGUAGE AND COMMUNICATION NEEDS.**

*Victoria Joffe*  
University of Essex, UK

Language development and enhancement is a lifelong skill and continues into adolescence and adulthood. Most children learn how to talk effortlessly and without explicit instruction, however, there is a significant group of children with Speech, Language and Communication Needs (SLCN) who experience difficulties with the understanding and expression of language and in communicating their needs.

There is strong evidence for the pervasiveness and persistence of speech, language and communication difficulties, and consistent worldwide research indicates how these early difficulties can progress and increase into adolescence and adulthood, impacting on a wide range of areas including academic performance, behaviour, socialisation, self-esteem, emotional functioning, employment and mental health and wellbeing.

Adolescents and young adults with SLCN are a significantly under-researched and under-served group, however, there is an increased focus and emerging evidence base for ways of working with older children and young people in enhancing their language and communication.

The presentation explores Speech, Language and Communication Needs in adolescents and young people, charting the changes evident in language and communication through and beyond adolescence. The nature and wider impact of SLCN in adolescence will be discussed, with a focus on the identification, appropriate assessment, and wider management in this population.

The challenges, opportunities and implications of working with this older age group will be explored, including the involvement of the wider workforce, adolescent and family as part of the therapy team, and the focus on activity, participation and social inclusion. Common themes in working with adolescents with SLCN will be identified with implications for teaching and therapy practice. Key ingredients for success will be identified to maximise engagement in the intervention process, emphasising an integrated needs-led co-produced service appropriate for the age and stage of the individual.

PARALLEL SESSION 17 - SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

## 17.1 CLINICAL APPLICATIONS OF THE GLOBAL TALES PROJECT

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University Of North Carolina

**Background:** The Global TALES project was initiated by the Child Language Committee of the International Association for Communication Sciences and Disorders (IALP) in 2018. The protocol is used to elicit personal narratives related to universal lived experiences, and has been made freely available for clinical use.

**Aim / Objectives:** Results obtained using the Global TALES elicitation protocol can support interventions for developing personal narratives skills in monolingual and multilingual children with language and learning challenges.

**Methods:** The author has implemented and will discuss the following clinical applications of the Global TALES protocol:

1) Best practice for cross-linguistic translation and implementation of the prompt questions, focused on universal emotions; 2) Dynamic assessment procedures with monolingual and multilingual children; 2) Using personal narratives to facilitate development of language to support academic and social interaction skills; 3) Accessing Tar Heel Reader (simple open access platform) to create books about children's lived experiences.

**Results:** The Global TALES protocol has been successfully implemented to elicit personal narratives that are useful for supporting development of language skills in monolingual and bilingual children with language and learning needs.

**Conclusions / take home message:** As hypothesized during the pilot study conducted by the IALP Child Language Committee, the Global TALES protocol is appropriate for cross-cultural and cross-linguistic clinical applications.

**Keywords:** Global TALES, dynamic assessment, personal narratives, multilingual children

PARALLEL SESSION 17 - SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

## 17.2 LANGUAGE, SOCIAL AND COGNITIVE SKILLS IN AUTISTIC AND NON-AUTISTIC ARABIC-SPEAKING CHILDREN: NETWORK AND CLUSTERS ANALYSES

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**Background:** Autism Spectrum Disorder (ASD) is characterized by impairments in social interactions, social communication, and repetitive behaviors (DSM-V, APA 2013). Although language is not considered a core ASD symptom in the DSM-V, autistic children exhibit diverse language profiles (Schaeffer et al., 2023). Previous studies have reported mixed findings regarding the links between language, social, and cognitive skills in autistic children (e.g., Durrleman et al., 2016).

**Objectives:** The current study investigates language and cognitive profiles of autistic and non-autistic Palestinian-Arabic speaking.

**Methods:** 163 participants, comprising autistic children and those with Typical Language Development (TLD), aged 4-11, participated. Children's language skills were evaluated across phonology (using the non-word repetition task), morphosyntax (via the sentence repetition task), lexicon (through vocabulary tasks), and pragmatics (using a narrative task). Social skills were assessed using verbal and non-verbal Theory of Mind (ToM) tasks, and cognitive skills included measures of Executive Function (EF) (e.g., inhibition, flexibility) and central-coherence processing (local vs. global).

**Results:** Network analysis revealed robust interconnections among language skills in autistic children, with pragmatic abilities showing the highest centrality, followed by morphosyntax and lexical skills. For children with TLD, age showed the highest centrality, followed by ToM and cognitive skills. Cluster analysis identified five profiles, wherein two profiles exhibited high proficiency in phonological, morphosyntactic, and lexical language skills but displayed a dissociation in pragmatic skills. Furthermore, dissociations within linguistic skills were evident in the remaining three profiles. Subsequent investigation into these language clusters indicated that autistic children with enhanced language abilities performed better in ToM and EFs tasks, with verbal ToM consistently lagging behind other tasks.

**Conclusions:** Our findings underscore the variability in language-cognitive profiles and the dissociation within and between both domains in autistic children, highlighting the intricate interplay between language and cognitive skills in this population and offering insights for applied interventions.

### **17.3 MULTILINGUAL SKILLS OF YOUNG ADULTS IN ICELAND WHO LEARNED ICELANDIC AS L2 IN SCHOOL: MEASURED AND SELF-REPORTED PERFORMANCE**

*Ms. Gudrun Haflidadottir<sup>1</sup>, Dr. Elin Thordardottir<sup>2</sup>*

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<sup>2</sup> McGill University

The Icelandic as L2 development of young immigrants in Iceland has consistently been reported to be unusually low compared to L2 research in other countries. Special circumstances in Iceland include the low economic value of Icelandic outside the country and high availability of incidental English, through social media and entertainment. A previous study of adolescent L2 speakers of Icelandic with years of schooling in Iceland showed a wide variety of language dominance, with half the sample showing Icelandic dominance, and the other half showing home language or English dominance.

The present study followed up on the participants of this previous study, attempting to recontact all of them; 1/3 of the sample (n=13) consented to participate (now age 20 to 22 years). Participants filled out self-reports of Icelandic, home language and English proficiency (LEAP-Q) as well as detailed self-report of proficiency across varied situations. Spontaneous language samples were collected.

Results showed all participants reporting high levels of proficiency in Icelandic and English, with lower but considerable proficiency in the home language. With 2 exceptions, participants reported Icelandic to be their language of highest proficiency. All participants had the same dominance pattern as when they were tested at age 14 to 15 (thus those with lower performance earlier did not return). Participants reported being happy with their language skills and that these had permitted them to pursue the schooling they desired. Spontaneous language samples were overall error-free. Participants felt comfortable using each of the 3 languages across a variety of situations; tasks deemed most difficult in the home language included formal skills such as writing a paper or reading a novel. The results show that high Icelandic attainment is possible while also preserving home language skills and indicate that high attainment may be most likely when attained in their school years.

**Keywords:** multilingual, trilingual, adults

PARALLEL SESSION 17 – SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

## 17.4 TESTING THE FEASIBILITY OF COLLECTION OF A CORE OUTCOME SET FOR CHILDREN WITH SPEECH SOUND DISORDER: THE MISLTOE\_SSD STUDY PHASE 2

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### Background

Trials have shown intervention for children with speech sound disorder (SSD) is effective. However, comparing studies to determine which is most effective is difficult given variations in how SSD is classified and how outcomes are measured and reported. Building on the work of MISLToe\_SSD Phase 1, we will explore barriers and enablers to data collection of a Core Outcome Set (COS) and minimum dataset (MDS) in UK National Health Service (NHS) speech-pathology (SLP) services.

### Aim/Objectives

The aims are to:

1. Establish the process for COS data collection through SystmOne, an electronic health record system.
2. Identify the barriers and enablers to implementation of COS data collection in SLP services.
3. Undertake a feasibility study to determine potential participant recruitment for COS data collection in a full study.

### Methods

We will explore operational feasibility of the COS and MDS in clinical services. Thematic analysis of focus groups with SLPs and other stakeholders will be used to understand barriers and enablers to implementation of the COS and MDS. We will pilot a feasibility study.

### Results

This presentation will detail the planned protocol to finalise a SystmOne questionnaire and the process for collection of COS data from routine clinical care with children with SSD. A detailed

understanding of required behaviour change, and implementation barriers will be discussed, and modifications to enable robust data collection as part of routine clinical care will be posited.

### Conclusions

Phase 1 of MISLToe\_SSD used rigorous COMET principles developing a COS and MDS through collaboration with clinicians and academics. Phase 2 builds on that work to ensure the feasibility of data collection in routine practice. This step is vital in the development of an embedded data collection process that can be used across the NHS.

PARALLEL SESSION 17 – SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

## 17.5 SPEECH PERCEPTION SKILLS ON MULTIMODAL TASKS IN CHILDREN WITH SPEECH SOUND DISORDERS

*Dr Kakia Peteinou<sup>1</sup>, Mr Christodoulos Monogios<sup>1</sup>, Mrs Maria Eirini Vasilopoulou<sup>1</sup>, Dr Lilia Psalta<sup>2</sup>, Dr George Spanoudis<sup>3</sup>*

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**Background:** Speech perception requires a synthesis of audiovisual interactions. Studies have shown that speech optimum perception is achieved via visual stimuli, indicating speech-specific audiovisual modalities. Individuals with speech sound disorders experience difficulties in phonological processing skills, findings from a multimodal experimental paradigm remain underexplored.

**Aim:** Purpose of the current project is to contribute to the literature by reviewing the effects of bimodal speech perception (audio and visual stimuli) vis-à-vis perception skills in children with SSD.

**Method:** Three experimental paradigms were constructed across 120 minimal pairs of disyllabic words, pseudo-words and word/pseudo-word combinations, each paradigm targeted a different sense (auditory, visual, combination of two). Dependent variables included percentage correct scores and reaction times were calculated in the preliminary study in order to understand the differentiation in speech comprehension between adults, typical children and atypical children. The experimental paradigm was prepared on PsychoPy and was implemented in a lab setting. Participants were asked to mark each pair of words and respond if the pair was same or different using the keyboard's arrow keys. All participants reviewed the experiment using the same tools (monitor, headset etc.) and each condition was randomly allocated.

**Results:** Result's revealed significant differences among groups as a function of each modality. Overall, children with SSD, showed less accuracy in detecting differences between the stimuli, when those were presented only through the auditory modality. Typically developing counterparts and adults subjects, presented higher performance compared to SSD children on tasks which included discrimination of words via the auditory and visual modalities (lip reading).

**Conclusion:** The findings suggest that a possible difficulty encountered by children with SSD might be housed in phonological processing modality. A framework supporting psycholinguistics underpinnings of SSD.

**Key words:** PsychoPy, Speech Sound Disorder, Bimodal speech perception



PARALLEL SESSION 17 - SPEECH, LANGUAGE AND COMMUNICATION DISORDERS

## 17.6 EXPLORING EARLY COMMUNICATION PROFILES: A COMPARISON OF CHILDREN WITH ASD AND THEIR YOUNGER NEUROTYPICALLY DEVELOPING PEERS

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**Background:** Children with Autism Spectrum Disorder (ASD) exhibit difficulties in both their verbal and non-verbal communication. They show a delay in their early communication abilities and display atypical developmental patterns. Gestures in early childhood are crucial for the later development of language abilities in neurotypically developing (NTD) children.

**Aim/Objectives:** This study aimed to determine if children with ASD show more significant delays in early gestures compared to late gestures, and if they have atypical patterns in both receptive and expressive vocabulary when compared to NTD children.

**Methods:** A total of 30 children with ASD and 60 children with NTD participated in this study. Children with ASD were between 18-40 months old due to the timing of diagnosis. A group of younger children was chosen for comparison to examine atypical patterns, and the NTD group's age range was 8-16 months. The Turkish version of the MacArthur-Bates Communicative Development Inventory-Words and Gestures was used to evaluate the receptive and expressive vocabulary of children, along with their early gestures.

**Results:** While children with ASD achieved 65.54% of the overall early gesture subtest score, children with NTD achieved 69.41%. In late gesture subtest, children with ASD achieved 47.11% of the total score, and children with NTD achieved 37.55%. Both the ASD and NTD groups had a higher level of word comprehension compared to word production. The study revealed that there was no statistically significant difference in early and late gestures, word comprehension, and word production between the groups even if children with ASD had older age.

**Conclusion:** Communication skills of children with ASD between 18-40 months old were similar to those of their younger NTD peers. Children with ASD showed atypical development in gesture development, but typical progression in receptive and expressive vocabulary.

**Keywords:** autism spectrum disorder, communication, language, gestures, vocabulary



PARALLEL SESSION 18 - DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

## 18.1 DON'T WRITE THE ORDER FOR SOMETHING YOU WOULDN'T EAT: THE NARRATIVE OF EATING

*Dr. Alisa Prewitt*  
APA Speech Therapy

### Abstract:

Background: The process of eating serves more than just supplying nutrition, but it has been linked to other emotions and feelings. The act of providing and sharing food or nourishment with families and friends signifies love and support. Eating for some is a way to communicate love, celebrate traditions, make social distinctions, and establish social linkages. Food is unique to cultures, and eating behaviors are rooted in countries worldwide (Matsuo & Fujishima, 2020). Eating is often taken for granted (Johansson & Johansson, 2009) when someone has difficulty eating, it can lead to decreased socialization, malnutrition, and negatively impact the quality of life. Swan et al. (2015, p. 2448) defines the quality of life as “how the individual perceives their life in the framework of their own culture and ideals and the way in which they live as related to their goals, expectations of life and standards of living.” The overall estimated global prevalence rate of oropharyngeal dysphagia is 43.8% (Rajati et al., 2022).

### Aims/Objectives: (3)

- Defend evidence-based research to support the need for individualized dining options.
- Associate that taste is a motivator for food selection and intake.
- Define feeding options to increase patient outcomes.

Methods: During a systematic review of data, the purpose is to show the relevance of eating. The literature reviews will show the cause-and-effect relationship between diet downgrades and the decline of oral intake and look at the ethical requirements that clinicians need to consider when adjusting meals.

Results: As meals are satisfying, patient oral intake improves.

Conclusions: Recognize that patient-focused-optimized and dignified experiences should be the significance of the treatment plan.

Keywords: eating, dysphagia, quality of life, diet downgrades, ethics, cultures

**PARALLEL SESSION 18 - DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS**

**18.2 OROFACIAL MYOFUNCTIONAL BEHAVIOUR, TONGUE AND LIP  
STRENGTH, AND ORAL HEALTH-RELATED QUALITY OF LIFE IN  
YOUNG ADULTS**

*Charis Van Der Straeten<sup>1</sup>, Jolien Verbeke<sup>1</sup>, Kim Bettens<sup>1</sup>, Guy De Pauw<sup>2</sup>, Kristiane Van Lierde<sup>1,3</sup>*

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<sup>3</sup> Department of Speech–Language Pathology and Audiology, University of Pretoria

**Background.** Based on the premise that tongue and lip force is affected in individuals with orofacial myofunctional disorders (OMDs), orofacial myofunctional therapy (OMT) programs typically include the strengthening of orofacial muscles through isometric and isotonic exercises.

**Objectives.** The purpose of this study is to examine whether there is indeed a measurable difference in maximum tongue and lip strength and endurance between subjects with and without OMDs, as well as to explore Oral Health-Related Quality of Life (OHRQoL) in this population.

**Methods.** Sixty young adults (mean age 18.9 years, SD .692 years, range 18.0 – 21.4 years) participated in this study. Perceptual evaluation of orofacial functions was conducted using the Orofacial Myofunctional Evaluation with Scores (OMES) protocol. Participants were divided into 3 groups, namely those with physiological orofacial functions (POF; n = 20), those with inconsistent orofacial functions (IOF; n = 11), and those with consistent OMDs (OMD; n = 29). Maximum isometric pressure and endurance of tongue and lips were measured with the Iowa Oral Performance Instrument (IOPI). OHRQoL was assessed using the Oral Health Impact Profile (OHIP-14).

**Results.** The OMES total scores did not differ significantly between the three groups, though the subscale ‘function’ showed significant differences ( $H(2) = 14.464$ ;  $p < .001$ ). No statistically significant differences in maximum isometric pressure or endurance for tongue and lips, nor for OHIP-scores, were measured between the three groups.

**Conclusions.** Although orofacial muscle strengthening is commonly part of OMT, current findings suggest the superfluity of these types of exercises in the treatment of OMDs. Re-evaluation of OMT programs, with a focus on awareness and rehabilitation of pathological functions, may be an important strategy going forward.

**PARALLEL SESSION 18 – DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS**

**18.3 THE SMALL FOR GESTATIONAL AGE (SGA) INFANT:  
FACILITATE BREASTFEEDING THROUGH LOGOPEDIC  
DEGLUTOLOGICAL STRATEGIES**

*Speech Therapist Claudia Leoni<sup>1</sup>, speech therapist Chiara Piscitelli, speech therapist Monica Fusco, Maria Rita Molinari, Giovanna Maragliano*  
<sup>1</sup>Speech therapist

The aim of the study has been to understand what kind of logopedical facilitations and aids can be used to functionally feed the small-for-gestational-age (SGA) infant; It also aims to increase parental empowerment through speech counseling as well.

The study population consists of 20 newborns (5.33%), out of a total sample of 375 newborns. The average weight of SGA newborns is 2,668 g and the average gestational age is 39.5 gestational weeks. Among the most common risk factors, a prevalence of maternal factors over fetal ones was found. In particular, the highest incidence is linked to smoking and/or chronic pathologies. The proposal of speech therapy-swallowing strategies (breast support, breast compressions, cheek suppositories and jaw support), was differentiated based on the child, the feeding method (direct to the breast/indirect with the use of aids) and aimed at exclusive breastfeeding. The newborns underwent post-discharge checks with final telephone follow-up after one month of life, to monitor the validity of the strategies proposed and used. Conclusions: The presence of the speech therapist in the Neonatology and Pediatrics Unit has highlighted how essential it is to evaluate and intervene early on the oral functions of small for gestational age (SGA) newborns, facilitating exclusive breastfeeding and reducing hospital stays.

PARALLEL SESSION 18 - DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

## 18.4 SELF-REPORTED OROPHARYNGEAL DYSPHAGIA IN PATIENTS WITH SYSTEMIC SCLEROSIS: IMPACT ON QUALITY OF LIFE

*Dr. Federica Lucia Galli<sup>1</sup>, Dr. Devis Benfaremo<sup>2</sup>, Dr. Nikla Pacenti<sup>2</sup>, Prof. Gianluca Moroncini<sup>2</sup>*

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<sup>2</sup> Marche Polytechnic University - Department of Clinical and Molecular Sciences

**Background:** Increasing evidence supports the presence of oropharyngeal dysphagia in patients with systemic sclerosis (SSc). In this cross-sectional study, we evaluated the clinical associations and the role of dysphagia in the quality of life of patients with SSc.

**Methods:** One-hundred (100) consecutive SSc patients were enrolled. Clinical and demographic features, dysphagia (EAT-10), nutritional status (BMI, GLIM criteria), gastrointestinal involvement (UCLA-GIT2.0), cognitive function (MoCA), anxiety and depression (PHQ-9, BDI-II), and quality of life (SF-36, HAQ-DI, SHAQ) were assessed. Patients were stratified for the presence/absence of self-reported dysphagia and compared for clinical characteristics and quality of life measures.

**Results:** Forty-seven (47%) of patients self-reported clinically relevant dysphagia ( $EAT-10 \geq 3$ ). These patients had a longer disease duration (11.7 vs 8.3 years,  $p=.02$ ) and higher use of proton-pump inhibitors (78.7% vs 56.6%,  $p=.01$ ) compared to patients with normal swallowing, but the two groups did not differ in terms of age, gender and disease subset.

Patients with swallowing impairment had worse scores on depression and anxiety measures (PHQ-9, 8.1 vs 4.7,  $p<.001$ ; BDI, 12 vs 8,  $p=.004$ ), higher risk of malnutrition (MUST, 0.5 vs 0.3,  $p=.03$ ), more functional disability (HAQ, 1.0 vs 0.5,  $p=.007$ ), and significantly worse scores for all the subdomains of SF-36 questionnaire, except for social activities and mental health. Dysphagia was not associated to clinically relevant malnutrition (as assessed by BMI and GLIM criteria) neither to cognitive function (MoCA test).

**Conclusions:** In this preliminary study, we showed that self-perceived oropharyngeal dysphagia is frequent in patients with SSc and associated with greater functional disability and worse quality of life. Early recognition of oropharyngeal involvement is essential to promote speech language pathology interventions and to support oropharyngeal dysphagia related complications. Further studies with instrumental tests are needed to increase speech language pathologist's role and improve SSc patients quality of life.

PARALLEL SESSION 18 - DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

**18.5 INVESTIGATING THE RELATIONSHIP BETWEEN SWALLOWING  
FUNCTION AND DYSPHAGIA'S EMOTIONAL AND FAMILY IMPACTS:  
A MULTIDIMENSIONAL STUDY**

*Humeyra Ozozgur<sup>1</sup>, Associate Professor Fatma Esen Aydınlı, Onal Incebay, Aydan Baştuğ  
Dumbak*

<sup>1</sup> Hacettepe University

**Background:** Social and emotional well-being is important for every age group, and dysphagia can occur in any age group for various reasons, adversely affecting the quality of life of individuals and their caregivers. To enhance our understanding of the influence of dysphagia on quality of life, it is imperative to delve into a more profound comprehension of its effects on the emotional state, overall well-being, and the implications on family dynamics. Dysphagia encompasses a complex compilation of symptoms which often differ from the findings of objective swallowing evaluations.

**Aim:** The purpose of this study was to determine the relationship between the emotional and familial impact of dysphagia, assessed using the Jugendwerk Dysphagia Emotion and Family Assessment (JDFEA), and swallowing function, assessed via videofluoroscopy (VFS), in patients with dysphagia.

**Methods:** Twenty-five patients were included in the study. Participants completed the JDFEA-Turkish Version (JDFEA-TR), Hospital Anxiety and Depression (HAD) scale, Eating Assessment Tool (EAT-10) and underwent a standardized videofluoroscopic swallowing study (VFSS). Data analysis included descriptive and correlational statistics.

**Results:** Preliminary results revealed that the JDFEA subscales show statistically significant correlations across different levels of the ordinal scale with multiple variables from VFSS ( $r:-0.5096$ ). The JDFEA-TR scale showed a moderate level of relationship with the HAD ( $r:-0.64893$ ) and EAT-10 scales ( $r:-0.69784$ ).

**Conclusion:** The information provided in the present study establishes a link between symptoms reported by patients and objective outcomes from VFSS within a subset of individuals directed for a multidisciplinary evaluation of swallowing. By using multiple dysphagia-related endpoints to complement each other rather than to overlap, we can better understand the effects on both the physiological symptoms of dysphagia and the patient's quality of life and well-being. This approach allows us to plan an intervention that addresses all issues effectively.

**Keywords:** Dysphagia, Videofluoroscopy, Quality of life

PARALLEL SESSION 18 - DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

## 18.6 UNDERSTANDING AND ADDRESSING FEEDING CHALLENGES IN PRESCHOOL SETTINGS: INSIGHTS FROM EARLY EDUCATORS

*Speech & Language Therapist, PhD Candidate Ioanna Bacha<sup>1</sup>, Speech & Language Therapist  
Phd Candidate Evi Ashley<sup>2</sup>*

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<sup>2</sup> University of Western Attica/Department of Education and Care in Early Childhood

Promoting a diverse diet for children is vital for fostering healthy eating habits, yet caregivers face challenges as children often require about 15 exposures to new tastes before acceptance. Undoubtedly, parent's own childhood feeding experiences, feeding practices or caregiver's food neophobia have a crucial impact on the child's feeding habits. Nonetheless, preschool settings also influence mealtime behaviors. The goal of this study is to analyze teacher's information regarding children's feeding profiles.

Specifically, the study aims to explore challenges faced by early educators in managing preschoolers' feeding habits and assesses their awareness and coping strategies with picky eaters. Specific research questions investigate educators' familiarity with eating disorders, perceptions of food refusal causes (neurodevelopmental vs. behavioral) and strategies to implement self-eating goals.

Information is gathered through two questionnaires: the Achenbach System of Empirically Based Assessment (ASEBA) and a researcher-developed questionnaire on teachers' knowledge of children's feeding behaviors. The ASEBA, for children aged 1.5-5 years, assesses behavioral and emotional issues and consists of a Caregiver-Teacher Report Form, making it a versatile clinical tool.

Data was collected from 30 participants. A significant portion of children demonstrated feeding difficulties in preschool settings and were correlated with the results from ASEBA. The strategies implemented by teachers to regulate children's dietary preferences are also categorized and analyzed qualitatively.

Research indicates a subset of children exhibit heightened sensitivity and neophobia towards food, which may persist into adulthood. Feeding is influenced by multiple factors across different contexts and is a complex procedure involving all human's systems of functioning and coordinating oral motor, neurological, cognitive, and sensory system. While picky eating is associated with neurodevelopmental disorders, distinguishing between neurodevelopmental and behavioral causes is essential. Early childhood educators play a pivotal role in shaping eating habits and identifying developmental delays, providing insight into effective interventions.

## **19.1 PROMOTING COMMUNICATION SKILLS THROUGH ART IN SIX EUROPEAN SCHOOLS: FIRST STEPS WITH THE ERASMUS+ PROJECT THE ARTS RING**

*Mr. Rui Loureiro<sup>2</sup>, Dr. Rosário Ferreira<sup>1</sup>*

<sup>1</sup> School of Health, Polytechnic University of Porto

<sup>2</sup> Camilo Castelo Branco School Group

The inclusive education approach in schools urgently needs to reach out to all students in an innovative and equitable way. "The Arts Ring" Erasmus+ project is the result of a coordinated effort of six European schools for internationalization and innovation through the exchange of good practices. The pandemic, that in an unpredictable way has put to test our schools regarding inclusion, brought us together to create this project aimed at students aged 8 to 14. It was assessed the shared need to promote formal and non-formal learning spaces for developing communication skills based on the artistic potential of each partner school. The Arts Ring methodology considered the student as the center of learning. The method begins with the student's profile, needs and expectations, followed by a process of self-knowledge and contact and experiences with arts. In this process, peers and professionals support this journey, with a view to developing new forms of communication and expression through art.

This research is characterised by its descriptive exploratory nature. The main aims were: a) describe the project design process; b) describe the project methodology and implementation and c) describe the project outcomes. Semi-structured interviews were conducted with a total of 24 students and 12 members of staff based on scripts. The data collected was analysed using a qualitative methodology.

It was perceived by all participants that the work developed with art allowed the participation of all students involved, ensuring effective inclusion and social participation. There was also a positive impact in terms of collaborative work between professionals, which has resulted in exchange of new methodologies and strategies, increased awareness towards students with specific needs and their profile, how to create inclusive environments and improvement of organization and cooperation skills on an international level.

Keywords: communication; art; school; collaboration; Erasmus



## **19.2 WHETHER OR NOT TO REFER MULTILINGUAL CHILDREN WITH LANGUAGE DIFFICULTIES TO A SPEECH THERAPIST?**

*Hilde De Smedt*  
Foyer vzw

Whether or not to refer multilingual children with language difficulties to a speech therapist? Schools often find it difficult to know which children need to be effectively referred and where other actions are needed.

Within the 'Partners In Multilingualism' team of Foyer vzw Brussels, we developed a specific approach to support this request for help. We therefore take action before the referral takes place and support the schools in taking the most appropriate steps to guide the child and parents.

A parent and child interview and language analysis are part of the approach. Since the start of this approach then years ago we have seen more than 2000 children between 3 and 12 years old. We briefly introduce the working method and provide a quantitative and qualitative overview of our findings and experiences.



## 19.3 CO-CREATION OF A SHARED GOAL SETTING INTERVENTION

*Laurien Brauner<sup>1,2</sup>, Dr. Ruth Dalemans<sup>3</sup>, Dr. Karin Neijenhuis<sup>4</sup>, Prof. Dr. Ellen Gerrits<sup>1,2</sup>, Prof. Dr. Philip van der Wees<sup>5</sup>*

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<sup>5</sup> Institute for Quality of Healthcare (IQ Healthcare) and Department of Rehabilitation of Radboud University Medical Center

### Background

Delivering meaningful and effective SLT (Speech and Language Therapy) services entails focusing our interventions on communicative participation.

One way of achieving this is for SLTs to engage in a process of shared goal setting with their clients in which they elicit and select meaningful day-to-day communication situations as goals for therapy. At the moment, SLTs lack theoretical and practical resources to shape the shared goal setting process with diverse client populations.

### Aim / Objectives

The aim of the presented research is to develop a prototype of an intervention to facilitate shared and participation focused goal setting between SLTs and people with a range of ages and communication difficulties. The prototype will be validated in a feasibility study. An important element of the intervention is the use of novel patient-reported outcome measures for communicative participation in children, adolescents, and adults.

### Methods

The intervention is co-created between the research team, a range of SLTs, and children, parents, and (young) adults with communication difficulties. A mixed-method, design-oriented research approach is utilized. Research activities include constructing design requirements, holding co-creation workshops, prototyping, and field testing.

### Results

We will present practical and ready-to-use elements of the intervention, such as guidelines for the SLT, physical conversation aids, and preparation and follow up activities for the SLT and their clients. Furthermore, the anticipated impact of the intervention on clinical practice will be described in a preliminary programme theory.

### Conclusions / take home message

The inclusion of communication vulnerable people had a positive impact on several areas of this design-oriented research research study. Among them are relevant and practical tools facilitating participation focused SLT services for a range of individuals.

## 19.4 TOOLBOX COMPLETE: A PEER-TO-PEER INTERVENTION FOR OPTIMISING PARENT-THERAPIST COLLABORATION

*Inge Klatte<sup>1,2</sup>, Annemieke de Groot<sup>1</sup>, Anita van Essen<sup>1</sup>, Rosa de Vries<sup>1</sup>, Dr Rob Zwitserlood<sup>1</sup>, Prof Dr Ellen Gerrits<sup>1,2</sup>*

<sup>1</sup> Hogeschool Utrecht

<sup>2</sup> Utrecht University

**Background:** Collaboration with parents is key in family-centred therapy for children with developmental language disorder (DLD). Previous research focusing on potential determinants of speech and language therapists' (SLT) behaviour shows specific beliefs that are likely to influence the way SLTs collaborate with parents. For example, SLTs' beliefs about their role as experts in DLD and their perceived task to work child-centred may potentially hinder SLTs from collaborating with parents. To enhance SLTs' collaboration with parents, it is essential to develop an intervention that targets these specific beliefs regarding their collaboration with parents.

**Aim:** To develop an intervention that facilitates SLTs in collaborating with parents in therapy for children with DLD.

**Method:** A multidisciplinary development team of SLTs, parents, designers and researchers participated in a design sprint and two co-design sessions. In this design process, the team developed prototypes for components of the intervention. These prototypes were pilot-tested by SLTs and parents.

**Results:** The design process resulted in a prototype toolbox for SLTs to use among colleagues for peer-to-peer consultation. The toolbox contains tools such as parent video clips and a reflection tool. By utilizing the toolbox, SLTs are invited to reflect on challenging situations related to collaborative work with parents. They engage in learning theoretical concepts about parenting and discuss with each other how to optimize their collaborative approaches. The pilot test revealed that SLTs formulated specific goals to optimize their collaboration with parents, partly by altering the perceptions of their professional roles.

**Conclusion/ take home messages:** The toolbox encourages SLTs to reflect on their collaborative approaches, provides them with more insight into parental perspectives, and assists them in formulating specific goals for changing the way they collaborate with parents.

**Key words:**

Collaboration, DLD, toolbox, behaviour change

## **19.5 30 YEARS OF DISCOURSE ON INCLUSIVE EDUCATION IN PORTUGAL: THE PLACE OF THE SPEECH AND LANGUAGE THERAPIST**

*Mr. Rui Loureiro<sup>1</sup>, Dr. Henrique Vaz<sup>1</sup>, Dr. Elisabete Ferreira<sup>1</sup>*

<sup>1</sup> School Of Health, Polytechnic University Of Porto

In Portugal, the school community has come a long way towards creating environments that foster inclusion. Decree-Law 54/2018 - Inclusive Education, is the latest discourse to guide the practices in all schools. As a way of promoting equal opportunities for access to the curriculum and participation in school life, the state has progressively begun to value and integrate various professionals into public schools who, as a whole, work to provide a specialised response that meets the profile and specific needs of each student. One of these professionals is the speech and language therapist (SLT), who is the second technician with the greatest presence in schools, totalling over 300 professionals. Despite this, this professional still seems to be associated with projects that are limited in time, along with the lack of a benchmark for their work.

Discursive practices and the language used can be reflected in professionalism. The discourse, the lexicon, seem to construct the object about which it speaks. The state, through the codifications resulting from political conflicts, determines when we speak, how we speak and why we speak. This descriptive exploratory study aims to survey and analyse thirty years of discourse on inclusive education in Portugal and, in this discourse, the place reserved for the SLT.

Through this study it was possible to identify a progressive transformation of the discursive lexicon, which evolves from the figure of "technician", to "specialist technician", then "specialised technician" and, later, "SLT". A very small number of references stand out, most of them without specifying professions or roles. In conclusion, this discursive practice by the state could have the perverse effect of perpetuating the invisibility of this professional in the school context, while at the same time the categorisation could limit their functional content.

**Keywords:** SLT, inclusive education, public school, professional identity

PARALLEL SESSION 19 – COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## 19.6 MAKING THEIR OWN DECISIONS: SLTS IMPROVING QUALITY OF LIFE BY SUPPORTING PEOPLE TO CHOOSE WHERE THEY LIVE

*Miss Ashleigh Mcleod<sup>1</sup>, Dr Natalie Berg<sup>1</sup>, Professor Elspeth Froude<sup>1</sup>, Dr Joanne Watson<sup>2</sup>*

<sup>1</sup> Australian Catholic University

<sup>2</sup> Deakin University

**Background:** In Australia, the National Disability Insurance Scheme (NDIS) enhances opportunities for people under 65 to consider moving into alternative accommodations, (e.g. specialist disability accommodation) which facilitate improved community connectedness and autonomy, and therefore improved overall quality of life. However, people with complex communication needs (CCNs) may be excluded from decisions about where and how they live.

**Objective:** This study aimed to explore current practice of speech and language therapists (SLTs) when supporting people with CCNs to make decisions about accommodation.

**Methods:** Utilising a collective case study methodology, five SLTs were purposively sampled to explore similarities and differences in practice. Semi-structured interviews were transcribed and analysed thematically.

**Results:** Seven main themes emerged, describing SLTs current skills in supporting decision making in typical range of practice areas. SLTs described factors associated with complex caseloads and how their clients came to consider alternative accommodations. Clinicians described overcoming the limitations of the NDIS to implement supported decision-making and discussed ethical and legal dilemmas when navigating policies and procedures. Finally, SLTs outlined suggestions for future practice to combat the difficulties they faced when practicing in this area.

**Conclusions:** SLT practice in supporting people with CCNs to make decisions about where and how they live is variable and challenged by the absence of adequate NDIS funding and practice guidelines. SLTs are integral to the provision of supported decision making for people with CCNs about accommodation choices but require adequate time and training to ensure the success of their practice. With adequate time and training, SLTs may have a valuable role in improving the quality of life of their clients, by supporting them to be involved in decisions about where and how they live.

PARALLEL SESSION 20 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 20.1 DEVELOPMENT AND VALIDATION OF MYCOMMUNICATION, A SELF-REPORT COMMUNICATIVE PARTICIPATION MEASURE

*Ma Nicole ter Wal<sup>1</sup>, Prof. Caroline B. Terwee<sup>3</sup>, Prof. Johanna M.A. Visser-Meily<sup>5</sup>, MSc Eline Alons<sup>1</sup>, MSc Lotti Dijkhuis<sup>1</sup>, Prof. Ellen Gerrits<sup>2</sup>, PhD Lizet van Ewijk<sup>1</sup>*

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<sup>6</sup> Centre of Excellence for Rehabilitation Medicine, UMC Utrecht Brain Centre, University Medical Centre Utrecht and Utrecht University, and De Hoogstraat Rehabilitation

### Background

The construct communicative participation was introduced in 2006, and the Communication Participation Item Bank (CPIB) was developed, to facilitate meaningful measurement in research and clinical practice. Measuring this construct is relevant to all people with communication problems. A study of barriers to communicative participation in people with a variety of communication problems provided input to further develop the CPIB to make it applicable to a wider population.

### Aims

To develop a comprehensive Patient Reported Outcome Measure (PROM) aimed at measuring communicative participation for all adults with communication problems and test its content validity.

### Methods

The development and validity testing was guided by the COSMIN standards. An item pool was compiled based on items generated through an earlier literature review of PROMs, a concept elicitation study and a translation of the CPIB. This pool was pilot tested in a group of people with different communication problems. Once saturation on the items was achieved, the content validity of the item bank was tested on two groups: professionals and individuals with varying communication difficulties.

### Results

A pilot test was conducted on an initial item pool of 242 items with 27 adults. Saturation was achieved on 161 items, which were then tested for content validity with 25 adults with various communication problems and five professionals in the field of speech and language therapy. The

adapted version of the item bank contained 133 items pertaining to the 'mobility', 'self-care', 'domestic life', 'interpersonal interactions and relationships', 'major life areas', and 'community, social and civic life' domains of the International Classification of Functioning, Disability and Health (ICF) Activities and Participation.

#### Conclusion

MyCommunication is an item bank for measuring communicative participation in adults with communication difficulties. The next step is to test the psychometric properties of the item bank, in order to establish a final item bank.

PARALLEL SESSION 20 - SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## 20.2 GAMIFYING WORD MAGIC: ASSESSING MORPHOLOGICAL KNOWLEDGE IN CHILDREN (2ND-4TH GRADE)

*Professor Carina Pinto<sup>1,5</sup>, Professor Rafael Minussi<sup>2,5</sup>, Professor Alina Villalva<sup>3,4,5</sup>, Professor Cândida G. Silva<sup>1</sup>, Professor Eduarda Abrantes<sup>1</sup>, Professor Etelvina Lima<sup>1</sup>, Professor Filipe Gonçalves<sup>1</sup>, Professor Gustavo Reis<sup>1</sup>, Professor Ivan Barroso<sup>1</sup>, Mr. Afonso Simão<sup>1</sup>, Mr. Carlos Guerra<sup>1</sup>, Miss Marta Fortes<sup>1</sup>*

<sup>1</sup> Polytechnic University of Leiria

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<sup>5</sup> The Word Lab

Morphological awareness, the understanding of word structure and meaning, underpins strong literacy skills. Early identification of weaknesses in this area can benefit children by guiding targeted interventions. Existing assessment tools often lack engagement and words are poorly controlled. This project proposes a novel solution: an engaging, gamified assessment tool to assess morphological knowledge in Portuguese children from 2nd to 4th grade, with a set of controlled items. Game mechanics will actively engage children, promoting intrinsic motivation and reducing test anxiety. This project's significance lies in the early identification of morphological difficulties; accessibility for both Speech and Language Therapists (SLTs) and Teachers, streamlined collaboration for holistic support; engaging assessment experience, increasing participation and reduced anxiety in children; and data-driven insights, facilitating customized interventions and tracking progress. The game consists of 4 tasks:

- Lexical decision task with reaction times measurement to assess the speed and efficiency of lexical processing.
- Word decomposition task with the presentation of complex words that must be broken into their constituents.
- Morphologically related word identification task.
- Morphologically unrelated intruder identification task.

The words were carefully selected using linguistic criteria (complexity, grammatical category, number of homographs, number of syllables and letters, frequency). We also conducted a task to verify the effective knowledge of the words (word association task) and an initial lexical decision task to exclude words that would lead to deviations in processing costs. The game was validated by a panel of experts and a pilot pre-test was conducted to verify its usability. This innovative tool has the potential to revolutionize morphological assessment, empowering both SLTs and teachers. In this presentation, we intend to present the various phases and results of the test's construction, namely the results of the word association task, lexical decision, and usability tests.

Keywords: Morphological awareness, assessment, serious game.



PARALLEL SESSION 20 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

### 20.3 DECISION-MAKING PROCESS IN THE DIAGNOSIS OF SPEECH SOUND AND LANGUAGE DISORDERS IN PRESCHOOL CHILDREN

*Phd Dora Knežević<sup>1</sup>, Phd Ana Matić Škorić, Phd Marina Olujić Tomazin*  
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**Background:** Children with speech sound disorders (SSD) vary in terms of severity, underlying cause, characteristics of speech errors, involvement of other language aspects and response to treatment (Dodd, 2011), making them a very heterogeneous group. Although several different classification systems have been proposed over the years, SSD terminology is used interchangeably. Terband et al. (2019) state that the fundamental diagnostic problem is that the disorder is based on the interaction of different levels of causation and that specific diagnostic markers for diagnostic classification cannot be found in isolation at any of the linguistic or motor levels, leading to a large overlap between categories. In contrast to other diagnostic labels for SSD, developmental language disorders (DLD) do not provide information about the characteristics of the child's speech (Stringer et al., 2023), which makes the clinical reasoning of SLPs even more difficult in daily practice.

**Aim:** Given the lack of consensus in the literature, the different diagnostic classification systems and models, and the lack of standardized tests and protocols, this study aims to provide insight into the process of decision-making and clinical reasoning in the diagnosis of speech and language disorders in preschool children.

**Methods:** 50 Croatian SLPs performing the diagnostics completed a questionnaire based on the study by Diepeveen et al. (2020). The questionnaire consists of closed and open-ended questions about the SLP's background, decision-making in the diagnosis of speech and language disorders. The open-ended questions will be analyzed thematically, while the closed questions and multiple-choice questions will be analyzed by means of descriptive frequencies. Furthermore, closed questions will be correlated with collected demographic data (e.g. experience).

**Results:** At the time of this writing, data collection and analysis are ongoing, and thus, no conclusive results are available. Presented methodology targets an important aspect of the research-to-practice continuum.

PARALLEL SESSION 20 – SPEECH LANGUAGE AND COMMUNICATION DISORDERS

## **20.4 THE USE OF BEHAVIOUR CHANGE TECHNIQUES IN INTERVENTIONS FOR GERMAN-SPEAKING CHILDREN WITH SPEECH SOUND DISORDERS: IDENTIFICATION AND TRAINING**

*PhD Melanie Ferk-Dornstauder*  
Medical University Of Vienna

### **Background**

Speech sound disorders (SSDs) are some of the most common communication difficulties among preschoolers. Yet, little is known about the key ingredients of SSD interventions. Behaviour change techniques (BCTs) are the smallest components that can bring change in an intervention. Currently no coherent terminology is used to describe techniques in interventions. Identifying BCTs may support Speech and Language Therapists (SLTs) and Speech and Language Therapy (SLT) students in implementing, reporting and replicating SSD interventions explicitly and coherently.

### **Aim/Objectives**

This three-stage study explores the specific framework Behaviour Change Technique Taxonomy Version 1 (BCTTv1). Stage one aims to identify BCTs in SSD interventions. Stages two and three aim to investigate whether bespoke BCT training for SLTs and SLT students is effective.

### **Method**

BCTs were identified from SSD intervention literature and training manuals, plus an intervention session video. A BCT training was then developed. Eleven SLTs and ten SLT students were trained to identify BCTs using video analysis in Stage 2. The BCT training was revised on the basis of this and repeated in Stage 3 with eight students. All participants were asked about their response to using BCTs.

### **Results**

Seventeen BCT types were identified in German-speaking SSD interventions, and fourteen of these seventeen BCT types were identified in the SSD intervention video. These BCT types were included in the BCT training. BCT coding results of SLTs and SLT students were low in Stage 2, whereas results in Stage 3 showed a significant increase in coding accuracy. All participants (N=29) agreed that BCTs help to label SLTs' actions more explicitly.

### **Conclusion**

The application of BCTs is a theoretically sound, acceptable and practical way of identifying key ingredients of SSD interventions. The SLT student BCT training was effective in Stage 3. Participants find that the BCTTv1 is useful and beneficial for SSD interventions.

PARALLEL SESSION 21: DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

**21.1 ATTITUDES, BARRIERS AND ENABLERS TO DYSPHAGIA  
MANAGEMENT IN HEALTHCARE PROFESSIONALS: A MIXED-  
METHODS SYSTEMATIC REVIEW**

*Ms Myriam Chircop Galea<sup>1</sup>, Dr Helen Kelly, Dr Dominika Lisiecka*  
<sup>1</sup> University College Cork

**Objective:** This study aims to investigate the existing knowledge regarding the attitudes, barriers to, and enablers of dysphagia management among healthcare professionals.

**Methods:** A systematic search was conducted across multiple databases including PubMed, Cochrane Library, EMBASE, Web of Science, PsycINFO, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and grey literature sources. Studies published in English, Maltese, Italian, French, and Polish since 2012 were included. A mixed-method appraisal tool was utilised for quality assessment, and a convergent integrated approach was employed for data synthesis.

**Results:** A total of 59 studies were identified, comprising 28 quantitative, 18 qualitative, and 13 mixed-methods studies. Of these, 54% demonstrated high methodological quality. The experiences of healthcare professionals were categorised into four themes: (1) Empowering, Educating, and Engaging a Sustainable, Proficient, and Fit-for-purpose Workforce; (2) Evidence-informed, Accountable, and Sustainable Organisational Processes; (3) The Role of Emotional Impact on Health Service Management Practices; and (4) Fostering Partnerships: A Collaborative and Coordinated Integrated Approach.

**Conclusion:** This comprehensive review sheds light on the multifaceted aspects of dysphagia management from the perspective of healthcare professionals. Addressing the identified themes may contribute to the development of effective strategies to improve dysphagia management practices and enhance patient outcomes.

**Relevance to clinical practice:** This study serves as a valuable resource for the wider clinical community by synthesising existing knowledge, identifying key themes, offering practical implications, and highlighting global relevance in dysphagia management. It provides a foundation for collaborative efforts to address the complex challenges and improve outcomes for individuals with dysphagia worldwide.

**Keywords:** Healthcare professionals, Dysphagia, Attitudes, Barriers, Enablers, Systematic review

**PARALLEL SESSION 21: DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS**

**21.2 INVESTIGATION OF THE EFFECTS OF TRANSCRANIAL DIRECT CURRENT STIMULATION(TDCS) ON POSTSTROKE DYSPHAGIA**

*Yüusra Karakaya<sup>1</sup>, Dilek Dizdar<sup>1</sup>, Aydan Baştuğ Dumbak<sup>2</sup>, Mariam Kavakcı<sup>3</sup>, Evren Yaşar<sup>4</sup>, Fatma Esen Aydın<sup>2</sup>*

**Background:** For many years, poststroke swallowing rehabilitation has focused on traditional swallowing therapy. In the last few decades, Transcranial Direct Current Stimulation(tDCS), a neuromodulation method, has emerged as a safe and effective method that can be used in the recovery of poststroke dysphagia.

**Aims/Objective:** The main purpose of the study was to investigate the effect of tDCS on swallowing function in individuals with stroke.

**Method:** A total of 12 participants, who still had dysphagia at least 3 months after the stroke, were randomly divided into two groups: stimulation(n=8) and sham(n=4). Stimulation group received anodal tDCS at 1.5 milliampere on the pharyngeal motor cortex in the unaffected hemisphere for 10 sequential sessions and conventional swallowing therapy. Sham group received ipsilesional sham stimulation and conventional swallowing therapy under the same conditions. Before stimulation, immediately after and 3 months later, videofluoroscopic swallowing study completed, swallowing function was evaluated via using the Dyphagia Outcome and Severity Scale (DOSS) Functional Oral Intake Scale (FOIS), Swallowing Quality of Life (SWAL-QoL) and EAT-10 scales.

**Results:** A statistically significant improvement was found between the initial DOSS scores and the DOSS scores 3 months later in the anodal tDCS group( $p = 0.026$ ) and likewise, between the first FOIS scores and the FOIS scores 3 months later( $p = 0.003$ ). When swallowing related quality of life was compared, a significant improvement was found between the first EAT-10 scores of the participants in the anodal tDCS group and their EAT-10 scores 3 months later( $p=0.001$ ). No significant difference was found in the sham group.

**Conclusion:** This study indicates that noninvasive brain stimulation, when accompanying the traditional swallowing therapy, may help decreasing the dysphagia severity, improving oral intake status, and quality of life of patients with poststroke chronic dysphagia.

**Keywords:** nonivasive brain stimulation, poststroke dysphagia, swallowing rehabilitation, stroke recovery, transcranial direct current stimulation

PARALLEL SESSION 21: DYSPHAGIA AND PAEDIATRIC FEEDING DISORDERS

### 21.3 “BEYOND THE SWALLOWING IMPAIRMENT: THE PSYCHO-SOCIAL IMPLICATIONS OF CHRONIC OROPHARYNGEAL DYSPHAGIA”

*Aurora Ninfa<sup>1</sup> (presenting), Antonella Delle Fave<sup>2</sup>, Antonio Schindler<sup>3</sup>*

<sup>1</sup> ASST Fatebenefratelli-Sacco, Phoniatric Unit, Milan, Italy

<sup>2</sup> University of Milan, Department of Pathophysiology and Transplantation, Milan, Italy

<sup>3</sup> University of Milan, Department of Biomedical Sciences, Milan, Italy Chronic Oropharyngeal

Dysphagia (OD) is a frequent symptom among head and neck cancer survivors and people with neurodegenerative diseases, with prevalence expected to rise in the following years. Systematic reviews highlighted that reduced health-related quality of life (HRQOL) is associated with increased OD severity and with the broader dietary restrictions used to eat safely. Also, evidence suggests that humans can adapt to and live meaningful lives beyond chronic health conditions, but data on people with chronic OD are lacking. The primary aim of the PhD project was to investigate the impact of chronic OD beyond the swallowing impairment, including nutritional status and psychosocial dimensions as perceived by patients and informal caregivers.

First, perceived challenges and resources were addressed. A scoping review on care needs spotlighted their multifaceted nature and the dearth of research on the topic; care needs went beyond the physical and practical domains and included social, informational, and psychological issues. The qualitative investigation of challenges and resources in 25 Italian patients and 18 informal caregivers yielded similar results.

Besides negative aspects, coping strategies, personal capabilities, and social and healthcare support were described among resources to manage chronic OD. Secondly, a cross-sectional study on 57 individuals with chronic OD as a consequence of head and neck cancer or neurodegenerative diseases and 37 informal caregivers highlighted the pivotal role of mealtime limitations, as they were directly associated with OD severity and indirectly with nutritional status and HRQOL.

Conversely, well-being was independent of clinical and functional measures. Patients' and caregivers' subjective experiences were interrelated. The results suggest that, to provide quality care for people with chronic OD, clinicians, researchers, and healthcare managers need to look beyond the swallowing function and promote empowerment through family-centred care approaches

## **21.4 PAEDIATRIC FEEDING DISORDERS: WHAT'S IN A NAME?? REGARDING THE NEW CLASSIFICATION AND THE DIFFERENCE BETWEEN PFD AND ARFID**

*Marleen D'hondt*

Prinses Elisabeth University Hospital, Belgium

In 2019 a unifying diagnostic definition of Pediatric Feeding Disorders (PFDs) using the framework of the World.

Health Organization International Classification of Functioning, Disability, and Health has been proposed by a panel of experts to improve the quality of health care and advance research (Godday et al, 2019).

Feeding disorders require comprehensive assessment and treatment of four closely related, complementary domains (medical, psychosocial, and feeding skill-based systems and associated nutritional complications).

During the workshop we will explore the diagnostic criteria for PFD and the needs of heterogeneous patient populations.

We hope during the workshop to facilitate inclusion of all relevant disciplines in treatment planning, and promote the use of common, precise, terminology necessary to advance. In this perspective we also will take describe the differences between (PDFs) and ARFID.

PARALLEL SESSION 22 - THE USE OF TELEPRACTICE IN THE FIELD OF SLT

## 22.1 EVALUATING TELEPRACTICE WITHIN CHILDREN WITH COMMUNICATION AND LANGUAGE DISORDERS: CROATIAN CAREGIVERS' AND SERVICE PROVIDERS' PERSPECTIVE

*Prof. Draženka Blažić<sup>2,1</sup>, Ms. Antonija Blažić Ostojić<sup>2,3</sup>*

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Both professionals and receivers have undergone significant changes due to the COVID-19 pandemic, leading to the adoption of diagnostic and therapeutic methods delivered through alternative modes and a need to adapt to new life circumstances. Despite its existence for almost a decade now, telepractice in speech-language pathology still lacks a comprehensive understanding of factors determining the success of the implementation of telepractice, primarily concerning the type of teletherapy model and the characteristics of service recipients and providers (SLPs).

Therefore, the first step towards providing answers to these questions through more comprehensive research was to examine the perspectives of caregivers of service users, and service providers (including speech-language pathologists, occupational therapists, and psychologists) regarding service delivery formats: telepractice (online therapy) versus traditional in-person therapy. The sample included 80 caregivers and 20 service providers from the Center of Speech and Language Pathology and Rehabilitation Blažić, with service users ranging from 2 years and 6 months to 14 years, diagnosed with communication/ language/ speech and/or psychological disorders. The study employed an anonymous questionnaire survey covering general information (diagnosis, child's age, respondent identity) and 12 statements gauging attitudes towards therapy delivery formats. Responses were rated on a scale of 1 to 5, and data were analyzed using SPSS software.

Results indicated overall positive evaluations of telepractice, with both caregiver and service provider groups expressing higher satisfaction levels. Nonetheless, correlations among variables suggested that the shift to telepractice depended on factors such as the child's age, diagnosis, technical conditions, and duration of telepractice sessions.

This study addresses a significant knowledge gap and provides valuable insights into the implementation and effectiveness of telepractice in speech-language pathology by examining the perspectives of caregivers and service providers, as a first step towards more comprehensive research, highlighting the potential of telepractice.

Keywords: telepractice, speech-language pathology, caregivers, professionals



PARALLEL SESSION 22 - THE USE OF TELEPRACTICE IN THE FIELD OF SLT

## 22.2 EFFECTIVENESS OF A PARENT-BASED GROUP TELE-THERAPY INTERVENTION TO SUPPORT LANGUAGE DEVELOPMENT

*Specialist Speech And Language Therapist Demet Tekneci<sup>1</sup>, Specialist Speech and Language Therapist Tuba Kaya<sup>2</sup>, PhD Speech and Language Therapist Nazmiye Evra Gunhan Senol<sup>3</sup>*

<sup>1</sup> Istanbul Kultur University

<sup>2</sup> Inonu University

<sup>3</sup> Istanbul Medipol University

**Background:** COVID-19 pandemic led to an increased interest in teletherapies since it made speech and language therapy possible without restrictions imposed by the social distance requirements.

**Aim:** The aim of the present research is to examine the effectiveness of indirect language intervention provided through teletherapy on children's language and communication development and parental communication behaviours.

**Methods:** Parents of 18-38 months children who wanted language support for their children were included in the study (n = 31). Baseline data was collected online by taking detailed history and administration of Ankara Developmental Screening Inventory (ADSI) and Turkish Communication Development Inventory (TCDI). Furthermore videos of parents as they engaged in play activities with their children were evaluated using the Maternal Behaviour Rating Scale. Participants were matched and divided into study group (n=16) and control group (n=15). 11 strategies designed to help with language development were shared with the study group over five weeks. Parents were then requested to record and send videos of themselves using each strategy with their child while playing. Researchers watched videos, recorded feedback on strategy use, and shared it with parents. The control group received no intervention during this period.

**Results:** After the intervention, the study group showed a greater improvement in the number of words spoken and understood in the TCDI, as well as in the scores of the Maternal Behaviour Rating Scale, compared to the control group. Analyses showed that the pre-test and post-test difference averages of the study and control groups had a statistically significant difference in these parameters ( $p < .05$ ).

**Conclusions:** These results may mean parents who have difficulty reaching a speech and language therapist or are unable to receive face-to-face therapy can benefit from intervention through teletherapy to support their children's language development.

**Keywords:** Parent training, parent-child interaction, speech and language therapy, tele-therapy.



PARALLEL SESSION 22 – THE USE OF TELEPRACTICE IN THE FIELD OF SLT

### 22.3 SPEECH-LANGUAGE TELETHERAPY PRACTICE: PERCEPTIONS OF BRAZILIAN SPEECH-LANGUAGE-THERAPISTS

*Matheus Francoy Alpes<sup>1</sup>, Elisa Cintra de Almeida<sup>2</sup>, Pamela Papile Lunardelo da Silva<sup>3</sup>, Patricia Pupin Mandrá<sup>4</sup>*

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<sup>4</sup> University of São Paulo, Brazil

The new speech therapy practice scenario allows the use of telepractice in care. The purpose was verify Brazilian speech-language therapists' perception of telepractice. A qualitative/quantitative cross-sectional study. The 22 participants answered an online questionnaire on sociodemographic information, academic degree, occupation, and teletherapy experience. Absolute and relative frequencies in scale and multiple-choice answers were calculated, whereas the content of qualitative data was analyzed. The mean age of the speechtherapists was 28 years; 86.4% were females, and 63.3% graduated from public institutions. All participants (100%) reported knowing the guidelines prescribed by the Federal Speech-Language Council of Brazil. Most of them treated children (77.3%), with oral language procedures (54.5%); 59.1% faced difficulties, while 63.7% felt qualified to practice teletherapy. All participants said they knew telepractice. Most of them reported that the topic was not addressed in their undergraduate studies; hence, they sought training from other sources to offer teleconsultation. Moreover, they reported that most patients agreed to continue with that type of care, although the number of new patients seeking treatment during the pandemic decreased.

PARALLEL SESSION 22 - THE USE OF TELEPRACTICE IN THE FIELD OF SLT

## 22.4 GUIDELINE FOR TELEPRACTICE IN SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY FOR CHILDREN $\leq 12$ YEARS OF AGE

*Dr Sabine Van Eerdenbrugh*  
Thomas More University of Applied Sciences

**Background:** The recent pandemic increased the use of videoconferencing applications and sharpened the digital skills of the general population. Now that the pandemic has receded, videoconferencing is more systematically included in daily life with clear advantages mainly in efficient time management. This also leads to deploy telepractice, a novel therapeutic model based on videoconferencing, in a more systematic way.

**Objective:** Upon request of the Belgian Public Health organization and within the Evikey network, we developed a guideline for the application of telepractice for speech, language and hearing care in children up to 12 years of age, for both assessment and treatment.

**Methods:** Through a systematic literature search according to the PRISMA guideline systematic reviews, meta-analyses or randomised designs comparing synchronous telepractice with face-to-face assessment or treatment were examined. These studies included findings on the (1) assessment, (2) treatment and (3) barriers, benefits and practical experiences and this for the different subdomains within speech-language pathology and audiology.

**Results:** We will present the recommendations and good practice points that were formulated as an answer to the clinical questions about telepractice for speech-language pathology and audiology in children  $\leq 12$  years old: Can telepractice be proposed as an accurate alternative for assessment? Can telepractice be proposed as an effective alternative for treatment? How to establish a good adherence to teletreatment? How to establish a good interaction between child, parent and therapist during telepractice?

**Conclusions:** The guideline about telepractice for children  $\leq 12$  years contains recommendations that speech-language pathologists and audiologists can consult if they consider telepractice to be a feasible alternative to standard practice for some children and families.

**Keywords:** Telepractice, videoconferencing, children, speech, language, hearing

**PARALLEL SESSION 23 - DYSFLUENCY AND STUTTERING**

**23.1 RESILIENCE AND PARENTAL ATTITUDES OF PRESCHOOL CHILDREN WHO AND DO NOT STUTTER: PRELIMINARY RESULTS**

*Speech and Language Therapist Dilan Cengiz<sup>1</sup>, Professor Mavis Emel Kulak Kayikci<sup>2</sup>, Asst. Prof. Meltem Cigdem Kirazli<sup>3</sup>*

<sup>1</sup> Hacettepe University, Faculty of Health Sciences, Department of Speech and Language Therapy, <sup>2</sup> Hacettepe University, Faculty of Health Sciences, Department of Speech and Language Therapy, <sup>3</sup> Hacettepe University, Faculty of Health Sciences, Department of Speech and Language Therapy

**Background:** The majority of stuttering cases occur in the preschool years, the early stage of speech and language development. Stuttering thought to be a risk factor for children's socioemotional development and resilience. In addition, studies have shown that parental attitudes in the preschool years is closely related to resilience.

**Aim:** The aim of this study was to compare resilience and parental attitudes of preschool children who stutter (CWS) with typically developing peers.

**Methods:** This study was designed as a descriptive survey. The experimental group consisted of 15 typically developing CWS, aged between 48 and 72 months, together with their parents and teachers. The control group consisted of 15 typically developing children who do not stutter (CWNS), matched for age and gender to the study group, together with their parents and teachers. Parental attitudes were assessed using the Parental Attitude Scale (PAS) and resilience levels were assessed using the Social Emotional Well-being and Psychological Resilience Scale for Preschool Children (PERIK) completed by teachers.

**Results:** In the study group, scores of communication ( $p < 0.05$ ), assertiveness ( $p < 0.05$ ) and emotional stability ( $p = 0.003 < 0.05$ ) sub-dimensions of the PERIK were statistically significantly lower than in the control group. There was no statistically significant difference between the two groups in the sub-dimensions of self-control, enjoyment of exploration and task orientation ( $p > 0.05$ ). In the sub-dimensions of the PAS, no statistically significant difference was observed between the groups in the scores for democratic, authoritarian, overprotective, permissive attitude of the participants' parents ( $p > 0.05$ ).

**Conclusions / take home message:**

These findings suggest that stuttering may negatively affect resilience in preschool children, highlighting the importance of early intervention to improve their quality of life. It is recommended that resilience considerations be incorporated into preschool stuttering assessment and treatment processes to mitigate potential negative effects on children's well-being.

**Keywords:** stuttering, resilience, preschool children

PARALLEL SESSION 23 - DYSFLUENCY AND STUTTERING

## 23.2 INVESTIGATING SMA'S ROLE IN SPEECH AND READING FLUENCY IN PWS WITH RTMS: A PILOT STUDY

*Speech and Language Therapist Gülkader Temiz<sup>1</sup>, Speech and Language Therapist Sertan Özdemir<sup>1</sup>*

<sup>1</sup> Istanbul Medipol University

### Background:

Stuttering has been associated with the impaired functioning of the cortico-basal-thalamo-cortical system, which includes the basal ganglia and the supplementary motor area (SMA), responsible for functions like motor planning and executing complex motor movements. Studies have shown that the SMA is among the areas supporting the fundamental components of word production and may play an important role in speech fluency. Therefore, it is thought that the SMA may play an important role in stuttering characterized by involuntary speech interruptions. While studies investigating the relationship between the SMA and stuttering are limited, there is a need for further investigation into this relationship.

Transcranial Magnetic Stimulation (TMS) is a non-invasive neuromodulation technique. TMS can transiently increase or decrease neural activity. With this feature, TMS allows understanding the neurophysiology of stuttering and investigating the brain-behavior relationship. Therefore, repetitive TMS (rTMS) was used in the current study.

### Aim/Objectives:

The aim of the current study is to investigate the relationship between the SMA and speech and reading fluency in adults with stuttering using rTMS.

### Methods:

The current study is a pilot study conducted with 2 participants. In the study, rTMS was applied three times in a randomized manner, targeting bilateral SMA, left SMA, and sham conditions. With rTMS, inhibitory (1Hz) stimulation was applied for 10 minutes. Participants performed speech and reading tasks before and after each rTMS session. Video recordings were taken during these tasks. Stuttering severity will be measured and compared using the SSI-4-TR (to be published) based on the obtained video recordings.

### Results:

Participants attended three rTMS sessions and performed a reading task before and after each session, along with three speech tasks, resulting in a total of 48 video recordings. The video analysis process is ongoing.

### Conclusions:

The results will be presented at the conference.

PARALLEL SESSION 23 - DYSFLUENCY AND STUTTERING

### 23.3 EXPLORING THE EFFECTIVENESS OF CAMP DREAM. SPEAK. LIVE. IN POLAND: COMMUNICATION AND QUALITY-OF-LIFE

*Dr. Katarzyna Węsierska<sup>1</sup>, Dr. Monika Pakura<sup>1,2</sup>, MA Joanna Szymczakowska<sup>1,2</sup>, Dr. Marta Węsierska<sup>2,3</sup>, Dr. Courtney Byrd<sup>4</sup>, Dr. Geoffrey Coalson<sup>4</sup>*

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<sup>3</sup> Liverpool Hope University

<sup>4</sup> The University of Texas at Austin Arthur M. Blank Center for Stuttering Education and Research

#### Background

Children who stutter may experience difficulties with social interactions (Beilby et al., 2012) and are more likely to be bullied compared to their non-stuttering peers (Blood & Blood, 2004). Recent research indicates that participation in the Camp Dream. Speak. Live. treatment program may be particularly beneficial in helping children develop healthy communication attitudes and improve overall quality-of-life (e.g. Byrd et al., 2018, 2021).

#### Aim / Objectives

The aims of this study are (a) to explore the effectiveness of the first Polish edition of Camp Dream. Speak. Live. on children who stutter and (b) to investigate how participation impacts speech-language therapy (SLT) students.

#### Methods

Camp Dream. Speak. Live., is a one-week, evidence-based program for children who stutter. It is based on the Blank Center CARE Model™. The program aims to improve children's communication skills, strengthen their self-confidence, develop their leadership skills, increase their self-compassion and resiliency, and reduce the negative impact of stuttering on their quality-of-life.

Treatment effectiveness will be evaluated using the Blank Center CARE Model™: School-Age Assessment (Byrd, 2024) and other standardized tools such as the Overall Assessment of the Speaker's Experience of Stuttering (Yaruss & Quesal, 2016). SLTs and SLT students will be invited to participate in qualitative interviews and focus group discussions.

#### Results

By the time of submission, the first Polish implementation of the program is in the organization stages. Materials are currently being translated, and additional diagnostic tools are being developed. Recruitment is currently ongoing (estimated 14-20). Preliminary outcomes of this study will be ready by the ESLA Conference.

Conclusions / take home message

Introducing stuttering-affirming approaches such as Camp Dream. Speak. Live., in Poland will raise awareness and improve the quality-of-life for people who stutter in this country as well as facilitate dissemination of evidence-based approaches.

**PARALLEL SESSION 23 - DYSFLUENCY AND STUTTERING**

**23.4 QUALITY OF LIFE AND TEMPERAMENT IN ADULTS WHO  
STUTTER: PRELIMINARY FINDINGS**

*M.Sc. Kübra Miraloğlu<sup>1</sup>, PhD Önal İncebay<sup>2</sup>, Assoc.Prof. Ayşen Köse<sup>2</sup>*

<sup>1</sup> Kütahya Health Sciences University

<sup>2</sup> Hacettepe University

**Background:** It has been noted that quality of life (QoL) is a potentially important measure when predicting the impact of communication disorders. Many adults who stutter (AWS) may be at risk of reduced QoL. AWS may experience intense feelings of loss of control and avoidance. Emotional function research in AWS focuses on temperament.

**Aims:** The aim of the study was to examine the relationship between quality of life and temperament and self-evaluations of stuttering.

**Methods:** Short Form (SF-36), The Adult Temperament Questionnaire (ATQ) and The Wright and Ayre Stuttering Self-Rating Profile (WASSP) were completed by 16 AWS (5 women, 11 men, age range: 18-51, mean: 25,06). Spearman correlation coefficient was used for the relationships between SF-36 and ATQ and WASSP.

**Results:** There were significant positive correlations between role physical and activation control( $r=0,534$ ), mental health and high intensity pleasure( $r=0,545$ ), social functioning and positive affect( $r=0,742$ ); significant negative correlations between role emotional and inhibitory control( $r=-0,532$ ); between vitality and reactivity( $r=-0,633$ ), inhibitory control( $r=-0,586$ ), affective perceptual sensitivity( $r=-0,525$ ); between mental health and frustration( $r=-0,684$ ); between social functioning and inhibitory control( $r=-0,651$ ), neutral perceptual sensitivity( $r=-0,668$ ); between bodily pain and frustration( $r=-0,521$ ); and between avoidance because of stuttering and mental health( $r=-0,501$ ). No significant relationship was found between temperament characteristics and stuttering behaviors (frequency, duration etc.).

**Conclusions:** The lack of a relationship between temperament and stuttering behaviors is consistent with the literature. The negative correlation between avoidance and mental health supports the view that individuals with frequent avoidance behaviors may fail to participate in many areas. In particular, it was observed that increased frustration had a negative effect on vitality, mental health, bodily pain and increased inhibitory control had a negative effect on role emotional, vitality and social functioning areas. Different areas of quality of life should be addressed in treatment for stuttering.

**Keywords:** Stuttering, quality of life, temperament, adults who stutter, self-evaluation

PARALLEL SESSION 24 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## 24.1 “ME PRACTICE TO?... I NO SPEECH LANGUAGE THERAPIST!” DEALING WITH PARENTAL ENGAGEMENT IN MULTILINGUAL COMMUNICATION

*MA, BSc Sione Twilt<sup>1</sup>, Dr Karin Neijenhuis<sup>1</sup>, Prof dr Rick De Graaff<sup>2</sup>, Prof dr Jan Ten Thije<sup>2</sup>*

<sup>1</sup> Rotterdam University of Applied Sciences

<sup>2</sup> Utrecht University

**Background:** In daily SLT practice different communication vulnerabilities often interfere within one client. In multicultural areas in the Netherlands many persons with communication disorders also have limited language proficiency in Dutch. Dealing with language differences is challenging for all participants in the institutional SLT discourse. This is particularly challenging in triadic talk between SLTs, underaged children and their parents.

**Objectives:** The PhD study LIMINA aims to gain insight into the multilingual communication in SLT in order to enhance inclusive care. The first sub study provides insight in the complex interactions between SLTs, parents and their children.

To gain insight in the experiences and needs of parents regarding the multilingual communication with SLT's, a second sub study is currently being conducted.

**Methods:** The performed analysis was based on the functional pragmatical approach of discourse analysis. Data consisted of transcripts from authentic conversations between SLTs and parents, representing their underaged children (n=33). The discourse analysis was followed by individual, semi structured interviews with multilingual parents who consulted an SLT on behalf of their child, having speech, language and/or communication needs.

**Results:** The interactions show that SLTs and parents apply different communication strategies, like gestures and the use of material, to enhance mutual understanding. Specific strategies for inclusive multilingualism, like translating, are less often applied. Furthermore, the ways in which parental engagement is addressed in interaction differs.

Preliminary results of the interviews with parents will also be discussed during the presentation.

**Conclusions :**Results of the discourse analysis provide useful insights regarding communication strategies and addressing parental engagement in multilingual SLT care. Combining these findings with parental perspectives provides a kaleidoscopic view on the power of multilingual communication between parents and SLTs and can therefore contribute to the quality of life of parents and their children.

**Keywords**

multilingual communication, parental engagement, inclusive care.



PARALLEL SESSION 24 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## **24.2 HOW IMPLEMENTING SPEECH AND LANGUAGE THERAPY INTERVENTIONS, THROUGH A MULTI-TIERED MODEL OF SUPPORT, IN COLLABORATIVE PARTNERSHIP WITH IRISH SCHOOLS, CAN IMPACT STUDENTS' EDUCATIONAL OUTCOMES**

*Ms Aoife Murphy<sup>1</sup>, Ms Jessica McCluskey<sup>1</sup>*

<sup>1</sup> National Council For Special Education Ireland

**Background:** The National Council for Special Education (NCSE-Ireland) employ OTs and SLTs to work in collaborative partnership with schools through the School Inclusion Model (SIM). This project focusses on implementation of a multi-tiered model of therapy support that is school-centred (i.e. the school is the client) with a view to improving inclusive educational outcomes. There are 75 pilot schools within SIM (including Primary, Post-primary and Special Schools).

**Aims:** The projects overall aim was to explore how SLTs (as part of an OT-SLT team) providing interventions within a multi-tiered model of support, can build the capacity and confidence of educators in promoting the inclusion, participation and well-being of all students, as measured through five key NCSE educational outcomes.

**Method:** Data from January-June 2022 was collected using four tools; School activity trackers; School progress notes; Pre-post training questionnaires; and Inter-professional intervention planning record forms. Both activity and intervention outcome data was collected.

Data gathered was analysed quantitatively and thematically in line with five educational outcomes; engagement/attendance; academic achievement; happiness; independence; end of school outcomes.

**Results:** Between January and June 2022, nine SLTs, ran thirty-six interventions in twenty-five pilot schools, impacting 776 students. Student outcomes for 88% of these interventions positively aligned with three educational outcomes; academic achievement; end of school outcomes; and independence.

All teachers (105) who collaboratively delivered interventions with SLTs reported knowledge and skill improvement.

**Conclusions:** These results suggest that collaboratively (teacher, SLT and in some cases OT) delivered interventions improve the educational experience of students in schools. The improvement of teacher skill bodes well for the effective future delivery of these interventions.

Long term, practice-based research is needed to identify further impacts of school-based interventions on happiness and attendance, although contextual and qualitative evidence on impact and outcomes exists.

Keywords: Multi-tiered model; Education Outcomes; Collaboration; Communication Intervention

PARALLEL SESSION 24 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## 24.3 YOU NEED TO DO MORE THAN TRANSLATE IT! ADAPTING EVIDENCE-BASED INTERVENTION PROGRAMS TO NEW CONTEXTS

*Dr Kathryn Crowe<sup>1,2</sup>, Dr Thora Másdóttir<sup>1</sup>, Dr Jóhanna T. Einarsdóttir<sup>1</sup>*

<sup>1</sup> University Of Iceland

<sup>2</sup> Charles Sturt University

**Background:** Many children attending preschool speak different language/s to their teachers and the language of the wider community. To learn this new language, these children need a sufficient exposure to the new language through high quality language models in meaningful contexts in their daily lives, which is challenging in the busy preschool environment. Early childhood educators/teachers and speech-language therapists (SLT) are often called upon to collaborate to support such children's speech and language development using evidence-based or evidence-informed methods. However, it is often the case that interventions that have sufficient evidence were developed for languages and cultural contexts that do not reflect the reality of the children, their teachers, or their SLTs.

**Aim:** This presentation describes how World of Words, an evidence-based intervention that was developed for English-language learners in the United States, was culturally and linguistically adapted to a new intervention called Orðaheimurinn to support preschool-aged children's learning of Icelandic in Iceland. The iterative process used to cultural and linguistic adaptation this intervention and to examine its effectiveness in the new context will be presented to illustrate this.

**Method:** The methods used in this adaptation included intervention selection, direct translation, adapted translation, translation optimisation, theme/unit adjustments, target vocabulary review, new material development, feasibility study, a cluster randomised-controlled trial, fidelity measurement, and social validity assessment.

**Results:** The methods described above have led to the development of an intervention that is linguistically and culturally appropriate and socially valid in the context of Icelandic preschools. Orðaheimurinn continues to be refined and revised using new sources of evidence.

**Conclusions:** This methodology demonstrates how multilingual children's language development can be supported in early childhood education settings in ways that are culturally and linguistically responsive, requiring more than translating materials.

**Key words:** Multilingual, Icelandic, language, vocabulary, shared reading, intervention, early intervention, early childhood education, teachers

PARALLEL SESSION 24 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## 24.4 OVERLOOKED, UNDERUTILIZED BUT NECESSARY: THE ROLE OF THE SLT IN L2-INTELLIGIBILITY

*MA Ilvi Blessenaar<sup>1</sup>, MA Marjolein Wilschut<sup>2</sup>, Dr. Rob Zwitterlood<sup>1</sup>, Dr. Karin Neijenhuis<sup>2</sup>, Dr. Lizet van Ewijk<sup>1</sup>, Dr. Shakila Shayan<sup>3</sup>, MA Jet van der Touw<sup>3</sup>*

<sup>1</sup> Research Group Speech and Language Therapy: Participation through Communication

<sup>2</sup> Research Group Care for Communication, <sup>3</sup>Research group Human Experience & Media Design

### Background

Intelligibility issues in second language (L2) learning are not adequately addressed within both formal language lessons and informal volunteer programs. Therefore, we wanted to investigate possible roles of SLTs in the interdisciplinary research project 'VerstaaNT2' in collaboration with stakeholders: SLTs, L2-teachers, volunteers and L2-learners.

### Aim

Which facilitators and barriers for improving intelligibility in L2 are identified? How can SLTs apply their expertise in this field and how can they collaborate with the other stakeholders?

### Methods

In order to gain a deep understanding of the barriers and facilitators, human centered design methodology is used to tap into the creativity and latent needs of the stakeholders. This presentation focusses on the first phase of a larger study.

All aforementioned stakeholders participated in mixed generative methods during wall sessions. Prior to the wall sessions, the participants' experiences were primed by sensitizing exercises. All results were qualitatively analyzed by coding and thematizing. This resulted in different sets of experienced barriers and facilitators.

### Results

SLTs identified eleven barriers, such as financial aspects, expectations, type of intervention, and context. In addition they discerned ten facilitating factors: for example personalization, diagnostics, priorities, segmentals and suprasegmentals of speech.

In general, all stakeholders concluded that SLTs are often not involved in L2-education, and if they are, involvement is context dependent. Nevertheless, all stakeholders agreed that SLTs should be more involved. They identified possible ways for SLTs to contribute to L2-education, e.g. by having an advisory role towards teachers and volunteers, providing assessment and intervention in specific cases, and developing appropriate teaching materials.

## Conclusions

The expertise of SLTs in speech and intelligibility is regarded as a valuable contribution to L2-education and desired by L2-teachers, volunteers and L2-learners. Embedding SLTs in L2-education offers substantial benefits to improve the communicative participation of L2-learners.

PARALLEL SESSION 24 - COLLABORATION AND INTERDISCIPLINARITY IN SLT PRACTICE

## **24.5 EFFECTS OF MUSIC EDUCATION ON VOICE DISORDER ASSESSMENT SKILLS OF SPEECH AND LANGUAGE THERAPY STUDENTS**

*Assistant Professor Eylul Birkent<sup>1</sup>, Professor Ahmet Konrot*  
<sup>1</sup> İstanbul Medipol University

**Background:** Application protocols of many voice therapy methods require a certain level of musical knowledge. Therefore, it is considered to be beneficial for speech and language therapy (SLT) students to have purposeful music education in their education process.

**Aim/objectives:** The aim of this study was to investigate the effects of the given music education on voice disorders assessment skills of fourth year SLT students.

**Methods:** The research was carried out with a total of 20 students, including the study (N=10) and control (N=10) group. Parallel mixed research design was used. Music education was given to the study group for two hours a week for one semester. Within the scope of quantitative evaluation, a 20-question test was applied to evaluate the music knowledge of the participants before and after the music education. They were also asked to evaluate their self-efficacy in assessing voice disorders with a VAS scale. Then, 10 pathological voice samples were listened to, and they were asked to make a perceptual evaluation with the CAPE-V test, and finally, they were asked to evaluate their own voices with VHI. Within the scope of the qualitative evaluation, data obtained through semi-structured interviews, observations and documents containing definition of pathological sounds they perceptually evaluated were analyzed and their experiences on music education were discovered.

**Results:** A statistically significant change was found for the study group in the music knowledge test and VAS variables, but no statistically significant change was detected in the CAPE-V and VHI variables. Looking at the qualitative findings, it was determined that music education for SLT students had positive effects on the evaluation and therapy of voice disorders of the study group.

**Conclusions:** Purposeful music education contributed positively to voice disorders assessment skills of SLT students.

**Keywords:** Music education, voice therapy, speech and language therapy, mixed methods research

## KS4. VOICE, VOICE QUALITY AND THE TREATMENT OF VOICE DISORDERS

*Prof. Dr. Youri Maryn<sup>12345</sup>*

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<sup>5</sup> Phonanium

Phonation is an essential part of human life, and voice disorders impact the quality-of-life, not only of many speakers but also of many listeners across the lifespan. Contemporary clinical voice research should therefore map all relevant aspects of dysphonia. This means that not only anatomy and pathology are to be considered, but also physiology, performance, consequences for daily activities, attitudes of others towards the dysphonic person, environmental factors, etc.

During this presentation there will be focus various aspects related to the clinical assessment and behavioral treatment of voice disorders. First, there will be focus on achievement in the measurement of voice-related quality of life from an international perspective. Second, there will be discussion on the clinical measurement of voice quality, with zooming in on acoustic methods, and also from an international viewpoint. Third, examples of the use of such measurement in behavioral voice treatment outcomes studies will be provided. Finally, ideas to strengthen such outcomes studies will be explored, especially through the implementation of sham voice therapy techniques. In conclusion, milestones in the clinical management of voice disorders will be overviewed.

PARALLEL SESSION 25 - DYSFLUENCY AND STUTTERING

## 25.1 VIRTUAL REALITY: A TOOL FOR TRAINING FLUENCY IN PUBLIC SPEAKING ?

*PhD Student Lamia Bettahi<sup>1</sup>, PhD Angélique Remacle<sup>1,2</sup>, PhD Anne-Lise Leclercq<sup>1</sup>*  
<sup>1</sup> University Of Liège  
<sup>2</sup> Université Libre de Bruxelles

**Background:** Public speaking (PS) is a skill required in many personal and professional settings. However, a large proportion of the general and clinical population do not feel comfortable speaking in public. PS anxiety impacts oral communication. For example, disfluencies (interruptions in the flow of speech) increase as anxiety rises. Specifically, there are more filled pauses (e.g., uh) and silent pauses in anxious speech. These changes can influence the audience's perception of the speaker. Therefore, training PS skills in representative settings is crucial but often challenging for PS professionals (e.g., speech therapists, coaches, vocologists).

**Objective:** The present study aimed to validate a virtual meeting room with 8 animated virtual agents for PS training by assessing its ability to elicit typical PS fluency features.

**Methods:** We analyzed the speech productions of 40 university students giving an oral presentation facing : (1) a real audience, (2) a virtual audience, and (3) an empty virtual meeting room. This third condition with no anxious stimulus was included in order to act as a control condition for the anxiety induced by immersion in virtual reality (VR).

**Preliminary results:** Regarding the total percentage of filled pauses, paired t-tests showed a significant difference between conditions 1 and 3 (higher percentage of filled pauses in 1) but not between conditions 1 and 2. Correlational analysis showed a stronger correlation between conditions 1 and 2 than between 1 and 3. Therefore, speaking in front of a virtual audience seems to be a better predictor of real PS performance than speaking in front of an empty room. Full results with 60 participants are expected in April 2024.

**Conclusion:** VR could be a useful tool for PS training as it allows the elicitation of fluency characteristics related to this activity.

**Keywords :** Public speaking, Oral presentation, Virtual reality, Disfluencies, Filled Pauses



**PARALLEL SESSION 25 - DYSFLUENCY AND STUTTERING**

**25.2 FROM ANXIETY TO ADVOCACY: DIGITAL HEALTH TO SUPPORT  
CLINICIANS AND FAMILIES OF CHILDREN WHO STUTTER**

*Dr Ronan Miller<sup>1</sup>, Jaclyn Morton<sup>1</sup>*  
<sup>1</sup> BeneTalk

**Background:**

With increasing waiting lists for speech therapy, caregivers of children who stutter are often without immediate support, exacerbating their anxiety and potentially affecting their child's self-perception and quality of life.

The use of mobile technology enables client-led care and self-management with easily accessible, evidence-based content, and guides caregivers in nurturing their child's self-esteem and acceptance of stuttering.

This presentation explores the use of SuperPenguin, an evidence-based mobile app, within the context of the NHS to complement in-person therapy. Data is presented and discussed to elucidate the potential of digital health within speech therapy.

**Aim:**

To explore the effectiveness of SuperPenguin as an immediate support system for caregivers of children who stutter.

**Objectives:**

To assess SuperPenguin's impact on reducing parental anxiety and increasing confidence.

To understand how digital health can support speech therapy and reduce pressure on stretched services.

**Methods:**

The study employed a mixed-methods approach, combining data from self-report measures with caregivers (n=91) to assess changes in worry and confidence before and after using the app, with data from speech therapists (n=10) regarding attitudes to using technology within care pathways.

**Results:**

Preliminary findings from parents indicate a decrease in worry, and an increase in confidence, indicating parents' willingness to support the acceptance of stuttering.

From SLTs, preliminary evidence supports SuperPenguin as a tool to provide on-demand, client-led treatment which can empower caregivers and prepare families more effectively for therapy.

#### Conclusions:

SuperPenguin demonstrates the potential of digital health for improving the quality of life of families of children who stutter, with quality, accessible content that can be client-led. The app empowers parents to become proactive participants in their child's wellbeing. Equally, the use of SuperPenguin may also assist SLTs by sowing the seeds of stutter-affirming concepts before in-person therapy begins.

## W. INTEGRATING CHATGPT IN SPEECH THERAPY: A NEW ERA OF CLINICAL PRACTICE

*Rania Kassir*

MSc Neuropsychology & Clinical Neuroscience, France

Chair of Neurology committee in ALO (Lebanese association of Speech and Language  
Therapists)

Head of Happy Brain

In this one-hour workshop, we will explore how ChatGPT can become an invaluable assistant in speech therapy, supporting clinicians in various aspects of their work. From assessment to analysis and intervention planning, ChatGPT offers practical applications that can streamline processes and enhance patient care.

The session will focus on how to integrate ChatGPT into daily practice, using it to assist in generating therapy materials, analyzing speech patterns, and supporting clinical decision-making. We will also discuss the ethical considerations of using AI in clinical settings, ensuring that patient privacy and the therapist's professional judgment remain central.

## **26.1 MEANINGFUL STUDENT VOICE: HOW INCORPORATING THE VOICE OF THE CHILD CAN POSITIVELY IMPACT SCHOOL BASED INTERVENTIONS AND EDUCATIONAL OUTCOMES FOR STUDENTS**

*Ms Jennifer Keating<sup>1</sup>, Ms Aoife Murphy<sup>1</sup>, Ms Jessica McCluskey<sup>1</sup>*

<sup>1</sup> National Council For Special Education Ireland

Background: Speech and Language Therapists (SLTs) employed by the National Council for Special Education (NCSE-Ireland), work in collaborative partnership with schools to implement a school-centered, educationally focused, multi-tiered model of therapy support.

Students have a right to make decisions about their education (UNCRPD) and have their views sought and respected in relation to what's happening in their lives (UNRCRC). Meaningful student participation involves being given voice, audience, influence and space (Lundy, 2017). Teachers and NCSE SLTs identified a gap in collecting and using meaningful student voice for whole class interventions.

Aims: The aim of this case report is to:

1. Illustrate the impact of student participation in informing the implementation of a whole class language and communication intervention
2. Illustrate how student voice/participation can generate meaningful educational outcomes

Methods: Teachers and SLTs co-developed student voice tools (Post-It Notes and Likert Scales) to reflect the planned intervention aims. Student voice was collected and thematically analysed pre and post intervention in junior infant (4-5 year olds), senior infant (5-6 year olds) and first class (6-7 year olds) classrooms in a rural Irish Primary school.

Results: Fifty-two students across three classrooms and three teachers participated. Student voice data identified different themes, priorities and preferences for every class which supported teachers and SLT to tailor the interventions (teaching methodologies and resources) to the needs and wants of the particular class group/students.

Evaluation of the pre-post data indicated significant improvement in skills and abilities related to the intervention as well as improvements in terms of happiness/wellbeing and independence. Teachers reported very positive engagement in the whole class intervention.

Conclusions: This case study illustrates the potential impact of gathering student voice to enable meaningful participation in learning and its potential in attainment of positive educational outcomes for students.

Keywords: Education; Student voice; Communication; Collaboration

## 26.2 IMPACT OF A HIGH-INTENSITY LANGUAGE PROGRAM ON TEACHERS' LANGUAGE STRATEGIES AND THE QUALITY OF INTERACTIONS

*Dr Edith El Kouba<sup>1</sup>, Léa Dubois<sup>1</sup>, Professor Christelle Maillart<sup>1</sup>*

<sup>1</sup> Liège University - Research Unit for a life-Course perspective on Health & Education

<sup>2</sup> Wallonie-Bruxelles Enseignement

**Background:** Language development in early childhood is pivotal and the quality of interactions between preschool teachers (PreKTs) and children plays a crucial role in this process. In French-speaking Belgium, a collaborative, high-intensity language support program (SOLEM: Soutenir et observer le langage en maternelle) involving speech and language therapists (SLTs) and PreKTs was implemented to enhance the quality of interactions and to establish effective language support practices within the classrooms.

**Objectives:** This study aimed to provide a comprehensive view of the quality of interaction between PreKTs and children aged 3-5, in French-Belgian preschools, and to delve deeper into PreKTs' experiences, looking at their reported practices, their perceptions of their roles in language development, and how collaboration with SOLEM has impacted these practices and their effectiveness in supporting language development.

**Methods:** The research used a mixed-methods approach, combining direct observations using the Classroom Assessment Scoring System (CLASS) with semi-structured interviews with (N=15) teachers to evaluate the quality of interaction and the perceived benefits of the program.

**Results:** The results are expected to show 1) a positive impact of SLT collaboration on PreKTs' views of their role in language development and an increase in the use of language-promoting strategies in their reported practices, and 2) a high quality of classroom interactions, particularly in the dimensions of language modeling and interaction quality, as observed through CLASS and highlighted in teachers' comments.

**Conclusion:** The study findings should help to strengthen the partnership between SLTs and PreKTs through SOLEM, by proposing personalized development goals to improve interaction quality in preschool settings, with a focus on language support. These findings could inform professional development programs, emphasizing the enhancement of language-promoting practices within early childhood education.

**Keywords:** early childhood education, language development, speech and language therapy, teacher collaboration, interaction quality.

### 26.3 ACTIVITY MATTERS: IMPACT ON EDUCATOR-CHILD INTERACTIONS IN TODDLER CLASSROOMS

*Phd Student Rochana Mroué<sup>1,2</sup>, Doctor Caroline Masson<sup>1</sup>, Professor Christelle Maillart<sup>2</sup>*

<sup>1</sup> Sorbonne Nouvelle University

<sup>2</sup> University of Liège

**Background:** The quality of childcare depends on interactions between educators and children, which are influenced by the activities carried out by educators (Guedes et al., 2020; Cadima et al., 2022). These early interactions are crucial for children's language development, which subsequently influences their academic achievement and literacy (Law and Levickis, 2018). Therefore, understanding how educators support interactions, particularly across different activities, is paramount. **Objectives:** In this context, our primary aim is to explore the variation in the quality of educator-child interactions across different activities (e.g., meals, book reading).

**Method:** Educator-child interactions were videotaped over the course of a single day in 40 French toddler classrooms with an average age of 15-36 months. The quality of educator-child interactions was observed using the Classroom Assessment Scoring System (CLASS Toddler; La Paro et al., 2012). This tool comprises two domains: Emotional and Behavioral Support, and Engaged Support for Learning, with a total of 8 dimensions. Observers established start and end criteria for each targeted activity and then rated each of them on these eight dimensions in repeated cycles of 30 minutes. Each dimension included in the CLASS-T is rated on a 1–7 scale, with 1-2 indicating low quality, 3-5 indicating mid-range of quality, and 6-7 indicating high quality. **Results:** A hierarchical linear model will be used to test the relationship between activities and the quality of educator-child interactions across both CLASS-T domains. For example, we predict higher scores for book reading moments compared to meals regarding Emotional and Behavioral Support and Engaged Support for Learning domains. **Practice or Policy:** Professional development should include targeted training to improve interactions within specific activities, addressing the least effective interactions while maximizing effectiveness in others.

**Keywords :** activities, toddlers, childcare quality, Classroom Assessment Scoring System, CLASS-T.

## 26.4 LANGUAGE DEVELOPMENT SUPPORT IN PUBLIC SCHOOLING AT THE KINDERGARTEN LEVEL

*Iulia Schiopu*  
L' EDUCOTHEQUE ASBL

**Background:** European Union data suggests that between 7% to 10% of children in Belgium are affected by speech, language, and communication delays (SLC). Moreover, in Romania, statistics from ISJ and CJRAE indicate that 26% of preschoolers assessed in 2021 exhibit SLC difficulties out of a total of 2531 children. This trend, aligned with medical research findings, underlines a troubling increase in learning and communication (LC) difficulties, with a 63% rise reported between 2010 and 2021 (Asha, 2022)

**Aim:** This study aims to investigate the impact of the language development support given by the teacher at the kindergarten level, by stimulating the development of prerequisites of reading and writing, using SLTs tools created in an integrative approach.

**Methods:** Through a grant initiative (IRIS), we address the issue of social exclusion resulting from delays in speech-language and communication (SLC) skills. Materials were created for assessment tools for each of the seven areas (gross motor development, fine motor development, laterality, temporality, spatial orientation and space acquisition, sensory and perceptual development, body awareness) Materials were developed and used before and after access and implementation of support.

**Results:** Preliminary data analysis indicates an improvement in language development underlined by the assessment tools developed within this project. Early intervention is vital to be able to produce changes at the brain level with a long-life impact. Moreover, this can prevent or reverse the delay and dramatically reduce the negative consequences on the child's academic and social success, as well as their overall development.

**Conclusions:**

Working with children with speech and language impairments needs to be carried out, therefore, both within public schooling and outside of it, through activities like this project which fosters specific resources.

**Keywords:** speech, language and communication delay, early intervention, language development, prerequisites of reading and writing, assessment tools, public schooling

## **26.5 A WALK THROUGH THE SLT'S RECENT HISTORY: THE NARRATIVE OF JOIS STANSFIELD AND MONTSERRAT VALLS**

*Dr. Lidia Rodríguez García<sup>1</sup>, Ms. Elena Gutiérrez García<sup>1</sup>*  
<sup>1</sup> University Of Castilla-la Mancha, Spain

### **Background**

This paper emerges from the European NETques Project (CPLOL, 2013) collaboration on the history of discipline and profession in Europe (Patterson et al, 2016; Trinite and Stansfield, 2016). There is still a lack of research about women made by women from a biographical-narrative perspective (Moriña, 2017). This work is based on recovering two women's first-person narratives, inspired by the one started in the UK (Stansfield, 2017).

### **Aim / Objectives**

This work aims to recover the recent historical memory of Speech Therapy in Spain and the UK through the hands of two women who have dedicated their lives to the profession, based on their first-person narratives.

### **Method**

Based on semi-structured open interviews, narratives bring us closer to the personal, academic, and professional life stories.

Participants, Monserrat Valls (94 years old) and Jois Stansfield (always young) are two senior SLT women who have contributed to the development of the discipline throughout Spain and the UK. They were interviewed individually and in a shared session. Data collected have been treated through thematic network analysis.

### **Results**

Crossed biographies identify their challenges. Participants seem to agree that their personal, social, and emotional networking has been crucial to strengthening the professional development of the discipline.

### **Conclusions / take-home message**

Listening to the voices of our pioneering women is a valuable contribution to understanding the history of Speech Therapy in Europe. Looking back to the past from a gender perspective (in a discipline predominantly made by women) could be a way to consolidate the scientific identity of future SLTs.

A walk through recent SLT History/Herstory is not complete without the voices of these two fascinating women to whom we have so much to be thankful for.

### **Keywords**

Oral history, Personal narratives, Speech and Language Therapy, professional issues.



## 26.6 IMPACT OF BREASTFEEDING INTERVENTION IN THE REDUCTION OF PEDIATRIC MORTALITY AND NUTRITION OUTCOMES WITH MIGRANT WOMEN– A PILOT STUDY

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<sup>2</sup> School of Health Sciences (ESSUA), University of Aveiro

**Background:** In the realm of global health, the World Health Organization emphasizes the importance of promoting breastfeeding, particularly within humanitarian contexts, as it holds the potential to enhance the health outcomes of both mothers and children. However, the existing body of evidence is limited by a scarcity of high-quality studies and inherent methodological constraints.

**Aims/Objectives:** This study unfolds in two distinct phases: i) a preliminary single-group pre-post pilot study; and ii) a randomized controlled trial. Serving as the initial phase of a broader project, this pilot study aims to assess the effectiveness of a breastfeeding intervention in humanitarian contexts.

**Methods:** A cohort of migrant women (n = 15) received a supervised intervention by a Speech and Language Therapist that encompassed prenatal education, postpartum lactation support, and peer support. Rigorous data collection employed various instruments, including a sociodemographic questionnaire and the "Mother's Breastfeeding Knowledge, Attitude, and Practices" questionnaire, before and after the intervention. The study also employed the "Neonatal Oral-Motor Assessment Scale" to analyze infant oral-motor patterns. To assess breastfeeding outcomes, the "Postpartum Quality of Life" questionnaire was administered in the first, third, and sixth months post-birth. Program acceptability was gauged through a post-intervention focus group interview.

**Results:** Preliminary findings shed light on the factors influencing breastfeeding behaviours among pregnant women with refugee, migrant, or asylum seeker status. The intervention showcased the potential to positively impact breastfeeding practices, emphasizing the need for tailored support for this population. This pilot study sets the stage for the main project implemented in Madrid, involving a randomized controlled study with a larger sample.

**Conclusion/take-home message:** The holistic assessment and tailored intervention approach contribute valuable insights into effective strategies for promoting and supporting breastfeeding. Ultimately, this work aims to enhance the quality of life of mothers and infants, with the potential to influence global breastfeeding practices.

PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## 27.1 FEASIBILITY OF VOICE RECORDING WITH DIFFERENT SMARTPHONE MODELS FOR ACOUSTIC ANALYSIS ON CHILDREN'S CONNECTED SPEECH

*Speech and Language Therapist, MSc Damlasu Yağcıoğlu<sup>1</sup>, Associate Professor Fatma Esen Aydınlı<sup>1</sup>, Speech and Language Therapist, MSc Elif Tunç Songur<sup>2</sup>, Speech and Language Therapist, MSc Buse Çetinkaya<sup>3</sup>, Speech and Language Therapist, MSc Sinem Şimşek<sup>2</sup>, Assistant Professor Önal İncebay<sup>1</sup>*

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**Background:** Technological advancements have sparked a growing interest in utilizing smartphones for acoustic analysis. Typically, research involve the adult population. However, children and adults have different anatomical and physiological mechanisms for voice production.

**Aim:** To investigate the use of smartphones for the acoustic voice analysis of healthy children's voice.

**Methods:** The study included 29 children (15 girls, 14 boys) aged 4–10 years (mean: 7.3±1.5) with healthy voices according to auditory-perceptual assessment. Voice recordings of counting 1 to 10 and reading a sentence were made with four devices (1-Micromic C520 headset microphone connected to a computer with Computerized Speech Lab [CSL], 2-Samsung S9 Plus, 3-Iphone 13 Mini, 4- Huawei Y9 Prime). Then, “Analysis of Dysphonia in Speech and Voice” and “Real Time Pitch” software were utilized to obtain cepstral-spectral measurements (cepstral peak prominence [CPP], CPP standard deviation [CPPSD], low-high [L/H] ratio, L/H ratio SD), and the fundamental frequency (F0) value. Pearson correlation analysis was used to examine the relationship between the recordings from all devices.

**Results:** The highest correlation was found for the CPPSD and F0 parameters, whereas the lowest correlation was observed for the L/H ratio, ranging from poor ( $p>0.05$ ,  $r:0.29$ ) to good ( $p<0.01$ ,  $r:0.79$ ). The F0 obtained from the headset, iPhone, Samsung, and Huawei demonstrated excellent correlation ( $p<0.01$ ,  $r>0.9$ ). The correlation between the headset, iPhone, and Samsung was excellent for CPPSD ( $p<0.01$ ,  $r>0.9$ ), although Huawei showed good to excellent correlation with the other devices ( $p<0.01$ ,  $r:0.81-0.9$ ). The correlation across the devices for CPP varied, ranging from fair ( $p<0.01$ ,  $r:0.62$ ) to excellent ( $p<0.01$ ,  $r:0.94$ ).

**Conclusions:** The study suggests that the included smartphone models can be used for analyzing the CPP, CPPSD, L/H ratio SD, and F0 values of children's voices. This study is the first to investigate the utilization of smartphones for acoustic voice analysis in the pediatric population.

PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## **27.2 NOVA-VOX METHOD: A NEW APPROACH TO TREATING VOCAL FOLD NODULES IN CHILDREN**

*MA Kamil Jaros*

The Maria Grzegorzewska University

### **Background**

Voice disorders in children (e.g.) organic dysphonia can negatively impact health and communication quality of life. It is estimated that the incidence of vocal fold nodules (VFN) in the pediatric population varies from 17% to 30%. NOVA-Vox introduces a new approach, emphasizing that "Not Only Voice Activity" is crucial during voice therapy for children.

### **Aim**

The aim of the study is to evaluate the NOVA-Vox method and test its effectiveness in reducing the level of VFN and improving voice quality in children. The hypothesis suggests that a properly selected approach to working with a group of children can heal organic voice disorders.

### **Methods**

The research procedure planned an experiment with one experimental group and one control group. In both groups, voice assessments were conducted twice (before and after therapy), using the GRBAS scale, acoustic analysis, and laryngeal imaging. Internal and external effects were estimated using ANOVA with repeated measures. Student's T-tests, Wilcoxon, and Mann-Whitney tests were used. McNemar's test for detecting changes was also performed.

### **Results**

The results of the project reveal a significant reduction in dysphonic symptoms and VFN. The outcomes have the potential to fill a significant gap in the area of voice therapy.

### **Conclusions**

The innovation of NOVA-Vox lies in combining voice training and stage fright coping through psycho-pedagogical activities, cognitive modification, and vocal exercises. NOVA-Vox is not only an effective method for children's voice treatment/development but also offers additional value by reducing stage fright before public speaking.

**Keywords:** voice disorders, voice therapy, voice assessment, NOVA-Vox method, vocal fold nodules

**PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION**

**27.3 IMMEDIATE THERAPEUTIC OUTCOMES FOLLOWING  
RESPIRATORY TRAINING AND VOICE THERAPY ON AN  
OCCUPATIONAL VOICE USER**

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**Background**

Formal respiratory muscle strength training (RMST) has shown some potential for individuals with voice problems, but it has not been utilized in therapy programs for occupational voice users (OVU).

**Aim / Objectives**

Here we present a case study who received a combination of conventional voice therapy (CVT) and formal RMST.

**Methods**

The participant is a 45-year-old male OVU (university professor) diagnosed with muscle tension dysphonia with a mild lesion on the left vocal cord. He completed a 14-week voice therapy. The first 8 weeks included CVT sessions only, while the remaining 6 weeks included CVT combined with RMST.

Therapy outcome measures included the following acoustic indices extracted from a vowel prolongation and a reading task: (a) duration of continuous /a/ (Ta) , (b) # of syllables per respiratory unit (SpR), (c) Intensity (I), (d) Fundamental frequency (F0). Visualisation of these metrics served as real-time feedback of results during therapy.

**Results**

Results from the CVT alone resulted in no significant change. Findings indicated that the combination of CVT and RMST resulted in clinically significant change in speech performance. An increase of almost 15dB in intensity compared to baseline was documented for the vowel prolongation task at 2 weeks following RMST+CVT condition. This result was preserved until almost the 6th week. However, changes in intensity during reading aloud were minimal (approximate increase of only 5 dB). Data on the acoustic metrics for the two tasks is presented in figures 1 and 2.

**Conclusions / take home message**

Overall, an RMST protocol combined with CVT appears to be effective for OVU patients, presumably by boosting the effects of CVT approach. However, further research is warranted to fine tune the RMST + CVT protocol and test its effectiveness.

PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## 27.4 NORMATIVE FINDINGS ON OBJECTIVE AND PERCEPTUAL VOICE MEASURES IN GERIATRICS: PRELIMINARY STUDY

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**Background:** Vocal symptoms due to physiological and anatomical variations that occur with aging are defined as presbyphonia. Studies employing aerodynamic, acoustic, and subjective methodologies are required to investigate voice changes in the geriatric population and their consequences on individuals in Turkey.

**Aim/Objectives:** This study aimed to present preliminary normative findings on the results of objective analyses and the comparison and correlation findings of objective and subjective parameters between age groups in geriatric individuals.

**Methods:** After examining medical documents, 72 participants from early (65-74), middle (75-84), and later elderly groups ( $\geq 85$ ) who did not have a diagnosis related to neurological, psychiatric, or voice disorders were included. Participants were asked to perform prolonged phonation of /a/, /s/, and /z/ and to complete the Voice Handicap Index-10, the Vocal Fatigue Index, and the Voice-Related Quality of Life Questionnaire (V-RQOL).

**Results:** The mean /a/ phonation of the early, middle and later elderly groups were 16.60, 10.98, 7.51; s/z ratio were 1.03, 1.34, 1.22; female F0 202.18, 193.37, 229.12, male F0 150.4, 133.60, 145.17; SDF0 4.59, 9.77, 8.29; jitter 0.48, 0.69, 0.50; shimmer 2.64, 4.23, 3.42; HNR 22.38, 20.59, 20.72. The mean score of the early elderly was found to be significantly higher than the later elderly ( $p < 0.05$ ). There was a negative and strong correlation between the age variable and /a/ phonation, a negative and moderate correlation between V-RQOL, and a positive and weak correlation between SDF0.

**Conclusions:** The differences in the mean acoustic and perceptual voice parameters between age groups are thought to substantially reflect the characteristics of the presbylarynx with different acoustic variables at various periods. In addition, maximum phonation time, with changes in SDF0 overall stability control of vocal fold vibration, and voice-related quality of life decreased with ageing.

**Keywords:** Geriatrics, acoustic analysis, aerodynamic measurement, quality of life

PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## 27.5 SHORT-TERM EFFECTS OF HORMONE REPLACEMENT THERAPY ON PERCEPTUAL AND ACOUSTIC VOICE QUALITY IN TRANSMASCULINE PEOPLE

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**Background:** There are studies in the literature examining the effect of HRT on the voice of trans men. Still, there are differences in follow-up intervals and voice evaluation methods used.

**Aim/Objectives:** We aimed to investigate the short-term effects of HRT on perceptual and acoustic voice changes in TM individuals.

**Methods:** Ten TM individuals participated in the study. Perceptual and acoustic voice assessments were made before HRT and at the 4th dose of the treatment. The self-perception of voice masculinity scale (SPVM) -Likert scale; 1:very female, 5:very male- was used to assess voice gender self-perception. Voice samples (sustained vowel and reading) were recorded using the KAY-PENTAX CSL Model 4500 instrument.

Fundamental frequency values (F0) of sustained vowels and reading samples were analyzed. Jitter percentage (jitter), shimmer percentage (shimmer), noise-to-harmonic ratio (NHR), and cepstral peak prominence (CPP) parameters were gathered from records. The Wilcoxon test was used to compare the perceptual and acoustic parameters before and at the 4th dose of HRT.

**Results:** A significant decrease in the F0 value at the reading and sustained vowel samples were detected ( $p=0.005$ ). Except for the jitter value, we found a significant increase in all voice perturbation variables and CPP (all  $p<0.05$ ). After the fourth dose of HRT, the SPVM scale median score increased from 2 (1.75-3 IQR) to 4 (3.75-5 IQR) ( $p<0.05$ ).

**Conclusions/Take Home Message:** The SPVM and F0 values at the fourth dose revealed the short-term positive effect of HRT on acoustic and perceptual voice characteristics on TM individuals.

voices. Previous research reported that TM individuals continued to be misgendered after HRT, but in our study, participants reported their voices as more masculine after the fourth dose of HRT. Future studies involving routine voice assessments using both acoustic and perceptual methods within larger samples may be able to determine HRT's effects on TM individuals' voice quality

Keywords: Transgender Persons, Voice, Speech Acoustics,



**PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION**

**27.6 INFLUENCE OF THE MENSTRUAL CYCLE ON VOICE  
PERFORMANCE IN SUBJECTS WITH VOICE DISORDERS – A  
MULTIPLE SINGLE-CASE STUDY**

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**Objective:** This pilot study investigates the impact of menstrual cycle-related hormonal fluctuations on the voices of women with muscle tension dysphonia (MTD). Previous research has explored the influence of the menstrual cycle on vocal performance in women without voice disorders. Vocal performance, such as producing loud and high-pitched sounds, is believed to peak during the ovulatory phase and decline during the premenstrual phase. Hence, there is a gap in understanding these effects in women with dysphonia.

Three female subjects with MTD participated in the study.

**Methods:** Using the computer-assisted program lingWAVES, vocal performance parameters were analysed, including voice range profile, speaking voice during reading, and maximum phonation time. Additionally, a questionnaire assessed self-perception during both ovulatory and premenstrual phases. Statistical tests, including the Wilcoxon sign-rank test and point biserial correlation analysis, were conducted due to repeated measurements. These tests analysed significant differences and correlations between vocal parameters and menstrual cycle phases.

**Results:** Results revealed a significant reduction in the lowest frequency and intensity in the voice range profile from ovulatory to premenstrual phases. Two subjects also exhibited decreases in the highest frequency and intensity. However, no significant differences were found in maximum phonation time, pitch, and self-perception. Correlations were found between the cycle phase and frequencies in the voice range profile, as well as the lowest intensity in all participants. Additionally, in two subjects, the highest intensity correlated with the cycle phase.

**Conclusion:** In conclusion, this pilot study provides initial evidence of cycle-related voice changes in German-speaking women with MTD. Impairments in loudness and pitch production were evident during the premenstrual phase, with the voice range profile identified as a suitable tool for mapping these changes. Further studies with larger sample sizes are necessary to validate and build upon these findings.

**Keywords:** menstrual cycle, muscle tension dysphonia, voice changes



PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## 27.7 UNCOVERING CHILDREN'S PORTUGUESE LANGUAGE DEVELOPMENT: INSIGHTS FROM "EU É QUE SEI!"

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This study explores grammatical structures and discursive patterns within the spontaneous speech of Portuguese children, in the podcast “Eu é que sei!” (I know best!), issued by a national radio. For the analysis, we selected 14 of the online free-available podcasts, lasting less than 3 minutes. These recordings present interesting/rich data, given the wide scope of topics addressed, the spontaneity of the interaction, and the distinct children’s “developmental profiles”.

The analysis was preceded by two steps: an orthographic transcription of the audio files and an initial identification of ungrammatical utterances. The result is a set of 45 ungrammatical utterances, 38 of them presented only one type of deviation and 8 with 2 types of deviation.

Taking from current issues on the acquisition of the syntax of European Portuguese, as well as experimental studies results concerning the grammar of Brazilian Portuguese, and ongoing changes, the analysis seeks to identify patterns of nonstandard language use and evaluate their impact on communication, a crucial step in understanding the language proficiency exhibited by children.

Results show that most deviations are syntactical (53%), followed by the use of the collocation “por causa que” (i.e. because of that) (20%), and the remaining concern semantic, morphological, or phonological knowledge. The syntactical deviations include deviations in regency (33%) and in agreement (25%), and lack of constituent (25%). Each of the deviations is analysed in deeper detail, considering the various types of grammatical knowledge involved and raising explanatory hypotheses. This exploration enables a nuanced understanding of how sentence complexity contributes to the overall richness and expressiveness of language, syntactic diversity, and its implications for effective communication.

PARALLEL SESSION 27 - VOICE DISORDERS AND PREVENTION

## 27.8 VOICE QUALITY AND VOICE-RELATED QUALITY OF LIFE OF CHILDREN CHOIR SINGERS

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**Objectives.** The purpose of this study was to examine the voice quality and voice-related quality of life of children choir singers, an understudied population despite the disjunction between the demanding vocal requirements and limited vocal education. Current research within this population primarily focuses on some objective parameters, often neglecting perceptual parameters and patient-reported outcome measures (PROMs). Additionally, insufficient attention is paid to the well-being.

**Methods.** Forty-five children (mean age: 13 years, range 8-17 years) involved in choir singing were included. A multidimensional voice assessment was performed, including PROMs, instrumental and auditory-perceptual outcomes. Dysphonia Severity Index (DSI), Acoustic Voice Quality Index (AVQI), fundamental frequency (fo), Grade (assessed using GRBASI) and PROMs were selected as primary outcomes for the analysis. The PROMs contained the KIDSCREEN-10 and Children's Voice Handicap Index-10 (CVHI-10).

**Results.** The instrumental analysis revealed a mean DSI of 6.4 (range: 0.9-9.7), indicating excellent voice capacities. In terms of acoustic voice quality, the mean AVQI score was 3.1 (range: 1.7-5.0), corresponding to mild dysphonia. The mean Grade score was 0.4 (range: 0-2) corresponding with a normal to mildly deviant voice quality. PROMs indicated that the majority of the subjects reported an average (84.4%) to high (6.7%) health-related quality of life and minimal impact on well-being. They reported some voice difficulties with a mean CVHI-10 score of 3.4 (range: 0-15) just below the cutoff score (3.5). Furthermore, 51.1% of the children reported frequent occurrence of voice complaints after a vocal performance on a questionnaire designed to gather voice-related data.

**Conclusion.** While choir singing appears to contribute to the development of excellent vocal capacities, the overall acoustic voice quality indicates a mild dysphonia in the children's voices. Despite the children's generally good health, half of them reported voice complaints after performances, underscoring the importance of further investigation into children's understanding of their vocal habits.

## 28.1 THE BRIEF EVALUATION OF RECEPTIVE APHASIA (BERA) TOOL TO ASSESS LANGUAGE COMPREHENSION IN POST-COMATOSE PATIENTS

*PhD Charlène Aubinet<sup>1</sup>, Ms Amandine Regnier<sup>1</sup>, Ms Pauline Fritz<sup>1</sup>, Ms Marion Pauls<sup>1</sup>, Mr Paolo Cardone<sup>1</sup>, Pr Olivia Gosseries<sup>1</sup>, Pr Steve Majerus<sup>1</sup>*  
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The Brief Evaluation of Receptive Aphasia (BERA) is a new tool to assess receptive phonological, semantic and morphosyntactic abilities in patients with severe brain damage, based on visual fixation of a target image next to a specific distractor. We here aim to provide validation data regarding the administration of the BERA in post-comatose patients with preserved visual functions. The BERA and Simplified Evaluation of CONsciousness Disorders (SECONDS) were administered to 25 patients (17 in minimally conscious state and 8 emerging from the minimally conscious state) on two consecutive days, by two blinded raters, to determine the validity and reliability of the BERA. Two versions of BERA with different items were administered. We calculated Spearman and intra-class correlations to define validity and reliability. Very strong and strong correlations were found between versions 1 and 2 of the BERA (internal validity:  $\rho=0.83$ ;  $p<0.001$ ) and between BERA scores and a language score extracted from the SECONDS assessment (concurrent validity:  $\rho=0.65$ ;  $p<0.001$ ). Good intra- and interrater reliabilities were also observed (respectively:  $\rho=0.67$ ;  $p<0.001$ , and ICC=0.97). These data suggest that the BERA may complement the SECONDS for assessing language impairments and diagnosing consciousness disorders. The BERA scores may also indicate selective receptive difficulties for phonological, semantic and morphosyntactic abilities, which would help to orient speech-language therapies.

## 28.2 STORYTELLING AS AN EDUCATIONAL TOOL FOR SPEECH AND LANGUAGE THERAPY STUDENTS

*Drs. Rianne Brinkman<sup>1,2,3</sup>, MA Alissa Nikkels<sup>3</sup>, Dr Karin Neijenhuis<sup>3</sup>, Dr Margreet Luinge<sup>1</sup>*

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### Background

Storytelling can be used as a form of education to support professional identity formation of Speech and Language Therapy (SLT) students. Simultaneously, education can consist of learning skills to adequately apply storytelling in contact with clients.

Thus, positive contributions can be made to well-being of clients, but also to professional identity formation of students. Furthermore, by fostering a culture where the power of stories is recognized, a ripple effect is anticipated, influencing broader healthcare practices. Currently, within the field of speech therapy education, there is notable absence of emphasis on storytelling.

### Aim

Positioning storytelling as part of the SLT curriculum, with potential positive impact on both individual growth of students and clients and the humanization of health care.

### Methods

A multimethod qualitative research design was employed, triangulating interview data with data from student portfolios and the Communication Confidence Rating Scale for Aphasia (CCRSA). Participants were 15 SLT students from Hanze and Rotterdam University of Applied Sciences and 10 people with aphasia who participated in the 'My Story' project, an approach combining skills in storytelling with hands-on application in contact with people with aphasia. After completion of the project, semi-structured interviews were conducted with students and people with aphasia, using photo-elicitation techniques. Also, student portfolios and the CCRSA were analyzed.

### Results

Findings show diverse impact of storytelling, benefiting both clients and students. Clients experience improved well-being, emotional support, understanding and empowerment. Students experience enhanced clinical skills regarding communication, holistic patient care, empathy, and understanding of clients.

Moreover, they experience professional identity formation through increased creativity, meaningful reflection, ethical learning, and building relationships with both clients and peers.

### Conclusions

The study underscores the significance of integrating storytelling into SLT education, emphasizing its transformative potential in shaping educational experiences and fostering humanistic practices in healthcare.

### Keywords

Storytelling, Education, Aphasia, Well-being, Professional Identity

### 28.3 COPING OPTIONS OF ADULTS WHO HAVE SUFFERED A STROKE AND THEIR RELATIVES IN CONNECTION WITH ACQUIRED DISORDERS

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Based on previous surveys, we hypothesized that the existence of a mutually understanding attitude between a patient who has suffered a stroke and his relative can be a basic condition for successful communication, and can also be a supportive tool in maintaining the results of language therapy and confirming its success. Starting from the model of Ahlsen and Saldert (2018) and based on our own experience, we can say that this may often require the supportee to rethink the relative's communication strategies in the light of the changed life situation, while the patients themselves are struggling with their own changed life situation.

Although the guidelines (2022 EuK No. 6 EMMI No. 126. current health professional directive) are now formulated to treat the relative both as a helper and as a co-therapist, it is a question how sufficiently informed and prepared they feel for this in Hungary. My aim was to find answers to these questions with the help of an online questionnaire (<https://kerdoivem.hu/kerdoiv/1058434651/>).

115 persons join this survey voluntarily. Data was evaluated using quantitative and qualitative methods.

Results would be presented following the specific research questions of the study:

1. What problems does the stroke survivor's relative have to deal with while caring for the patient?
2. Do they receive adequate information to perform the tasks?
3. What proportion of acquired speech and language disorders appear among patients?
4. How do the possible treatments of acquired speech and language disorders mentioned among the answers of the respondents?
5. What other changes did the altered state cause in the patient quality of life?
6. How can a relative manage or cope with these changes?

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## **28.4 THE SLT ROLE IN SUPPORTING DECISION-MAKING FOR PEOPLE WITH APHASIA - AN INTERNATIONAL SURVEY**

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### **Background**

Participation in everyday and healthcare decision-making is associated with superior quality of life and health outcomes. People with communication disabilities, such as aphasia, require support to understand, communicate and think about decisions and demonstrate their decision-making capacity. The role that speech and language therapists (SLTs) can play in providing support depends on local legal, organizational, and practice frameworks. This study addresses a current international evidence gap relating to if, and how, SLTs provide decision-making support to people with aphasia in different countries/states.

### **Aim / objectives**

To describe current SLT practice in relation to the provision of support for people with aphasia during decision-making conversations and decision-making capacity assessments within international legal and practice frameworks.

## Methods

A convenience sampling strategy will be used to recruit SLTs working with people with aphasia across the world. Participants will be asked to complete a descriptive, cross-sectional mixed methods electronic survey designed using Qualtrics XM software, according to the 'Checklist for Reporting Results of Internet E-Surveys (CHERRIES)'. The survey will include open and closed questions designed to generate data relating to participant demographics and supported decision-making practice. The survey will be available in different languages to increase accessibility and response rate. Quantitative survey data will be analysed using descriptive statistics. Qualitative data will be analysed using qualitative content analysis.

## Results

Data collection and analysis will be completed by August 2024. Findings will be summarised and illustrated with quotations from the data.

## Conclusions / take home message

This is the first study to investigate international SLT practices in relation to decision-making support for people with aphasia. This new evidence will assist in the development of intervention studies that will aim to improve the delivery of effective support for people with aphasia.

## Key words

Aphasia, communication, decision-making, equity, human rights, mental capacity, speech and language therapy.



## 28.5 ENABLING EFFECTIVE COMMUNICATION BETWEEN PEOPLE WITH STROKE ACQUIRED COMMUNICATION IMPAIRMENTS AND FUTURE FRONT LINE STAFF

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**Background:** Health services are challenging environments for people with stroke acquired communication impairments as staff are ill equipped to manage their communication needs. Communication breakdown evokes negative emotions for all interlocutors, promotes exclusion of patients in care related decision making and increase potential for preventable adverse events. As the incidence of stroke increases internationally, these experiences are set to become more prevalent. Communication partner training (CPT), an evidence based intervention, has the potential to reform practice.

However, implementing this programme in complex, fluid health services is challenging. Providing this training to student health and social care professionals (SH&SCPs) may circumvent challenges and enhance the clinical skills and experiences of our future front line staff and advance client centred care.

**Aims:** Conduct a realist review to enhance understanding of how CPT is operationalised for SH&SCPs in higher education institutions. Determine: what works; for whom; in what contexts; how and why?

**Methods:** A five step realist review incorporating an advisory panel of content advisors (n=3); realist advisors (n=3); PPI advisors (n=3); student advisors (n=4) and medical educationalist (n=1).

**Results:** A middle range programme theory hypothesising how CPT for SH&SCPs works in educational contexts. Commitment to inter-professional learning, prioritising the social model of disability, valuing the lived experience and providing people with stroke acquired communication impairments with opportunities for social participation have emerged as significant elements.

**Conclusion:** CP has the potential to reform health services struggling to support the communicative needs of stroke survivors. Employing a theoretical and explanatory realist review

to develop this training for SH&SCPs has the potential to enhance the clinical skills and experiences of future front line staff and the clinical care of their patients.

**Keywords:** Communication partner training; student health and social care professionals; stroke acquired communication impairments; realist review; middle range programme theory.

## 28.6 THE AWARENESS OF COMMUNICATION STRATEGIES AMONG CAREGIVERS OF ALZHEIMER'S DISEASE

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**Background:** Alzheimer's disease is the most common cause of dementia, an umbrella term for memory loss and other cognitive impairments severe enough to affect daily life. Primary caregivers are vital for individuals with Alzheimer's disease. Effective communication strategies play a key role in enhancing the quality of care. Varying levels of caregiver awareness across different countries highlight the need for comprehensive training and support systems. Understanding communication complexities is crucial for caregivers to meet the evolving needs of patients and create a supportive environment (Small et al., 2003).

**Aim:** The study examines the level of awareness of communication strategies among the caregivers for people with Alzheimer's disease.

**Methods:** In this study, the participants were asked about their usage of their communication strategies and how they communicate with their patients with AD. As for the pilot data, 6 caregivers ranging between 44 to 80 years (mean of age= 57 ) answered our questions.

**Results:** when the collected data were investigated, 67% of individuals received training or information on communication strategies for Alzheimer's patients, while 33% did not receive any training or information. According to the preliminary findings, the most preferred methods by caregivers are being patient and giving time, followed by making eye contact. This is a pilot study of an ongoing research.

**Conclusions / take home message:** The preliminary findings highlight the need for more research and extensive Alzheimer's caregiver education. The study found that most caregivers have received communication strategy training, but a significant percentage have not. This emphasizes the need for inclusive support and education for Alzheimer's caregivers of all ages.

## 28.7 EXPLORING THE POTENTIAL OF COMPUTERIZED PSYCHOLINGUISTIC INVESTIGATIONS IN THE DIFFERENTIAL DIAGNOSIS OF MDD AND MCI

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Mental health (MH) currently stands as a focus in research and a public health concern. MH initiatives are directed toward population well-being, placing significant emphasis on supporting mental health alongside physical or biological health. Among MH conditions, depression emerges as the most prevalent diagnosis.

According to World Health Organization (WHO), approximately 3.8% of the global population struggles with depression. This condition not only ranks as the leading cause of disability worldwide but also substantially contributes to the overall burden on global healthcare systems.

Mild cognitive impairment (MCI) can be a transient symptom within depression or manifest independently as a precursor to dementia. Symptoms such as diminished concentration, memory impairment, and declines in executive, attentional, cognitive, and linguistic functions are observable in both depression and mild cognitive impairment.

**Aim:** The present research aims to evaluate the cognitive differences between MDD (major depressive disorder) and MCI (mild cognitive impairment), measured objectively, quantitatively, and qualitatively through language.

**Methods:** Language samples were collected from 54 patients with clinical depression and 32 patients with MCI. Tests such as DASS- 21, MADRS and MMSE-2 were used to assess clinical and cognitive status. RO-LIWC 2015 - Linguistic Inquiry and Word Count, a computerized software application specialized in psycholinguistic analysis, was used to assess and identify the differences in language patterns.

**Results:** There are specific patterns in language displayed by the group with MDD compared with MCI. The differences are in the affect category - semantic emotional words, positive and negative, with higher scores for MDD in negative affect words. Other differences are time orientation, drives, and cognitive&biological processes categories.

Conclusion: The new approach of natural language processing software is considered a sensitive and valid means by which language markers, and implicit cognitive function, in different clinical groups, could be assessed.

Key words: MDD, MCI, NLP

## 28.8 ESTABLISHING NORM-REFERENCING FOR THE SWEDISH VERSION OF THE COMPREHENSIVE APHASIA TEST

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**Introduction:** Aphasia is an acquired language disorder caused by damage in parts of the brain responsible for language. Comprehensive Aphasia Test is a clinical assessment which contains a cognitive screening, a language battery as well as a disability questionnaire. This assessment has been translated and adapted to different languages. Given the importance of providing normative data in the field of aphasia, this study aims to establish norm-referencing for the Swedish version of the Comprehensive Aphasia Test. The current study will be beneficial for clinicians and researchers using the CAT in their work with patients with aphasia by providing a clear measurement and appropriate interpretation of the test results.

**Methods:** This is a cross-sectional study. Participants were recruited from Lund Stroke Register (LSR) in Skåne University Hospital Lund (SUHL) in Sweden: (a) 54 patients with aphasia after stroke, (b) 21 patients with stroke without aphasia and (c) 100 controls who had not had stroke. To establish norm-referencing, means, standard deviation and Z- scores were calculated.

**Results:** The total score of patients with aphasia was lower than the control group and patients with stroke without aphasia and the difference between the groups was statistically significant in almost all categories of the Comprehensive Aphasia Test.

**Conclusion:** With these normative data, the usability of the Comprehensive Aphasia Test is further improved as it will allow for more accurate interpretation of test results for clinicians. This is important for the population of Sweden as it will lead to improved clinical decision making and better care for patients with aphasia.

**Keywords:** Aphasia, Comprehensive Aphasia Test, language, normative data, speech therapy



# 12<sup>TH</sup> ESLA CONGRESS

## OF SPEECH AND LANGUAGE THERAPY

26<sup>th</sup> - 28<sup>th</sup> SEPTEMBER 2024 ————— BRUGES

The Power of Communication in the Quality of Life

# POSTER SESSION



## **P1. INTERACTIVE READING SUPPORTED BY AUGMENTATIVE AND ALTERNATIVE COMMUNICATION IN AUTISM SPECTRUM DISORDER**

*Speech And Language Therapist Angélique Spyropoulos<sup>1</sup>, Speech And Language Therapist Annabelle Piron<sup>1</sup>, Ph. D. Nathalie Thomas<sup>1</sup>, Speech And Language Therapist Pascale Grevesse<sup>1</sup>*  
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The effectiveness of interactive reading on the development of vocabulary and emergent literacy skills is demonstrated. Nevertheless, we currently have little data concerning the benefits of such practice with children with autism spectrum disorder (ASD) and complex communication needs (CCN). Yet we know that learning vocabulary and emergent literacy, and later basic written language skills, could enable them to improve their quality of life.

Our research evaluates the effectiveness of adapting the “Tell me program – AAC in the preschool classroom”. The participants were 14 children with ASD, aged between 6 and 16, from three specialized schools and divided into four groups. They took part in interactive reading activities supported by augmentative and alternative communication (AAC) for five consecutive weeks. In each group, these activities were led by the class teacher or one of the school’s speech and language therapists. Each participant was assessed before and after the intervention. The one-to-one assessment consisted of five naming tests (basic and specific vocabulary, emotions vocabulary, letters, written conventions) and one phonological awareness test (syllabic segmentation). Most of the tests were presented on a computer screen. The results show a significant effect of the intervention on skills related to writing conventions and phonological awareness, but not on vocabulary, letters and emotions. However, these results should be interpreted with caution due to the small sample size and the lack of teaching of some targets during the intervention. Future research is still necessary, as the limitations encountered in our study open the door to new perspectives. For example, the assessment and intervention should be better adapted to the needs of ASD children (individualized) and the training of the professionals should be strengthened.

**Keywords:** interactive reading, augmentative and alternative communication, autism spectrum disorder, complex communication needs, emergent literacy, vocabulary



## **P2. CHILD-HEALTH NURSES' EXPERIENCES FROM USING PICTORIAL SUPPORT WITH FAMILIES WITHIN CHILD-HEALTH SERVICES IN SWEDEN – A QUALITATIVE STUDY**

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**Background:** Pictorial support can be used to strengthen inter-personal communication, for example to ensure that children receive information suitable for their level of maturity and feel more at ease during medical procedures. Although pictorial support has been used for many years within Swedish health care, there are very few studies examining its value within child-health services.

**Aim:** To gain insight into child-health nurses' experiences from and perceptions of using pictorial support with children and caregivers at health visits within child health-care services.

**Methods:** A qualitative study involving interviews conducted with 17 child-health nurses in Sweden. The interview data were analysed using content analysis.

**Results:** The nurses experienced pictorial support as a significant tool facilitating communication and interaction with families and enhancing opportunities for children to participate. This theme can be broken down into three main categories: (1) Pictorial support makes interaction with families clearer and easier, but is used in different ways; (2) The design and extensiveness of the pictorial support can create obstacles; and (3) Pictorial support influences children's attitudes towards, and participation in, health visits.

**Conclusion:** Pictorial support is an important and useful tool in child-health nurses' own work and improves their communication with children and caregivers during health visits. It can also increase children's participation and help them express themselves. Communicative tools such as pictorial support are very helpful to health-care professionals striving to offer child- and family-centred care.

**Key words:** child health, communication, family-centred care, paediatric nurse, visual support

### **P3. EVALUATING EFFECTIVENESS OF A SUPPORT PROGRAM ABOUT AAC ON TEACHERS' PROFESSIONAL SENSE OF COMPETENCE**

*Sandrine Leroy, Professor Chriselle Maillart*

<sup>1</sup> University Of Liège

Communication partners play an essential role in setting up augmentative and alternative communication (AAC) system in children with complex communication needs. Therefore, training and support for communication partners is now part of the implementation of an AAC system (Kent-Walsh et al., 2015 ; Leonet et al., 2022). However, data on how to support them effectively is lacking. Teachers are essential communication partners. In this study, a teacher support program was designed to help teachers who daily work with children with autism spectrum disorder (ASD) in the implementation of AAC devices. This program aims to make teachers more competent in their role as communication partners (increased professional sense of competence) which will have positive consequence on their use of AAC devices.

Six individuals sessions were offered to 6 teachers working in a special education school. During these sessions three objectives were conducted : 1) Creation of communication boards ; 2) technical gestion of AAC devices ; 3) quality of aided language stimulation. These aspects were worked using 4 major learning functions (Haring Biel et al., 2020): information sharing, modeling, guided practice and feedback. Professional sense of competence was measured before and after the support program by means of questionnaires . Furthermore, semi-structured interviews were offered to participants at the end of the study to elucidate the dynamics, benefits and challenges encountered during the different sessions, which would influence the professional sense of competence.

Results will be discussed. We hypothesize that this support program will strengthen teachers' professional sense of competence, which would promote daily use of an AAC system with all the children of their class.

This study provides perspectives on the creation of future professional support programs. However, it is necessary to consolidate these results by considering the limitations inherent to this study.

## **P4. ADOLESCENTS' ATTITUDES IN GREECE OF CLASSROOM INCLUSION OF PEERS USING AUGMENTATIVE AND ALTERNATIVE COMMUNICATION**

*Ms. Ioanna Dedousi, Ms. Maria Opsimou, Professor Voula Georgopoulos<sup>1</sup>*  
<sup>1</sup> University Of Patras

**Background:** Adolescents' understanding and attitudes toward Alternative and Augmentative Communication (AAC) are pivotal for nurturing inclusive educational environments.

**Aim:** This study aims to evaluate Greek adolescents' comprehension of AAC, their perceptions of AAC users in classrooms, and the factors influencing these attitudes, such as gender and age.

**Methods:** Quantitative methods were employed, utilizing a self-administered Google Forms questionnaire with 21 questions. A total of 211 adolescents (133 females) aged 12 to 18 attending middle school and high school in Greece, participated.

The questionnaire, designed to comprehensively assess participants' understanding of AAC and attitudes toward AAC users, began with links to two brief videos (<4 minutes). One introduced AAC, and the other highlighted its integration into school environments, addressing the limited familiarity of AAC in mainstream Greek schools.

In addition to demographic data, the questionnaire evaluated participants' AAC knowledge before and after viewing the videos. Questions covered AAC aspects, including its users, content, capabilities, and how participants would explain AAC to others.

Furthermore, participants' attitudes toward integrating adolescent AAC users into their classrooms were explored. This encompassed their behavior, emotions toward AAC users, opinions on suitable school types, and identified benefits of inclusion.

**Results:** Of the participants, 82.9% lacked prior AAC knowledge, while 17.1% were familiar with it. Positive attitudes toward AAC were significantly associated with participation in AAC-inclusive classrooms, notably influenced by sex and age. Females exhibited greater acceptance and support toward individuals with disabilities, and high school students demonstrated more openness to inclusion than middle school students. Additionally, although 6.2% of respondents knew someone using AAC, it was not a classmate.

**Conclusions:** This study emphasizes the need for ongoing education and improvement in adolescents' understanding of AAC as well as inclusion of individuals using AAC in mainstream classrooms.

**Key Words:** adolescents, classroom, Alternative and Augmentative Communication, attitudes, inclusion

## **P5. EXPLORING THE UTILITY OF AUGMENTATIVE ALTERNATIVE COMMUNICATION IN HOSPITAL SETTINGS: CLINICAL STAFF'S PERSPECTIVES IN GREECE**

*Ms. Nikoleta Ntagka<sup>1</sup>, Professor Serafim Nanas<sup>1</sup>, Professor Ioannis Vasileiadis<sup>1</sup>, Professor Voula Georgopoulos<sup>2</sup>*

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**Background:** Communication's crucial role in healthcare is undisputed, but the use and perception of Augmentative Alternative Communication (AAC) systems by clinical staff, particularly in Greece, remains largely unexplored. This understanding is vital for enhancing patient care.

**Aim:** The study aims to examine the perceptions and attitudes of medical and clinical staff in Greek hospitals regarding the use and usefulness of AAC.

**Methods:** A 20-question survey was created using Google Forms and completed by 60 healthcare professionals, including 25 nurses and 20 MDs, across several Greek hospitals and 10 ICU units. The survey collected demographic details and assessed attitudes towards AAC in clinical practice, focusing on understanding the level of AAC knowledge and perceived implementation needs in healthcare.

**Results:** A significant 92% of participants had little to no knowledge of AAC systems, with only 8% possessing sufficient knowledge. There was no significant correlation between knowledge levels and factors like age, academic level, or years of experience. Despite this knowledge gap, all respondents recognized the potential benefits of AAC in hospitals. Remarkably, 93% indicated a preference for having specialized personnel to manage communication disorders, although only 20% of the clinics had such resources, and merely 2 had requested SLT AAC services. All participants agreed that the implementation of AAC systems would significantly enhance the quality of medical care and improve the quality of life for patients.

**Conclusion:** The findings highlight a need for more training and education in AAC for healthcare professionals, mirroring trends in other countries. Current reliance on traditional communication methods could be augmented with AAC integration, benefiting healthcare quality and patient well-being. The study advocates for a comprehensive approach to include AAC services and specialized personnel in hospital practice, reflecting the critical role of AAC in modern healthcare.

**Keywords:** Augmentative Alternative Communication, Clinical Staff, Healthcare communication, Quality of Life

## P6. B-VI: AN APP FOR THE RECOGNITION OF WORD INTELLIGIBILITY IN PRESCHOOLER

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### Background.

An application for the recognition of word intelligibility has been developed and was employed in the current pilot study for an initial calibration phase. Intelligibility significantly affects communicative effectiveness, with repercussions on social participation and quality of life of patients with speech disorders. In clinical practice, its measurement is crucial for assessing, drafting a personalized treatment plan, and monitoring the rehabilitative journey as an outcome measure. Currently there are not objective validated tools in assessing language intelligibility within the Italian context.

### Objectives.

The aim of the study is to verify the efficacy of the Application in the task of recognizing word intelligibility. Moreover, our project represents the first attempt to draft a standardization of the App's usage procedures. This Application is designed to improve the evaluative process of intelligibility, aiming to make it more objective, rapid, and precise through the use of automatic speech recognition (ASR).

### Methods.

This pilot study involves a data collection phase with typically developing children aged 4 to 6.11 years, to standardize and verify the functioning of the developed Application. The sample of children was recruited from 14 Kindergartens that responded to the project participation invitation, over a period from September 2023 to the end of the school year (June 2024). Seven research collaborators collected data across Italy.

### Results.<sup>[1]</sup><sub>SEP</sub>

252 children have joined the research project. Datas collected are still being processed in a double-blind study (comparison between manual scoring and scoring with app).

### Conclusions.

This study represents an initial attempt to explore the accuracy and feasibility of an evaluative process of word intelligibility and consistency using an Application that employs ASR technology. The data, currently being analyzed, indicate the promising capabilities of this objective assessment tool that require further confirmation.

**KEY WORDS:** Intelligibility AND Assessment OR Evaluation AND Automatic Speech Recognition OR ASR.

## **P7. A SELF-REPORTING EXPERT SYSTEM BASED SCREENING TOOL FOR SPEECH AND LANGUAGE PATHOLOGY ISSUES IN INDIVIDUALS WITH POST COVID SYNDROME**

*Manila Tola<sup>1</sup>, Voula C. Georgopoulos<sup>1</sup>*

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**Background:** Although the scientific understanding of the effects of post Covid syndrome have been improved, there is still a need to map the range of covid effects in areas where the literature is thus far limited, such as the field of speech language pathology.

**Aim:** This research aims to identify the persistent symptoms that affect the functioning of survivors of COVID-19 in their daily life in the areas of communication, feeding and voice. At the same time this research aims to create a fast and effective self-assessment screening expert system for the detection of symptoms that relates to speech and language pathology issues.

**Methods:** An informal systematic review was conducted. Google scholar, EMBASE, MEDLINE databases were searched up to August 2022. The methodological quality of the studies was assessed using STROBE checklist, PICO, and weighted average of the population.

**Results:** 19 studies, meeting the validity and reliability criteria, encompassing a total of 99,226 individuals were analyzed. Thirteen of the nineteen studies were designed as cohorts and the rest were cross-sectional. The most frequent persisting symptoms (> 3 months) related to speech pathology were dyspnea, brain fog, memory problems, attention deficits, communication disorders, swallowing/feeding disorders, abnormal saliva, and voice disorders. The data was used to create rules for the expert system. MATLAB was used to apply the algorithm which, once piloted using the case studies, confirmed its effectiveness in detecting symptoms related to speech and language pathology difficulties.

**Conclusions:** This study highlights the risk factors and symptoms associated with speech and pathology disorders and illuminates the limited presence of speech therapists in interdisciplinary teams despite the association of symptoms with their field. Finally, it presents encouraging results of a pilot AI program and emphasizes the need for further research.

**Key Words:** Persisting Symptoms, Post Covid Syndrome, SLP, Expert System, AI

## **P8. EFFICACY OF THE CYCLES APPROACH ADAPTED TO TELEPRACTICE IN THE SPEECH SOUND DISORDER INTERVENTION**

*MSc. Daniela Aparecida Barbosa, Dr. Haydée Fiszbein Wertzner*

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Telepractice is a method of delivering speech therapy, which relies on several factors. It is important to obtain evidence of the efficacy of telepractice for children with speech sound disorders (SSD) and to gather caregivers' views about their collaboration in the intervention.

To evaluate the efficacy of the Cycles Approach Adapted to telepractice in treating SSD, and to assess caregivers' engagement and satisfaction with speech training conducted at home after all direct intervention sessions.

The study involved conducting several baseline assessments and two post-treatment evaluations using the Phonology test of the ABFW Child Language Test in the areas of Phonology, Vocabulary, Fluency, and Pragmatics (ABFW Phonology). The study analyzed the Percentage of Correct Consonants Revised (PCC-R) and the Process Density Index (PDI) while also calculating the Effect Size (ES). The intervention itself consisted of 12 telepractice sessions, held twice a week and lasting for 40 minutes each, along with 10 minutes allocated for caregiver guidance on digital training to be conducted at home. The caregiver was provided with single-player online games to train with the child and a digital form to score their home training using a 5-point Likert scale.

All five participants in the study showed improvement in the PCC-R and a reduction in PDI. The ES values for PPC-R ranged from 0.881 to 17.484 in the imitation test and from 0.707 to 20.626 in the picture-naming test. For the PDI, values ranged from 6.934 to 0.955 in the imitation test and from 21.022 to 0.707 in the picture-naming test.

Based on the interviews with caregivers, the home training received positive feedback, with an average rating of 4 out of 5 on the Likert Scale.

Telepractice using the Adapted Cycles Approach showed improved phonological performance in children, as well as reported speech improvement by their caregivers.



## P9. TELEHEALTH IN SLT EDUCATION

*Miss Melanie Trojan<sup>1</sup>, Mrs Verena Ulm-Ranftl<sup>1</sup>, Mrs Iga Ziarko-Freissler<sup>1</sup>, Mrs Susanne Maria Javorszky<sup>1</sup>, Mrs Lena Rettinger<sup>1</sup>*

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### Background:

Telehealth has become increasingly important in various healthcare fields, including speech and language therapy (SLT) since the COVID-19 pandemic. The adoption of telehealth offers several benefits that contribute to improved patient outcomes and increased accessibility. Educational programmes have started to address the importance of educating students in telehealth and integrated some aspects into their curricula. However, not much research has been done on the students' perspectives on telehealth in SLT education in Vienna.

### Methods:

In 2022, during the Covid-19 pandemic, Rettinger et al. (2024) conducted a cross-sectional online study at the FH Campus Wien University of Applied Sciences, with a specific developed questionnaire, to assess healthcare and nursing students' telehealth knowledge, skills, attitude, and experience. For our purposes, we conducted a secondary descriptive analysis of SLT-specific raw data from the data set.

### Results:

A total of 25 students enrolled in the SLT bachelor's programme participated in the survey and were distributed across semesters 2, 4, and 6. Results indicate that students possess some profession-specific knowledge related to telehealth. Approximately 90% consider it rather to very important to incorporate telehealth into the curriculum. This high level of perceived importance emphasizes the potential impact and relevance of telehealth in the education of SLT students. Among the various aspects of telehealth, participants identified videocalls (80%), usage of online courses (68%), and telephone counseling (64%) as the most profession-specifically relevant. The majority of students stated that they would like more training in apps, software and evidence-based practices in telehealth.

### Conclusion:

Our results collectively indicate a strong interest and perceived importance of integrating telehealth into the education of SLT students, with specific focus areas identified for potential implementation. We suggest that traditional and telehealth approaches are sustainably integrated into SLT education to provide high quality learning, training, and professional development.

## **P10. SOFIAFALA: APPLICATION TO SUPPORT SPEECH THERAPY INTERVENTION**

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The SOFIAFALA application was developed by teachers and professionals in the areas of Speech Therapy and Computing with the aim of providing methods and tools to support the training carried out during speech therapy intervention with patients with speech disorders, apraxia of speech, phonological disorders and/or myofunctional changes oral. The objectives of the application are (1) to provide support to children and caregivers during speech therapy training at home and (2) to provide speech therapists with objective data on the performance achieved by children, through a score capable of indicating progress of the patient.

**OBJECTIVE:** To present the application module for speech therapists. **Method:** experience report presentation of the professional module screens.

**Result:** with the app, the speech therapist will be able to prescribe non-articulatory training (lip protrusion, protrusion-stretching, blowing and tongue clicking) and articulatory training (words with all phonemes associated with pictures) and the patient can access their training in the child module of the app. For each movement component of a training session, the speech therapist can determine, respectively, the type of movement, the number of times the child must perform this movement in a training session, the number of training sessions (repetitions) and the minimum performance expected by this child. After validating the created workout, a summary of that workout is displayed. When clicking the Send Training button, the current training is transmitted to the application that will run on the child's caregiver's cell phone. The performance results will be displayed in graphs and the professional will be able to generate reports in PDF format. The metrics developed involved the analysis of sound production and facial movement.

**Conclusion:** the application is in the final usability testing phase and will be available from July 2019 for free for smartphones with Android software

## **P11. INVESTIGATING THE VALIDITY OF VIDEOCONFERENCE ADMINISTRATION OF THE COMPREHENSIVE APHASIA TEST-HUNGARIAN**

*Vivien Vásári<sup>1</sup>, Csenge Magyar<sup>1,2</sup>, Nóra Földesi-Ozvald<sup>1,2</sup>, Lili Buzás<sup>1</sup>, Lilla Zakariás<sup>1,2</sup>*

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**Background:** The demand for telehealth aphasia assessment is increasing, yet only a limited number of instruments have been investigated for their validity and feasibility in telehealth. The Comprehensive Aphasia Test (CAT) is a widely available language test with established psychometric properties in several languages, including Hungarian.

**Aim / Objectives:** The current study aimed to evaluate the validity of administering the Language Battery of the Hungarian version of the CAT (CAT-H) via videoconference and explore the satisfaction of people with aphasia (PWA) with videoconference assessment.

**Methods:** Twelve PWA with left hemisphere stroke completed both in-person and videoconference assessments using the CAT-H Language Battery. The study employed a counterbalanced and blind design. Participants also filled out a satisfaction questionnaire after each assessment and expressed their preference between the two assessment methods at the end of the study. We calculated intraclass correlation coefficients (ICCs) to compare CAT-H modality summary scores and the CAT-H language battery score between in-person and videoconference assessments.

**Results:** There was good-to-excellent agreement between in-person and videoconference assessments, with ICCs ranging from 0.8 to 0.96 for the CAT-H modalities and an ICC of 0.97 for the CAT-H language battery score. At the individual level, minor inconsistencies were observed in the language battery score between the two assessments. Participants reported high levels of satisfaction with both assessment methods, with satisfaction levels for the videoconference assessment being comparable to those for the in-person assessment. While the majority of participants did not exhibit a preference between the two methods in terms of understanding the clinician, approximately half of them favoured the in-person assessment for expressing themselves and comfort.

**Conclusions / take home message:** The CAT-H can be effectively administered via videoconference, suggesting it a viable alternative to in-person assessment when necessary.

**Keywords:** post-stroke aphasia, videoconference assessment, telehealth, Comprehensive Aphasia Test, feasibility

## **P12. DETECTING RISK FACTORS FOR LINGUISTIC-AND-ORAL-FEEDING DISORDERS IN EARLY CHILDHOOD: LITERATURE REVIEW AND PROPOSAL OF AN ITALIAN SCREENING TOOL**

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<sup>1</sup> LogosAcademy

**Background:** The literature highlighted the coexistence of Speech Sound Disorders (SSD) and Orofacial-Feeding Dysfunctions (OFD), two of the most common developmental disorders. The former is an essential indicator of children's overall growth, while the latter is crucial to preserve the general-health. Detecting these areas in early childhood may prevent difficulties in adulthood. However, no clear screening tools are currently used for both aspects in childhood.

**Aim:** This study aims to:

(A) Review the literature on the main risk factors of language-and-orofacial disorders in early childhood.

(B) Present an Italian proposal of a screening tool to identify children, from 3-years-old to the last year of kindergarten, who need deeper clinical assessment. According to a multi-professional approach, this proposal involved parents and healthcare-professionals: parents were directly involved, and clinicians collaborated for in-depth clinical assessment.

**Methods:**

(A) Articles from PubMed, Cochrane and ResearchGate, books and websites about language and oral development in childhood were reviewed.

(B) A proposal for an oral-feeding-linguistic screening tool for children from 3-years-old to the last year of kindergarten, with no neurological/sensorial problems, was built. Considering the high parent's reliability in identifying risk factors, an introductory meeting and a questionnaire about children's health was provided them before screening. Finally, the screening test was administered.

**Results:** (A) Literature review highlighted the correlation of SSD and OFD and main associated risk factors. (B) 5 out of 22 children screened positive on both oral-feeding and linguistic evaluations, so a further assessment was suggested.

**Conclusion:**

This study strengthened parents' role in detecting children for linguistic and oral-feeding disorders. However, this study is a starting point: future studies may increase parental involvement and add risk factors (e.g., vocabulary, tooth-decay, and sensory profile). Also, a multi-professional and integrated tool was built, which allows a broader view on children's general health to improve their quality of life.

**Keywords:** Language, oro-facial, screening

## P13. BEHAVIORAL TASKS TO PROBE LISTENING DIFFICULTIES IN CHILDREN

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### Background:

Many children experience listening and processing difficulties (LiD) despite normal hearing sensitivity, especially in background noise. It is unclear which behavioral measures are most appropriate to diagnose LiD. With no gold standard available to properly assess the etiology of the difficulties, and the lack of emphasis on the assessment of functional hearing, speech and language processing, and neurocognitive abilities, there is a need for guidelines and age-appropriate reference data. With these insights, profiles of children with LiD can be constructed and referral processes can be optimized.

### Aims:

The study aims to determine which behavioral tasks best differentiate children with listening difficulties from children without listening difficulties.

### Methods:

A systematic review was conducted according to the PRISMA 2020 guidelines. Ten electronic databases were searched in April 2024 for peer-reviewed articles, supplemented with eligible references from other reviews, preprints, and unpublished RCTs. All articles are screened by at least two reviewers based on predetermined inclusion and exclusion criteria. Risk of bias is conducted with validated tools for this purpose. The review protocol was documented in PROSPERO, the international prospective register of systematic reviews in health and social care.

### Results:

Main outcomes focus on the results and characteristics of behavioral tasks that quantify clinical performance of children with LiD, including measures of desirability such as reliability, validity, and efficiency. We hypothesize that behavioral tasks for auditory processing, speech processing, and language processing as well as tasks for attention and cognition play a central role in the assessment of listening difficulties. Secondary outcomes focus on exploring heterogeneity due to subgroups of patients, age-related differences, etc.

### Conclusion:

The most adequate behavioral measures for assessing listening difficulties will be presented at the conference.

Keywords:

Listening difficulties, auditory processing, behavioral tasks, psychometric characteristics

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## P14. MOTOR SKILLS IN CHILDREN WITH DLD AND LANGUAGE SKILLS IN CHILDREN WITH DCD

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Children with Developmental Language Disorder (DLD) and Developmental Coordination Disorder (DCD) often show deficits in other developmental domains besides their primary impairment, i.e. children with DLD are ‘clumsy’ and children with DCD tell incoherent stories. However, the nature and prevalence of motor difficulties in children with DLD, and conversely language difficulties in children with DCD, is still unclear. The aim of this study is to provide an overview of (1) motor skills of children with DLD and (2) language skills of children with DCD.

In this systematic literature review, we searched four scientific databases with two separate search strings related to the two objectives. We assessed 447 articles related to motor skills in DLD, and another 876 articles related to language skills in DCD. A total of 50 articles relating to motor skills in DLD and 15 articles related to language skills in DCD were included.

Children with DLD score lower on standardized tests measuring manual dexterity and balance. Mixed results are found for manual aiming and catching and other visuo-motor coordination tasks. More problems are seen on tasks requiring complex motor skills and (complex) movement sequences, e.g. tying one’s shoes. Children with DCD score lower on standardized language tests, specifically on receptive language outcomes. Deficits in phonological awareness and processing, narrative skills and communicative ability related to QoL were also found. Most of these observations were found for relatively older children (>6 y/o), but a few studies find similar results for younger children.

Several motor skills in children with DLD and language skills in children with DCD were reported to be weak or impaired. Results point to overlap in language and motor skills profiles between the DLD and DCD populations. These findings could benefit early screening, diagnosis and care for children with DLD and/or DCD.

## **P15. OROMYOFUNCTIONAL TRAINING: AN INNOVATIVE REHABILITATION PROGRAM FOR PEDIATRIC OBSTRUCTIVE SLEEP APNEA**

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### **Background.**

Pediatric obstructive sleep apnea (OSA) is a prevalent medical condition, affecting 1.2-5.7% of non-syndromic children, with significantly higher rates in children with Down syndrome (30-90%) and Prader-Willi syndrome (44-92%). Given the severity of the condition and the associated health risks, it is important to treat the disorder early and effectively. Adenotonsillectomy (AT) is the standard therapeutic approach, but seems inadequate in 20-40% of non-syndromic children and up to 55% and 79% of children with Down syndrome and Prader-Willy syndrome, respectively. Residual OSA post-AT is often attributed to the persistence of oromyofunctional disorders (OMFD) that are not cured after surgical intervention and underlie the development and maintenance of OSA. Therefore, oromyofunctional therapy (OMFT) is emerging as a promising new treatment for pediatric OSA in addition to or as a replacement for AT.

### **Aims & Methods.**

The occurrence of OMFD will be compared between non-syndromic children with and without OSA, using both perceptual and instrumental measures. Secondly, the effectiveness of OMFT will be investigated in non-syndromic children with OSA and syndromic children with Down syndrome or Prader-Willy syndrome. Therapy will consist of guided sessions in clinic and individual home practice. Both short- and longer-term effects on oromyofunctional patterns, sleep quality and quality of life will be determined.

### **Results.**

Higher occurrence of OMFD is expected in non-syndromic children with OSA compared to non-syndromic children without OSA. Furthermore, significant improvements in oromyofunctional patterns as well as a decrease in OSA severity, OSA symptoms and an increase in OSA-related Quality of Life is expected after OMFT in both non-syndromic and syndromic children. Data collection is ongoing.

### **Conclusion.**



This innovative research will be the start of a new evidence-based treatment method for pediatric OSA in which interdisciplinary collaboration between SLP's, ENT specialists, and sleep specialists will be key.

Keywords:

Children

Oromyofunctional therapy

OSA

Sleep medicine

## **P16. SUPPORTING ORAL NARRATIVE WITH TALK BOOST KEY STAGE 1 (KS1): AN IRISH SCHOOL'S JOURNEY**

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**Background:** The National Council of Special Education (NCSE) in Ireland employ Speech and Language Therapists (SLTs) to implement an educationally focused, multi-tiered model of sustained, in-school therapy support. This project utilises a collaborative partnership approach to building capacity in schools.

Talk Boost is an evidence-informed, targeted language intervention, which improves oral language for children with lower language abilities. Children who are good storytellers are more accepted by their peers (McCabe & Marshall, 2006) and early narrative abilities influence children's later reading skills (Babayigit et al. 2021).

**Aims:** This case study will profile the impact of a teacher-led, targeted language programme, supported through sustained in-school SLT support, in an Irish, designated disadvantaged, Primary school.

**Methods:** NCSE SLT collaborated with the school to implement Talk Boost KS1 for a Senior Infants group (5-6 years). This was delivered as a tier 2 (small group) intervention consolidated with smaller doses of weekly tier 1 (whole-class) intervention. Sustained SLT support used the gradual release of responsibility model. Data was gathered through the Talk Boost tracker (pre and post) and teacher interview. Student data was analysed in terms of impact on oral language. Teacher data was analysed thematically.

**Results:** Talk Boost implemented by teachers, with sustained in-school support from NCSE SLT, led to significant improvements in children's oral language post-intervention; particularly in oral narrative skills where 50% of students were at age expected levels from a baseline of 0%. Key themes identified were increases in teacher confidence implementing the programme and independently using intervention strategies across their teaching.

**Conclusions:** This case study illustrates the potential for teacher-led targeted language interventions, with sustained in-school support provided by SLTs, to enhance quality language supports for all students, improve student's oral language skills and thus impact on educational outcomes, academically and socially.

**Keywords:** Language Intervention; Narrative; Education; Literacy; Inclusion.

**P17. SPEECH LANGUAGE PATHOLOGY (SLP) COUNSELING ON THE QUALITY OF LIFE (QOL) OF ADULTS WITH SEVERE-TO-PROFOUND HEARING LOSS DUE TO NEUROFIBROMATOSIS TYPE 2 (NF2): TOWARDS AN ITALIAN PERSPECTIVE OF NEUROSURGICAL SUPPORT**

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**BACKGROUND** – The hallmark of NF2 is bilateral vestibular schwannoma (over 90% of patients), resulting in severe-to-profound hearing loss. According to the “ASHA Clinical Practice Guidelines on Aural Rehabilitation for Adults with Hearing Loss” (2023), individual with severe-to-profound hearing loss due to NF2 gain a significant benefit on the QoL and improvement in mood from Personal Adjustment Counseling.

**AIM** –Raise awareness, among the Italian neurosurgeons and allied health professionals, on the relevance of Personal Adjustment Counseling for the QoL of adults with severe-to-profound hearing loss due to NF2 managed by SLPs.

**METHODS** – Salient and pertinent information regarding the SLPs counseling in the management of the patients with profound hearing loss due to NF2 treated by neurosurgical interventions was searched from ASHA Database, SCOPUS, Medline, Google Scholar (last 10 years).

**RESULTS** – We did not find any published studies that have specifically tackled this issue. ASHA Guidelines report significant benefit on the QoL and improvement in mood of people with NF2 from the “Personal Adjustment Counseling-Infused Aural Rehabilitation Intervention.” Interestingly, Cosetti &Co. published a specific multidimensional metric to assess QoL in patients with NF2. In our opinion, it would be appropriate to predispose an Italian version of the NF2-QoL questionnaire for the SLPs, to plan the Person-Centered Approach to Aural Rehabilitation and to follow-up the QoL level during the treatment course counseling. As matter of this specific interest, we discussed this proposal at the National Congress of the ItalianSkullBaseSociety(2023) reporting strong interest among Italian neurosurgeons, nurses and physiotherapists.

CONCLUSIONS- It is essential to timely include the SLPs counseling in planning the Person-Centered Approach to Aural Rehabilitation of patients with NF2, to promote compliance and to follow-up the QoL level during the treatment course. An Italian version of the “Quality of Life (QoL) Assessment in Patients with NF23” would be useful.

## **P18. IMPROVING THE SPEECH-LANGUAGE-PATHOLOGY (SLP) STUDENTS' ATTITUDES TOWARDS OLDER PEOPLE THROUGH A TARGETED AGED-CARE-RESIDENCE INTERNSHIP PROGRAM**

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**BACKGROUND** –The EU population is aging, leading to increased demand for health care services such as speech-language pathology. An early experience within an aged-care setting, along with preparatory and reflective activities, can positively shape students' attitudes towards elderly, fostering interest in pursuing a career in aged-care context.

**AIM** – Investigate how a three-week internship program in an elderly-care setting could influence SLP-students on: 1)attitudes towards elderly; 2)aged-care-residence internship evaluation; 3)self-perceived confidence on 'communicating with' and 'observing' elderly.

**METHODS** – Fifty-eight undergraduate SLP-students completed surveys. The first-year students (25; 1 male; Mean Age  $20,5 \pm 2,2$ ) had not yet participated in either the preparatory and reflective activities or the internship (Before internship group). The second-year students (19; 1 male;  $21,3 \pm 2,2$ ) completed the preparatory and reflective activities and their internship experience in aged-care residences and had brief experiences in rehabilitation facilities (Post internship group). The third-year students (14; 1 male;  $22,3 \pm 2,3$ ) didn't participate to the aged-care residence internship, but they had already completed the entire three-year-internship-cycle in rehabilitation facilities (No internship group).

Qualitative data were analyzed using inductive content analysis. Quantitative data were reported using descriptive statistics and non-parametric tests (Mann-Whitney Test-SPSS23).

**RESULTS** –The second-year students showed significant higher attitudes towards older compared to both first and third-year students ( $p < 0.05$ ), especially regarding the question "If I have the choice, I would rather see younger patients than elderly ones" ( $p = 0.002$  to 1st and  $p = 0.014$  to 3rd) demonstrating greater interest towards elderly patients; no statistically significant difference was found between 1st and 3rd year-students [ $p = .476$ ]. The difference with the 3rd year highlights a specific effect of the aged-care residence internship program comparing to a nonspecific traineeship in rehabilitation-setting.

**CONCLUSIONS**– The present study indicates that a targeted-learning-experience in an aged-care-setting can positively and specifically influence the SLP-students, helping foster interest in pursuing a career in elderly-care contexts

## **P19. CAN THE MALLAMPATI MODIFIED SCALE HELP SCREENING MOUTH BREATHING AND SLEEP DISORDERED BREATHING IN CHILDREN?**

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Mouth breathing (MB) and Sleep Disordered Breathing (SDB) are frequent conditions in preschool children. MB and SDB are associated with malocclusions, swallowing and chewing adaptations, abnormal craniofacial growth, attention disorders, and poorer quality of life. MB may also be associated with speech disorders. Early detection is necessary to prevent these consequences in preschool children. In this sense, the Modified Mallampati Scale (MMS) seems to be an interesting tool. The MMS is basically an indicator of the risk of endotracheal intubation and assesses many of the anatomical features of the oropharynx that are implicated in SDB. A few studies have recently investigated the usefulness of the MMS for the screening of SDB in children. Some studies have also found an association between the presence of MB and a worse MMS score, while others have found no association.

Here, we aimed to investigate the usefulness of the MMS for screening for MB and SDB in preschool children.

131 girls and 148 boys aged from 36 to 72 months, without craniofacial anomaly, pulmonary or cardiac pathology and/or genetic syndrome were recruited from preschools. The presence of SDB was assessed using the French version of the Pediatric Sleep Questionnaire, a validated parental questionnaire. MB was assessed directly using the Awake Breathing Pattern Assessment, a validated clinical grid specifically designed to identify MB in preschoolers. All children's airways were classified according to the MMS classification.

Chi-squared tests showed no significant association between (1) SDB and MMS classification ( $p=.55$ ) and (2) MB and MMS classification ( $p=.19$ ). The MMS did not appear to be a sensitive or specific measure for the screening of MB (se= 45%; spe= 50.6% ) and SDB (se= 56.4%; spe= 53.8%).

The MMS did not appear to be a useful tool for screening for MB and SDB in preschoolers.

## **P20. SUPPORTING LANGUAGE DEVELOPMENT THROUGH PHILOSOPHICAL DIALOGUES IN EARLY CHILDHOOD EDUCATION SETTINGS: A COLLABORATION BETWEEN SPEECH-LANGUAGE THERAPISTS AND EDUCATORS**

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### **Background**

In early childhood education, language development of preschoolers benefits from extended and challenging conversations with educators. However, in early childhood education, these conversations seem infrequent (Massey, 2008).

### **Aim**

In order to promote verbal interactions between educators and preschoolers that support children's language development, we conducted a feasibility study on the implementation of philosophical dialogue in early childhood education.

### **Methods**

Four educators working with 4- and 5-year-olds participated in a professional development program. First, we videotaped their interactions with children during group chat, snack time, and shared book reading.

Then, in collaboration with a speech-language pathologist, educators received 4 hours of training to facilitate philosophical dialogues with preschoolers. The four educators led eight philosophical dialogues with the children in their group. Three dialogues were filmed and analyzed regarding the use of complex syntax, the presence of extended conversations, and the choice of challenging topics. At the end of the program, these educators participated in an individual interview, where they shared their appreciation of the program. We performed a thematic analysis of these interviews.

### **Results**

Quantitative analysis showed that educators' use of complex syntax increased during philosophical dialogues compared to previous activities (snack time, group chat and shared-book reading). Also, the percentage of utterances in extended and challenging conversations was high during philosophical dialogues. Qualitative analysis indicated that: 1) educators showed a high degree of appreciation toward the philosophical dialogues with the children, 2) it is possible to implement philosophical dialogues with preschoolers, and 3) the program led the educators to explore new and more complex topics with the children.

### Conclusions

Philosophical dialogue appears to be an interesting collaboration target between speech-language pathologists and early childhood educators. By promoting more complex conversations between educators and preschoolers, philosophical dialogues support children's language development.

### Keywords

Collaboration, Early childhood education, Language-supporting practices, Philosophical dialogues



## P21. IDENTIFYING TEACHERS' LANGUAGE ADDRESSED TO CHILDREN: PROTOCOL FOR A SCOPING REVIEW

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**Background.** Children's language skills are essential for their academic success (Lyster et al., 2021) and can be enhanced by the quality of their interactions with their teacher (Dwyer & Harbaugh, 2020). There is some evidence of links between specific language strategies used by teachers and children's language development. Some authors have also proposed an initial classification of teachers' language practices (Burke Hadley et al., 2023 ; Rowe & Snow, 2020).

At the same time, another area of research is developing to improve teacher-child interactions: that of metacognition (e.g., Grammer et al., 2013). However, the integration of these two research fields remains to be explored. The metacognitive characteristics that positively influence language development are not yet known.

**Objective.** The aim of this study is to synthesize current data on the oral strategies used by teachers to support their students' language and learning (mathematics, written language), with a view to categorizing them according to their metacognitive content.

**Methods.** A scoping review will be conducted following the theoretical framework proposed by the Joanna Briggs Institute (JBI) (Peters et al., 2022). A search of databases such as PsycInfo/Ovid, ERIC/Ovid, AMED/Ovid, LLBA/ProQuest, and Scopus/Elsevier will be carried out for studies that focus on teachers' language addressed to preschool, kindergarten and primary school children. The search will target studies in both English and French.

The search strategies will use both keywords (free language) and descriptors (controlled language). Identified articles will be evaluated by two independent reviewers in two screening phases. The first will initially focus on titles and abstracts and the second on full-text. A presentation of the scoping review protocol is proposed for the ESLA Congress.

**Keywords :** teachers' language, language development, children, metacognition, scoping review

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## P22. EXAMINATION OF THE TONGUE RESTING POSTURE USING EMA AND CBCT TECHNIQUES

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The key role in the functional efficiency of the stomatognathic system is attributed to primary functions: tongue rest posture and swallowing which may affect the surrounding structures and speech articulation. Prolonged muscular effort impacts the shaping and stabilization of oral morphological structures, the control of breathing patterns, and the digestive functions. The proper tongue posture is therefore crucial for effective communication and well-being.

This study focuses on the multi-disciplinary description of the normative resting position of the tongue and its correct shaping which enables automatic, effortless closing of the stomatognathic system.

A multi-disciplinary diagnosis was carried out for three female participants without functional or articulation disorders, or anatomical defects. The diagnosis included orthodontic scrutiny, speech therapy and physiotherapy diagnosis, a CBCT (Cone Beam Computed Tomography) examination, and electromagnetic articulography (EMA).

The analysis of the EMA and CBCT data for the tongue resting position indicates that:

(1) the tongue front (laminal-predorsal part) stabilizes in the region of the incisive papilla, while the apex is located just behind the upper incisors; (2) the posterior part of the tongue (postdorsum) stabilizes in the region of the soft palate; (3) the sides of the tongue (lateral borders) stabilize in the region of the junction of the structures of the upper dental arch and the palate.

A postdorsal space is formed between the anterior and posterior closure. The middle part of the tongue (mediodorsum) is separated from the hard palate. An interocclusal space is formed between the jaws. The lips are connected in an effortless manner.

Describing the tongue resting position using interdisciplinary input data establishes the path for therapeutic interventions in cases of primary function and articulation disorders, malocclusion, and breathing disorders. Acquiring detailed knowledge on this subject supports conscious therapeutic processes and may contribute to standardizing myofunctional speech therapy practices accompanying orthodontic treatments.

## **P23. SPEECH AND LANGUAGE PATHOLOGY AND PAEDIATRICS: CREATING A NETWORK FOR THE PREVENTION AND MANAGEMENT OF STUTTERING**

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**BACKGROUND:** Analysis of the literature, in particular of the guidelines from Dutch Association of Phoniatics and Speech Therapy «Stuttering in Children, Adolescents and Adults» (Pertijs M.A.J et al., 2014) and a comparison with clinical practice of many Italian SLP have highlighted how, in national concern, discrepancies and critical issues emerge both in terms of identification and early management. The opinion of the scientific community is unanimous in considering stuttering as a multidimensional disorder. It's therefore essential to create a collaborative network between different professionals so that the child considered «at risk» can be identified and taken care of as early as possible. Pediatricians play a fundamental role in this process as they represent a bridge between families and specialists.

**OBJECTIVES:** Our focus was to know in what way and to what extent the pediatrician plays a significant role in terms of prevention and early detection.

**METHODS :** Sending a questionnaire, compiled from the authors to all the Pediatricians registered to the FIMP Nazionale of three Italian regions and of the Italian consulate in Belgium. The gathering of information was conducted from December 2020 to January 2022. Sixty-nine answers in total were received.

**RESULTS:** The analysis of the data reveals a prevalence of pediatricians that are not trained in the subject. (traits of the disorder, treatment options for the child that stutters)

**CONCLUSIONS:** The trained pediatrician can and must play an essential role in the early detection in stuttering children, for a timely referral to a SLP and when necessary the initiation of the most suitable therapy.

To give them the most significative information, an informative brochure was written “ Stuttering and Pediatrician : creating a network to favor the prevention and effective clinical management for Fluency Disorders in the preschool years”.

**KEY WORD:** Early care, Screening, Risk factors, Stuttering, Pediatrician.

## **P24. ESSENTIAL TREATMENT COMPONENTS ACCORDING TO ADULTS WHO STUTTER**

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**Background:** Stuttering can vary considerably among adults who stutter. Therefore, the treatment that they receive needs to be in line with their needs. For this reason, it was important to question individuals who stutter around the world about their thoughts surrounding stuttering and its treatment.

**Objective:** This study aimed at investigating how important nine treatment components are to adults who stutter: affective, behavioural, and cognitive correlates; use of self-advocacy; reactions toward others; self-acceptance; and situational variables. In addition, the perception of stigma was broached.

**Methods:** A questionnaire was sent to stuttering organisations, support groups and to stuttering specialists around the world. The answers of 213 adults who stutter were captured and analysed. Through self-report, they indicated the importance of components of a holistic stuttering approach. Most answers were indicated on a 5-point rating scale (How important is the following to you?) or were open answers.

**Results:** The vast majority wants help with their thoughts and anxiety related to their stuttering (79.3%) and want to feel more comfortable talking in different speech situations (81.3%). The majority wants to work on reduction of stuttering, including accepting themselves as a speaker (78.6%) and to acquire speech strategies to stutter more easily (77.5%) or to reduce stuttering (77.4%). About half of the participants (58.3%) think they are stigmatized by others because of their stuttering.

**Conclusions:** Adults who stutter differ in many ways. Gender and geographical (or cultural) characteristics seem to affect the level of importance they attribute to certain treatment aspects. This survey leads to important considerations and actions for SLPs. Administering a thorough holistic assessment is essential to determine how best to help a client. Being trained in different stuttering treatment approaches and covering different treatment goals is crucial in optimising a client's treatment.

**Keywords:** stuttering – treatment component – adults – stigma

## **P25. CLUTTERING THERAPY BASED ON ICF MODEL: SINGLE CASE STUDY**

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### **Background**

Cluttering negatively impacts one's communication quality, as well as their social, educational, and occupational performance. Therapies for cluttering should focus on enhancing various communication aspects based on the clients' individual needs, which will in turn improve their ability to participate in everyday communication situations.

### **Aim / Objectives**

This study investigates the impact of cluttering on communication in adults. Our goal is to develop a therapy that enhances the quality of communication and life by reducing cluttering symptoms, improving our clients body functions and structures, and reducing their activity limitations. Furthermore, the therapy aims to increase the clients' participation in everyday activities and remove some environmental barriers for them.

### **Methods**

The assessment tools used for the evaluation during the cluttering therapy were: OASIS-A (Yaruss, Quesal, 2004), self-report, PCI (Daly, 2006), and other evaluation forms (Van Zaalen, Reichel, 2015). The intervention was personalised and based on the following five domains: cognition, language, pragmatics, speech, and motor disorders. Some elements of mindfulness and the ACT techniques were also included in the intervention.

### **Results**

The results suggest that incorporating multiple components into the treatment enhances the clients' communication skills and improves their quality of life. Significant improvement was also observed in all the five areas of cluttering, particularly in the clients' awareness of their speech, self-monitoring skills, increased participation in various communicative activities, and ability to transfer the skills to everyday situations.

### **Conclusions**

Effective communication is essential for people with cluttering in all aspects of their lives, from personal relationships to professional success.

### **Keywords**

Cluttering, case study, quality of communication.

**P26. USE OF THE DYSPHAGIA SEVERITY SCALE AND ORAL INTAKE LEVEL AS OUTCOME INDICATORS IN SPEECH THERAPY REHABILITATION OF TRACHEOSTOMIZED PATIENTS WITH COVID-19**

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**Background:** The speech therapist's aim is to provide effective care with quality assistance. Rehabilitation in evidence is based on demonstrating the relationship between interventions and the results of a patient's care through outcome indicators that demonstrate the rehabilitation process, especially in the context of a pandemic.

**Objectives:** to describe the effects of speech therapy rehabilitation on swallowing in tracheostomized patients hospitalized with COVID-19.

**Methods:** A retrospective cohort study, with analysis of electronic medical records of tracheostomized individuals diagnosed with COVID-19, admitted to a philanthropic hospital in Brazil, who underwent the speech therapy during March 2020/March 2022. The study was approved by the Ethics Committee (n5637.000). Two scales were used in assessment and at discharge: Functional Oral Intake Scale (FOIS) and Swallowing Impairment Degree Scale. Inclusion criteria: age over 18 years who underwent tracheostomy due to COVID-19. Exclusion criteria: tracheostomy due to other conditions, head and neck cancer or previously dysphagia; use of prior feeding tube; lack of necessary data. Analysis was conducted using the Excel program.

**Results:** Of the 50 hospitalized patients, 70% were male and 30% female. The average age was 60 years old. Before the speech therapy, all patients were at level 1 of the FOIS scale, with 94% experiencing severe dysphagia. At discharge, 54% reached level 7 on the FOIS scale, with only 14% remaining at level 1. Regarding the severity of dysphagia at discharge, 62% no longer presented dysphagia, followed by 16% with mild dysphagia, 12% with moderate and 10% with severe. The average time for weaning from the feeding tube was 24 days, while speech therapy rehabilitation lasted an average of 41 days.

**Conclusion:** Patients who received speech therapy intervention in this study showed improvement in the levels of the Functional Oral Intake Scale and a decrease in the severity degree of dysphagia.

## **P27. ORALITY SUPPORT'S PROJECT OF NEWBORN IN ROOMING-IN: THE IMPORTANCE OF SPEECH THERAPY COUNSELING FOR PARENTS**

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### **Background**

This project was born with the aim of promoting the speech therapist's role in the neonatal field; its skills are fundamental in preventing and resolving functional problems related to the development of the oral functions, through assessment and early intervention.

### **Objectives**

The project evaluates the parents' knowledge regarding neonatal speech therapy and promotes the information about the areas of the speech therapist 's intervention on the healthy newborn patient in rooming-in.

### **Methods**

This study is based on the administration of a survey, on the speech therapist's role in the neonatal period, to a sample of 50 parents of healthy newborns, at the Castelli Hospital (Rome), with the aim of obtaining objective data on the subject's knowledge by the examined sample. Furthermore, to disseminate information based on scientific evidence, an informational brochure has been realized, which concerns the areas of intervention on the newborn by the speech therapist, accessible by scanning a QR-CODE.

### **Results**

The data collected showed a lack of awareness of the speech therapist's role in this area. The 98% of parents were unaware of the possibility of obtaining oral support assessments and interventions during the first days of life. From the analysis of the sample examined, speech therapy counseling was helpful and provided valuable support to the 100% of parents. Moreover, it has been pointed out that this service is not currently present in other public hospitals in Italy.

### **Conclusions**

Considering the results obtained, it is inferable that the neonatal speech therapist's figure is still uncommon, despite its specific skills regarding the development of oral functions. Hopefully, the brochure created will contribute to inform about the subject, that it will be a support for parents and that hospitals will increasingly make use of this professional figure.

### **Keywords**

Neonatal Speech Therapy - Prevention - Informed Parents



**P28. ORAL FUNCTIONS' DEVELOPMENT IN LATE PRETERM:  
FOLLOW UP AT 6 LIFE'S MONTHS**

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**Background:** late preterm newborn (born between the 34th and the 36th gestations' week) presents an immaturity of nervous and respiratory system and sometimes a sucking-swallowing-breathing incoordination.

**Aims:** the several's study aims to investigate as an adequate orality support can relate with a positive oral functions' development, to study the correlation between rehospedalization and a regular starting breastfeeding, to increasing parental's awareness about needs and infant's communication signals.

**Methods and materials:** the sample is composed by late preterm newborn hospitalized at Neonatology and Pediatrics Unit of Castelli Hospital in Ariccia (Rome), they are subjected to speech therapy attendance of orality support. To their parents was administered a follow up's survey 6 month after birth, noting alimentations' mode during hospitalization, use of interfering during startup, possible rehospedalization and succeeding oral functions' development.

**Results:** Parents of 18 late preterms that during the follow up aged from 6 and 17 months were interviewed. The results highlight that during the recovery 17% was exclusively breastfed, 56% was powered by expressed breast milk and 28% has hired mostly formula; furthermore 66,6% introduced pacifier at the beginning of breastfeeding. There is a correlation between rehospedalization and formula hire, instead of breast milk. The 38,8% of sampling was exclusively breastfed for 6 months. 77,7%'s infants performed traditional weaning. The data related to linguistic development show how babbling appears at physiological age. In all cases was reported greater parental empowerment after speech therapy counseling orality support.

**Conclusions:** speech therapy support for orality with a late preterm newborn increased parental competence, encouraging breast milk availability as an immunological protection, reducing rehospedализations and encouraging oral functions' adequate development.

**Key words:** late preterm; speech therapy counseling; oral functions.

## **P29. PSYCHOMETRIC PROPERTIES EVALUATION OF MANN ASSESSMENT OF SWALLOWING ABILITY IN PARKINSON'S PATIENTS: A CROSS-SECTIONAL STUDY**

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**Background:** For the assessment and research on dysphagia, it is essential to use Outcome Measures (OM) standardized and validated in Italian. The Mann Assessment of Swallowing Ability (M.A.S.A.) is now a reliable tool for assessing dysphagia in post-stroke individuals.

**Aim:** To assess the psychometric properties of M.A.S.A. in a population with Parkinson's disease.

**Methods:** 51 patients were recruited at the Neurorehabilitation Gym of Sapienza University of Rome (Policlinico Umberto I) between January and October 2023. The swallowing assessment process took place in two meetings (T0-T1) to conduct the intra-operator test-retest reliability evaluation. At T0, the patient completed the DYPARK questionnaire; after identifying the patient's level of swallowing functionality through the international FOIS scale, the clinical assessment of swallowing via M.A.S.A. was performed by two operators (inter-operator test-retest reliability). At T1, patients were given the MAT questionnaire (caregiver submission), which allowed the assessment of construct validity. Medical history was obtained from medical records.

**Results:** The evaluation of internal consistency, relative to the obtained data of the M.A.S.A., showed a Cronbach's Alpha of 0.650, reaching the limit of statistical significance. Test-retest reliability showed an inter-operator reliability ICC of 0.85, while intra-operator reliability showed an ICC of 0.89. Construct validity demonstrated a good indirect correlation between M.A.S.A. and UPDRS-II ( $r=-0.448$ ,  $p<0.05$ ), a significant direct correlation with FOIS ( $r=0.481$ ,  $p<0.01$ ), a significant indirect correlation with DYPARK ( $r=-0.398$ ,  $p<0.01$ ), and a good direct correlation with MAT ( $r=0.366$ ,  $p<0.01$ ). There is no correlation with mealtime.

**Conclusions:** The M.A.S.A. is incomplete for assessing dysphagia in Parkinson's patients because many items have a ceiling effect. This research emphasizes the need for pathology-specific tools standardized and validated in Italian. Additionally, it is necessary to assess the validity of the construct to develop a specific M.A.S.A. for Parkinson's disease.

**Keywords:** dysphagia, Parkinson's disease, assessment, psychometric properties

## **P30. CRITERIA FOR TRACHEOSTOMY DECANNULATION IN ADULTS: AN ITALIAN SURVEY IN THE ICUS OF LAZIO REGION**

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### **BACKGROUND**

Tracheostomy, although fundamental for survival, involves the placement of a tracheal cannula, resulting in physiological and psychosocial alterations of the individual. Literature recommends early decannulation; however, there is a lack of common procedures to actualize it.

### **AIM**

The purpose of this research is to investigate the presence of Speech Language Pathologists in the Intensive Care Units (ICUs) of the Lazio Region, and the methods for decannulation.

### **METHODS**

The survey was conducted in Lazio (Italy) between April and September 2023. 36 ICUs were investigated. A questionnaire consisting of 26 questions was sent by email to the Heads of the ICUs.

### **RESULTS**

17 ICUs participated in the survey (47.2%), of which 88.2% were Polyvalent Resuscitation Units. In 88.2% of the facilities, Speech Therapists are present although they operate only through consultations, unlike Physical Therapists that are present in 100% of the facilities, and assigned to the Department in 29.4% of cases. The majority of respondents indicated that on average, ICUs perform tracheotomies on 11-20 patients per year (41.2%) and that decannulate less than 10 patients within 14-30 days (57.1%) or 31-60 days (42.9%). Most Physicians (70.6%) are unaware of speech therapy decannulation protocols and use various internal protocols.

### **CONCLUSION**

Thus, this survey demonstrates considerable variation in the decannulation process. Despite the critical role of the Speech Language Pathologists (SLP) in the decannulation process, it has emerged that the presence of such practitioner in the ICUs is not stable. Therefore, the aim is to raise awareness among facilities and healthcare personnel and suggest a need for greater standardization at regional and national levels of approaches.

**KEYWORDS:** Tracheostomy; Decannulation protocol; Dysphagia; Weaning; Speech Language Pathologists; Speech Therapy

### **P31. DYSPHAGIA, DYSPHONIA AND DYSARTHRIA IN A PATIENT WITH A MEDULLARY INFARCTION – A CASE REPORT**

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Medullary infarction can cause diverse neurological deficits, including swallowing, speech and voice disorders. This case report documents the clinical presentation and management of a 52-year-old female who suffered an ischemic stroke localized in the medulla oblongata dorsomedially. The patient presented with left-sided hemiparesis and ataxia. A speech-language pathologist (SLP) was consulted because of severe dysphagia, dysphonia and dysarthria. An otolaryngologist performed a fiberoendoscopy and visualized unilateral vocal cord paralysis. Early multidisciplinary rehabilitation during hospitalisation included physical therapy and speech therapy. The patient was referred to the outpatient unit after rehabilitation in a rehabilitation centre. A follow-up was done by a neurologist, a physiatrist, an SLP and an otolaryngologist. The patient complained of difficulty swallowing solid food, and fiberoptic endoscopic evaluation of swallowing (FEES) was done. FEES revealed residues in the pyriform sinuses after swallowing all food and liquid consistencies and multiple swallows, but no signs of aspiration or penetration. Further SLP treatment aimed at rehabilitation of swallowing and enhancing voice quality and articulation. The patient demonstrated improvement in speech intelligibility, voice quality and swallowing safety and efficacy throughout rehabilitation. Early identification, comprehensive assessment, and tailored rehabilitation strategies are crucial for optimizing recovery and enhancing the quality of life in individuals affected by medullary infarction. This case underscores the importance of multidisciplinary collaboration in addressing the complex needs of patients with medullary infarction sequelae.

Keywords: medullary infarction, dysphagia, dysphonia, dysarthria

## **P32. EARLY IDENTIFICATION OF RESTRICTIVE SUBLINGUAL FRENULUM: OBSERVATIONAL STUDY ON A SAMPLE OF HEALTHY FULL-TERM NEWBORNS**

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**Background:** the restrictive sublingual frenulum is a congenital anomaly that may cause a significant functional impediment to infant latch, suckling, breast milk transfer, along with poor feeding, weight loss, maternal breast discomfort and premature breastfeeding cessation. This anomaly can compromise the development of oral functions and cause occlusal/postural problems.

**Aims:** the study aims to investigate the occurrence of frenotomy, followed or not by post-surgery speech therapy treatment in newborns with restrictive sublingual frenulum, whose parents received speech therapy counseling; to analyze the duration of breastfeeding and the use of interferents.

**Methods:** from 08/2021 to 05/2022 healthy full-term newborns were recruited in rooming-in at Castelli's Hospital (Rome), with a restrictive sublingual frenulum found through Martinelli Newborn Screening Protocol. A survey was used to follow-up the development of oral functions at 6 months of life.

**Results:** the parents of 41 infants (aged 6-15 months with restrictive sublingual frenulum) were interviewed and it emerged that 46,3% performed frenotomy. Of these, 84.2% were exclusively breastfed for an average of 5,15 months, 68,4% performed post-surgery speech therapy and didn't use pacifier, 31,6% started using it on average after 1st month of life. Of the 53,7% who didn't perform frenotomy by parental choice, 77,3% were exclusively breastfed for an average of 3,12 months and 14,3% were formula-fed for an average of 6 months. 86,4% used pacifier before one month of life and 31,8% of mothers had breast discomfort.

**Conclusions:** speech therapy assessment, counseling and treatment have proven to be important in causing an increase the duration of exclusive breastfeeding in dyads with newborns undergoing frenotomy. When the parents, despite the speech therapy counseling, chose not to submit their newborn to the surgery, there was an increased use of interferents during the beginning of breastfeeding which influenced its duration.

**Key words:** newborn, restrictive sublingual frenulum, speech therapy

### **P33. THE IMPACT OF COMBINED SYSTEMATIC SCREENING FOR MALNUTRITION AND DYSPHAGIA IN HOSPITALIZED ELDERLY: A SCOPING REVIEW**

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**Background:** Dysphagia affects about 40% of patients admitted to acute geriatric wards, as it is closely associated with diseases that rise in prevalence with advancing age, such as stroke, parkinsonism and dementia. Malnutrition is a highly associated predictive factor of dysphagia as well as being one of the most common symptoms that are caused by dysphagia. Thus, the two conditions may exist parallel to each other but are also closely related and quickly cause functional decline especially in the elderly.

**Objectives:** To determine via a scoping review, whether institutions worldwide have established a protocol combining screenings for dysphagia and malnutrition. Further, in case of established combined screening protocols to learn about the impact of such a protocol.

**Methods:** A systematic database search was carried out between October 2022 and August 2023. Studies were included that examined adult hospitalized patients who were systematically screened for dysphagia and malnutrition. The results were managed through the review software tool covidence. The screening of titles and abstracts was carried out independently by two reviewers, conflicts were discussed and resolved by consensus. This procedure was retained for full-text analysis and extraction. The extraction template was piloted after creation and revised following feedback before extraction began. Extraction was carried out from September until November 2023.

**Results:** A total of 1189 studies was found, of which 865 were included for abstract screening and 61 for full text screening. In the end, 25 studies were extracted. These are reported following the reporting guideline PRISMA with the extension for Scoping Reviews.

**Discussion:** Most of the studies considered the prevalence and association of dysphagia and malnutrition with varying outcomes such as nutritional status, pneumonia, oral nutrition and swallowing function. Only two studies had implemented multiprofessional nutrition teams.

**Keywords:** dysphagia, malnutrition, screening, assessment, elderly

## **P34. EFFECT OF CHIN-DOWN MANEUVER ON PREVENTING ASPIRATION IN PATIENTS WITH DYSPHAGIA: SYSTEMATIC REVIEW**

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**Background:** The chin-down maneuver serves as a compensatory technique aimed at compensate laryngeal aspiration in dysphagia patients, yet its efficacy and criteria for application remain ambiguous.

**Objective:** To analyze the effects of the chin-down maneuver in averting laryngeal penetration/aspiration among individuals with dysphagia.

**Methods:** Systematic review designed following the Preferred Reported Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines and registered in PROSPERO database. Searches in PubMed-Central, SciELO, EBSCOHost, Cochrane Library and Lilacs databases were conducted by two independent researchers. Primary studies encompassed Portuguese, Spanish, English, and French languages without temporal restrictions. Literature screening, data extraction, and analysis were executed utilizing Rayyan software. The included literature was critically appraised by the Joanna Briggs Institute checklists (JBI) and the Oxford Centre for Evidence-Based Medicine 2011 Levels of Evidence.

**Results:** Fifteen studies were included, comprising twelve analytical cross-sectional studies, two randomized controlled trials, and one cohort study. According to JBI checklists, the risk of bias of the included studies ranged from low to high. Findings suggest that while the chin-down maneuver may confer benefits to dysphagia patients with specific characteristics such as delayed onset of swallowing, reduced laryngeal elevation, and difficulty swallowing thin liquids, its efficacy diminishes in cases of severe dysphagia. Notably, its effectiveness appears more pronounced in instances where aspiration/penetration is attributable to inadequate laryngeal elevation and closure.

**Conclusion:** The existing literature offers varying perspectives regarding the effectiveness of the chin-down maneuver in preventing laryngeal penetration/aspiration. It is recommended to conduct instrumental examinations prior to implementation.

**Keywords:** deglutition disorder, chin-down maneuver, aspiration, swallowing



### **P35. VALIDATION OF THE MEASUREMENT PROPERTIES OF THE SLOVENIAN ADAPTATION OF THE QUALITY OF COMMUNICATION LIFE SCALE FOR A POPULATION OF PEOPLE WITH NEUROGENIC COMMUNICATION DISORDERS**

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Neurogenic communication disorders can have a significant impact on the daily functioning and quality of life of those affected. Slovenian speech and language pathologists lack diagnostic tools for evaluating communication-related quality of life. The aim of the study was to translate and adapt the Quality of Communication Life Scale (ASHA-QCL) and to investigate the measurement properties of the Slovenian adaptation (QCL-SI). Patients from URI Soča and members of associations related to cerebrovascular disease, Parkinson's disease and acquired brain injury were invited to participate in the study. The data collection was conducted on a sample of 51 adults of both genders with a-/dysphasia (n = 33), ana-/dysarthria (n = 16), cognitive-communication disorder (n = 1) and a-/dysphonia (n = 1). The content validity of the QCL-SI was assessed by a panel of experts. Construct validity analysis revealed that all items (excluding I5, answered by only five participants) only loaded under one factor. The QCL-SI, with 17 items, showed a high internal consistency ( $\alpha = 0.894$ ; n = 48) and high intra-rater reliability (ICC = 0.966,  $p < 0.05$ ). The discriminatory power is adequate with a coefficient of variation of 19.8%, and item discrimination indices are high ( $r > 0.400$ ), except for I4, I15, and I16, which are lower but still acceptable ( $r > 0.200$ ). There were no statistically significant differences in scale results based on gender, age, education level, or type of communication disorder. The results show that the QCL-SI is valid for use with adults with neurogenic communication disorders, regardless of their gender, age, education level or type of neurogenic communication disorder. As the QCL-SI considers a person's perspective and addresses contextual factors, it contributes toward a holistic approach in Slovenian speech and language pathology.

**Keywords:** Neurogenic communication disorders, ASHA QCL, measurement properties of the Slovenian adaptation, quality of life



### **P36. EXPLORING INTERVENTION RESOURCES FOR OROFACIAL MOTRICITY IN PORTUGAL: A COMPREHENSIVE ANALYSIS**

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#### **Abstract**

**Background:** The speech and language therapy intervention in the area of orofacial motricity requires access to resources favouring evidence-based practice. However, the landscape of available intervention materials and their relevance in this domain remains understudied. **Aims/Objectives:** This research aims to identify and describe the intervention resources currently utilized in the Orofacial Motricity clinical practice in Portugal and highlight areas of potential improvement or further development. **Methods:** A comprehensive search was conducted across libraries, academic databases (PubMed, Cochrane Library, Web of Science, and Scopus), and other websites to identify books, manuals, and online materials related to orofacial motricity in the European Portuguese language. Selected resources were analyzed for their comprehensiveness, clarity, and practical applicability, and a descriptive overview of the types and availability of intervention resources was provided. **Results:** Our analysis identified a range of didactic resources in orofacial motricity available for Speech and Language Therapists in Portugal. These included textbooks, didactic materials, and online resources covering various aspects of the field. The analysis of these resources revealed variations in relevance and accessibility. **Conclusions/take-home message:** The results of this study highlight the importance of access to resources for Speech and Language Therapists working in orofacial motricity in Portugal. By identifying relevant and accessible resources, this study aims to support professionals in enhancing their clinical skills and improving patient outcomes.

**Keywords:** orofacial motricity; Portugal; resources; Speech and Language Therapy

### **P37. THE EFFECTS OF SPEECH THERAPY IN THE COMMUNICATION AND DEGLUTITION OF TRACHEOSTOMIZED PATIENTS AFFECTED BY COVID-19**

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**Background:** Speech therapy is crucial for restoring communication and swallowing functions in tracheostomized patients. Outcome indicators measure the rehabilitation effects on these functions and on quality of life.

**Objective:** To describe the effects of speech therapy rehabilitation on communication and swallowing in tracheostomized patients hospitalized with COVID-19.

**Methods:** This retrospective cohort study involved the analysis of electronic medical records of tracheostomized individuals diagnosed with COVID-19, admitted to a philanthropic hospital in Brazil, and who underwent speech therapy from March 2020 to March 2022. The study was approved by the Ethics Committee (n5637,000). The International Classification of Functioning (ICF) scale was used to measure swallowing function, and the following outcome indicators were used to measure communication and the decannulation process: Speech Valve Adaptation Time (SVAT), Tracheostomy Occlusion Time (TOT), and Total Time for Decannulation (TTD). All scales were applied during assessment and at discharge. Inclusion criteria: individuals over 18 years who underwent tracheostomy due to COVID-19. Exclusion criteria: tracheostomy due to other conditions, head and neck cancer, or pre-existing dysphagia; use of a prior feeding tube; lack of necessary data. Analysis was conducted using the Excel program.

**Results:** Of the 63 patients, 73% were male, and 27% were female. The average age was 60. There was a significant statistical difference between the severity on assessment and at discharge in the items: oral and pharyngeal swallowing of the ICF scale. Regarding outcome indicators, 44% had SVAT between 5-10 days, 82% had TOT between 0-5 days, and 47% had TTD for 15 days or more. At discharge, 100% of the patients were decannulated without any impairments in communication, and 77% of the patients no longer had dysphagia according to the ICF scale.

**Conclusion:** Patients who underwent speech therapy rehabilitation were successfully decannulated and demonstrated improvement in swallowing function according to the ICF scale.

## **P38. HUNGARIAN ADAPTATION OF THE APHASIA IMPACT QUESTIONNAIRE-21: A PILOT STUDY**

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**Background:** Understanding the impact of aphasia (IoA) on an individual's life is crucial for patient-centred care and establishing treatment goals. The Aphasia Impact Questionnaire-21 (AIQ-21; Swinburn et al., 2018) is a patient-reported outcome measure, assessing the IoA on communication, participation, and well-being. Real-life IoA may not always align with impairment-based test outcomes, underscoring the importance of incorporating patient-reported outcome measures in clinical assessments. To date, no tool has been available to assess IoA in Hungarian-speaking individuals with aphasia (IWA).

**Aim / Objectives:** Present the initial steps of adapting the AIQ-21 to Hungarian and introduce a pilot study exploring associations between IoA, language profile, and aphasia severity.

**Methods:** The adaptation included translation, semi-structured in-depth interviews with five IWA to assess relevance and comprehensiveness, and consensus-based discussions among speech-language pathologists to integrate insights into the Hungarian AIQ-21 (AIQ-21-H). In the pilot study, 13 post-stroke IWA underwent assessment with the Comprehensive Aphasia Test-Hungarian (CAT-H) to assess their language profile and aphasia severity, in addition to completing the AIQ-21-H, comprising three domains: Communication, Participation, and Well-being.

**Results:** As expected, most correlations between the CAT-H modalities and the AIQ-21-H domains were negative. Notably, statistically significant negative associations were found between AIQ-21-H Communication and CAT-H Naming, as well as Spoken picture description ( $r = -0.63$  and  $-0.53$ , respectively). Associations with the CAT-H language battery score, a measure of aphasia severity, were negative but non-significant.

**Conclusions / take home message:** Individuals with lower language performance report an increased IoA, although the lived experience of aphasia and actual performance may differ. The initial version of the AIQ-21-H shows promise, providing valuable insights into how aphasia affects language and life. Plans for psychometric analysis, including content validity and internal consistency, will be outlined for a larger sample in the presentation.

**Keywords:** aphasia impact, quality of life, patient-reported outcome measure

### **P39. THE EXECUTIVE FUNCTIONS AND EMOTIONAL COMPETENCES IN SCHOOL-AGE CHILDREN**

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**Background:** Executive functions (EF) represent defining processes through which we ensure the adaptation to the stimulating environment. EF encompasses divergent thinking, problem-solving, attention focus, self-control, and control of emotions. The EF is in close relation with the emotional competence and the ability of children to adapt to the school environment. Moreover, EF training could improve children's emotional competence (Li, Q., Liu, P., Yan, N., & Feng, T. (2020).

**Aim:** This study aims to evaluate the school-age children's executive function capacity in connection with emotional competence, more specifically self-regulation capacity.

**Methods:** The study was developed in a public school from Cluj-Napoca and was approved by the school's head office. The participants were 28 school-aged children, 16 girls, and 12 boys, with ages between 8 years. 1 month – 8 years. 9 months. Children parent's consent was required before evaluation. The assessment tools were: (1) BASC-2, Behavioral and Emotional Screening System for problem-solving, attentional control, behavioral control, and emotional control, (2) CCBQ -- children's coping behaviors questionnaire, (3) Nepsy - the Items for visual attention and drawing fluency.

**Results:** There is a positive correlation between visual attention and attitude towards school ( $r(18) = 607, p < 0.01$ ), structured drawing and attitude towards school ( $r(18) = 554, p < 0.05$ ), as well as between the unstructured drawing subscale and the negative attitude towards school ( $r(18) = 524, p < 0.05$ ). Visual attention and the anxiety subscale, from the BASC 2 instrument ( $r(18) = 600, p < 0.01$ ) positively correlated. To the same extent, the unstructured drawing correlates with the depression subscale ( $r(18) = 549, p < 0.05$ ).

**Conclusion:** The data support the hypothesis that there is a link between executive function and emotional competencies in school-age children. Multiple

**Keywords** executive function, self-regulation emotions, emotional competence, school-age children

## **P40. AUDITORY TRAINING FOR ADULT WITH BILATERAL CI : IMPACT ON QOL AND SPEECH RECOGNITION**

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### **Introduction**

Speech therapy rehabilitation for adults with cochlear implant (CI) with post-verbal deafness is a necessary pathway to support them in developing and increasing their communication skills after surgery.

### **Purpose**

The aim of this work is to examine in adult patients with sequential bilateral CI the link between auditory training and their speech recognition and their quality of life.

### **Methods**

This study was conducted at the UOC of Otolaryngology of A.O.R.N. Hospital in Caserta on patients undergoing sequential bilateral CI since 2017. The sample examined is composed of 15 patients aged between 18 and 64 years, 8 of whom were male and 7 female. Based on if patients were given - or not - auditory-verbal training after CI activation, for both CI and at different times in the clinic, the total sample was divided into two groups. A speech therapy evaluation protocol was drawn up in which the quality of life questionnaires and verbal perception tests were administered to patients.

### **Results**

On qualitative observation of the results obtained, the discrepancy between the two groups in both questionnaires administered is remarkable. In particular, the self-assessment of perceptual abilities shows that the rehabilitated patients present much higher values in all subscales. In the questionnaire concerning quality of life, the greatest discrepancies are shown in the domains: limitations due to physical health, health in general, social activities, limitations due to emotional problems and emotional well-being.

### **Conclusions**

The present study, dealing with data relating to hearing performance and health-related quality of life, observes that CI users, who had undergone speech therapy treatment, had higher scores in both the questionnaires and the verbal perception test. Further research is therefore needed to confirm these preliminary data, taking into account also socio-demographic, cultural and psychosocial factors.

cochlear implant, speech therapy, quality of life, verbal perception, auditory training

**P41. INVESTIGATING THE PERCEPTIONS OF ROMANIAN SPEECH  
AND LANGUAGE THERAPISTS REGARDING INITIAL AND  
CONTINUING TRAINING**

*Ms Gorgan Cristina-Petronela*  
ASTTLR

**Background**

Language and communication disorders can have serious negative effects on a person's educational and career prospects, as well as an increased risk of social, emotional, and psychological issues. It is predicted that there will be considerable growth in the number of persons with language and communication difficulties worldwide, which will raise the demand for skilled and specialized services in the field of speech therapy.

**Aim/ Objectives**

This study aimed to evaluate the level of training held by speech and language therapists, their perspectives on the relevance of initial training programs, variables that drive professional growth, and to identify the future directions of the field.

**Methods**

An online survey with forty questions was distributed, and 102 speech therapists who work in the domains of education, social protection, and private clinics were the subjects of investigations.

**Results**

Based on the data collected, the majority of speech therapists' first training was in the field of education, with study programs lasting three to five years. A significant number of the surveyed speech therapists believe that the specific skills learned in the first training programs are insufficient for entry-level employment. Practice-related challenges are the primary driving force behind participation in ongoing professional development. Opinions about the areas of the profession that need to be regulated include speech therapists' involvement in the educational system, the need to develop occupational standards specific to the speech therapist profession, the need to reconsider initial training, and specialization in particular disorders.

**Conclusions**

Decision-makers can be informed about the situation of speech therapy in our nation by starting with the research that was conducted. Speech therapists' opinions and perspectives as reported in this study can be regarded as important problems in the field that need to be addressed.

**Keywords:** initial training, continuous professional development, public policy

## **P42. TASTE REHABILITATION FOLLOWING (CHEMO)RADIOTHERAPY IN HEAD AND NECK CANCER: A SYSTEMATIC REVIEW**

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Barts Health NHS Trust

### **Aim:**

Dysgeusia in Head and Neck Cancer (HNC) during/following (Chemo)radiotherapy is an issue affecting patients acknowledged but not addressed in literature. This has a profound effect on oral intake, impacting treatment outcomes (Zhang X et al 2020), reported as affecting 79-96% post-treatment, short-term for 87% (Chen W et al, 2022), long-term up to 25% (L Gunn et al, 2021).

Dysgeusia impacts quality of life (QOL) (Hutcheson et al 2020), affecting enjoyment, social engagement, appetite, weight, and intake patterns (Ruo-Redda G, 2006), QOL scores improve with taste (Chen W et al, 2022).

There is a dearth of research on taste rehabilitation in HNC; a systematic review will examine evidence, identifying existence of and need for interventions.

### **Methodology:**

The review will be conducted in accordance with Preferred Reporting Items for the International Systematic Reviews, Meta-Analysis guidelines, registered with Prospective Register of Systematic Reviews.

Thirteen electronic healthcare databases were searched in January 2024, using three defined search terms:

Records are being independently screened by two reviewers against inclusion/exclusion criteria.

Inclusion: Adults, Male/female/nonbinary, HNC, systemic treatment, dysgeusia, post-treatment taste interventions.

Exclusion: Paediatrics, dysgeusia from surgery

Eligible studies will be assessed using critical appraisal tools (CASP, AMSTAR 2), a data extraction tool will be established to record and document data.

### **Results:**

Initial search of the defined terms was carried out in January 2024. Initially twenty-four titles were identified, following deduplication reduced to twenty-two.

Preliminary title and abstract screens were carried out, excluding sixteen.

six titles remain for progression to full-text screening.

### **Conclusion:**

Preliminary searches show lack of research on taste rehabilitation in HNC, despite a body of evidence documenting impact on QOL.

A systematic review will provide information to clinicians, highlighting areas of research need, demonstrating information gaps, influencing intervention design, and informing further research.

Keywords: Dysgeusia, Head and Neck Cancer, Rehabilitation, Quality of Life.



### **P43. "MY D/DEAF OR HARD-OF HEARING CHILD USES MORE THAN ONE SPOKEN LANGUAGE": AN EXPLORATION OF FAMILY LANGUAGE POLICIES AND HARMONIOUS BILINGUALISM**

*Dr Pauline Van Der Straten Waillet, Giovanna Hobeika*  
Université Libre De Bruxelles

D/deaf or hard-of-hearing (DHH) children growing in a context with more than one spoken language are particularly at risk of attrition from their home languages (Crowe et al., 2012). However, active bilingualism contributes to harmonious bilingualism, i.e. to the subjective well-being of family members in relation to their bilingual situation (De Houwer, 2020). As family language policies – the parental decisions on language use – impact on the child's development in each of their languages, this could be a key factor in supporting active and harmonious bilingualism in families of DHH children.

This study aims to explore the links between family language policies and harmonious bilingualism in families of DHH children.

Interviews are conducted with parents of bilingual DHH children aged 5 to 12 in French-speaking Belgium. At least one of the parents uses a home language other than French. Interviews are transcribed and analyzed using thematic analysis (Braun & Clarke, 2006).

Recruitment and data collection are underway. Transcription and data analysis are planned for April and May 2024. The results and conclusions will be presented at the congress.

Results will be discussed in relation to families' quality of life and recommendations for professionals working with families of bilingual DHH children.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.

Crowe, K., McLeod, S., & Ching, T. Y. C. (2012). The cultural and linguistic diversity of 3-year-old children with hearing loss. *The Journal of Deaf Studies and Deaf Education*, 17(4), 421–438.

De Houwer, A. (2020). Harmonious Bilingualism: Well-being for families in bilingual settings. In A. Schalley & S. Eisenclas, *Handbook of Home Language Maintenance and Development: Social and Affective Factors*. De Gruyter Mouton.

Hoff, E. (2021). Why bilingual development is not easy. *Advances in Child Development and Behavior*, 61, 129–167.

## **P44. ESLA SURVEY: DISABILITY POLICIES AND CAREGIVERS' ROLE IN EUROPE**

*Dr. Raffaella Citro<sup>1</sup>, Dr Blazenka Brozovic<sup>2</sup>, Dr Daniela Vassallo<sup>2</sup>, Dr Dorina-Anca Talaş<sup>2</sup>, Dr Tomislav Radošević<sup>2</sup>, Dr Jessica Åkermarck<sup>2</sup>*

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<sup>2</sup> ESLA

### **Background:**

The 2024 European SLT Day theme encompassed the importance of collaboration between SLTs and caregivers, who are fundamental pillars in the management of everyday life for people with communication and swallowing disorders. Informal caregivers' role is more and more recognized, both by clinical research and civil society, that often gives them a legal status, essential for getting the rights they need.

### **Objectives:**

ESLA "European SLT Day and Webinars Series for PD" TaskForce aimed to investigate the disability policies and caregivers' status in Europe in relation to communication and swallowing impairments.

### **Methods:**

A survey was launched among ESLA member associations, in the month of February 2024. The survey was designed on the needed data, divided into four sections with a total of ten questions and supplied by SurveyMonkey platform. The sections were: Introduction, SLT Services in your country, Disability Care, The caregivers' role.

### **Results:**

30 associations, from 28 countries and 2 Belgian regions, answered the survey. The results remarked that SLT is thoroughly available in Europe, but not in a timely manner for all the people who need it, due to the lack of professionals and sometimes of fundings. Resources are widely employed for home healthcare, for communication tools and, in all the states, for a financial compensation specifically assigned to disabled people. The questions about welfare and legislation got a few answers like "I'm not aware". In 6 out of 30 states there isn't any law/regulation about the caregivers' role.

### **Conclusions:**

Some common elements merge SLT services all over Europe, as long waiting lists. A common feature is also the different level of attention that communication impairments get in comparison to motor impairments. SLTs need to be more conscious of the legislative and social aspects in order to advocate for equitable models of service delivery.

### **Keywords:**

Disability, Caregiver, LifeQuality

## **P45. DEVELOPMENTAL LANGUAGE DISORDER: STRATEGIES FOR BETTER COMMUNICATION IN SCHOOL SETTINGS**

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**Background:** Developmental Language Disorder (DLD) is one of the most prevalent neurodevelopmental disorders although the lack of public awareness about it (Castro et al., 2021; Thordardottir et al., 2021). DLD affects the way people use spoken language and it has a major long-term impact in social and emotional well-being as it influences scholar and work success and integration (RADLD, 2021).

It is estimated that 1 in 14 children demonstrate symptoms of DLD, which means that there are in average two children with this condition in each class. Many countries have long been undertaken inclusive policies and these children are integrated into mainstream schools. Portugal is one of those countries and presently multidisciplinary teams in schools are organised to draw actions to support learning and inclusion of children diagnosed with DLD (Castro et al., 2019).

**Aim:** We present the result of a collaborative work done by speech and language therapists and kindergarten and primary school teachers in identifying and drawing measures for better communication to and from children affected by DLD in inclusive school contexts.

**Methods:** During a workshop divided into several theoretical and practical moments, a group of kindergarten and primary school teachers is provided with knowledge and tools for identifying children with specific language and communication needs, and for drawing tailored strategies and measures to improve the communication to and from these children in the school environment.

**Results:** The measures and strategies proposed are assessed in terms of efficacy and will be widespread through a website available for the public and similar professionals.

**Take home message:** DLD is a not very well-known disorder and, in consequence, not all children get enough support, struggling during school years and afterwards. Collaborative interventions must be pursued and widespread, to provide a better communication and quality of life for people with DLD.

**P46. REHABILITATION OF LANGUAGE AND SWALLOWING ABILITIES IN PATIENTS WITH DISORDERS OF CONSCIOUSNESS: AN ONLINE SURVEY**

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<sup>12</sup> Clinical and Research Institute of Emergency Pediatric Surgery and Trauma (CRIEPST) (E.F.)

**Introduction:** Patients with severe brain injury and disorders of consciousness (DoC) are unable to communicate and frequently experience severe dysphagia. The DoC Special Interest Group of the International Brain Injury Association (IBIA) created a survey to identify the tools that are used by (speech-language) therapists, detect their needs and possibly identify new practices to improve language and swallowing rehabilitation in post-comatose patients.

**Methods:** The survey was developed based on the following structure: (1) Study presentation, (2) Socio-demographic information, (3) General questions regarding speech and language therapies (4) Swallowing assessment and management, (5) Language/communication assessment and management, and (6) Conclusion.

The English questionnaire was then translated into 6 other languages, transferred to the Alchemer platform, and massively diffused.

**Results:** Preliminary data highlight the profile of therapists involved in the rehabilitation of language and swallowing abilities after coma, their degree of concern regarding the assessment and management of such abilities in this specific population, their recommendations as well as the tools they preferentially use in their practice.

Conclusions: This survey highlights the lack of guidelines for speech-therapy practice in patients with severe brain injury and DoC. Early and long-term assessment and management of both language and swallowing abilities should be improved, notably by providing (and/or adapting) new clinical tools.

## **P47. THE CONTRIBUTION OF WORKING MEMORY TO LANGUAGE PERFORMANCE IN PEOPLE WITH APHASIA: A SYSTEMATIC REVIEW**

*Ana Došen<sup>1</sup>, PhD Ana Matic Škorić<sup>1</sup>*  
<sup>1</sup> University Of Zagreb

It is generally recognised that aphasia is a language-based impairment. However, studies have shown that PWAs have deficits in working memory (WM) that affect their language performance. For a better understanding of the link between WM and language abilities in PWAs, an insight into the way in which WM components contribute to specific language abilities is needed.

Due to the lack of unambiguous data on the contribution of WM to language performance of PWA, current study aims to address the following questions: 1) what are the most commonly used tests or tasks to measure WM in PWA and 2) which component of WM contributes to a specific language ability.

The study is grounded in the systematic review of recent literature. Two databases were inspected: Web of Science and Scopus. The search was based on the pre-defined search strings: APHASIA AND WORKING MEMORY AND COMMUNICATION; APHASIA AND WORKING MEMORY AND LANGUAGE PERFORMANCE (OR LANGUAGE PRODUCTION OR LANGUAGE COMPREHENSION). The detected papers have been exported to the Rayyan programme for conducting systematic reviews and the exclusion criteria have been determined. A PRISMA-ScR flow diagram will be used to present the process of search, exclusion, and selection of studies.

So far, 2585 papers have been identified, 1470 were resolved as duplicates, and the remaining 1115 are currently being inspected. Reasons for exclusion mostly include the population (e.g., participants with epilepsy or dementia) and study design (e.g., if only reading and writing abilities are addressed). The authors will extract key findings and the obtained data will be presented by means of synthesis method according to the research questions.

Future research on WM in PWAs will certainly continue, and this review could contribute to its systematisation. Eventually, the gathered knowledge can be transferred into practise and thus help in the assessment and individualisation of therapy.

## **P48. APHASIA ASSESSMENT TESTS: A SYSTEMATIC REVIEW OF THE LITERATURE**

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Speech therapy

### **Background**

Aphasia assessment tests used by health professionals help to assess and diagnose language disorders associated with aphasia. Accurate assessment of aphasia is essential to determine the type, degree, and site of the language deficit, as well as to plan effective treatment. In the literature, a strong heterogeneity of assessment tool validated between the various national contexts is evident. Clinicians have conflicting or incomplete information available when deciding which tool to use.

### **Objectives**

The purpose of this systematic review is to introduce professionals to existing aphasia assessment tools. The aim of this systematic review is to describe existing aphasia assessment tools. The objective is to provide clinicians and researchers with information on the available instruments, the countries in which they have been validated and their psychometric properties.

### **Methodology**

The search was conducted on PubMed, SCOPUS, CINAHL, and Web Of Sciences, with no restrictions on publication period, language, and country in which the study was carried out. The data were extracted from studies that matched the following criteria:

- 1) Validation articles (cross-sectional studies, psychometric studies);
- 2) Studies on questionnaires/scales/screening, outcome measures for evaluating aphasia.

### **Results**

Out of 1278 articles, only 243 met the inclusion criteria. Prominent among them were 129 instruments. The most frequently used tools are Stroke and Aphasia Quality of Life Scale-39 (SAQOL-39), Western Aphasia Battery (WAB), Aachen Aphasia Test (AAT).

### **Conclusion**

The analysis identified:

- 1) 67 scales to assess language in aphasia (naming, comprehension, anomie, metalanguage, repetition, etc.);
- 2) 34 scales to assess quality of life on daily communication, depression, stress, apathy, anxiety, social integration, decision-making ability, environment, etc.;
- 3) 24 cognitive assessment scales on memory and attention.

In addition, rating scales on acute stroke, therapeutic alliance, anosognosia, frontotemporal dementia differentiation, gestures, and auditory-perceptual assessment have been detected.

**Keywords:** systematic review, assessment tools, aphas

**P49. TREATMENT OF MOTOR SPEECH DISORDERS THROUGH  
MUSIC, RHYTHM, AND REPETITIVE GAMES**

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Apraxia of speech and Dysarthria are known as motor speech disorders, therefore the therapy for both incorporates principles of speech movement, of motor learning. Apraxia disrupts the motor planning and programming aspects of speech, while Dysarthria affects physical execution of speech due to muscle control difficulties. Therapy for motor speech disorders should focus on improving the movements of speech and overall communication skills in a diverse and natural manner. There are numerous studies which explore whether music plays a role in the facilitation of music-based speech and language approaches in different speech and language disorders. Findings suggest that combining melody and rhythm is a therapy addressed for recovery of speech and communication. Almost every identified region of the brain is influenced by music (Levitin, 2007, p. 86). There are many studies demonstrating association between music and language (Patel et al., 1998; Koelsch & Siebel, 2005; Parsons et al., 2005; Brown et al., 2006). Thaut and Hoemberg (2014) concluded that “music and speech , especially in singing, share multiple control processes with regard to auditory, acoustical, temporal, neuromuscular, neural, communicative, and expressive parameters” (p.5). Hausen et al. (2013) demonstrated that music and speech perception occur in interrelated brain regions. Combining music, movement, with elements of phonetics as targets for treatment, and monitoring progress in targeted produced speech is a strategy meant to improve the language abilities of children with motor speech disorders too. The methods we use consist of exercises with repetitive musical speech games. Incorporating music, rhythm and games into the speech practice is a therapy embraced by many clinicians, as we all know that music is an universal language that carries patterns able to facilitate language and communication among different speech disorders, it is also a fun routine to learn.

**Keywords:** motor speech disorders, music, rhythm, repetitive speech games



**P50. MINI LINGUISTIC STATE EXAMINATION (MLSECZ): CZECH ADAPTATION OF PRIMARY PROGRESSIVE APHASIA SCREENING (WORK IN PROGRESS)**

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**Background**

The Mini Language State Examination (Patel et al. 2019) is a newly developed screening, which allows detecting different patterns of language deficits that characterize the three variants of PPA. There is no diagnostic tool for PPA in the Czech Republic. Thanks to early diagnosis, we can set up a therapy that will help preserve functional communication.

**Aim**

To introduce the Czech adaptation of the MLSE, focusing on changes of items in comparison to the original English version.

**Methods**

Compared to the original version of the MLSE, only some items were changed due to the cultural differences and language-specific nature of this test.

The selection of new items was based on the results acquired during the prenorming process. 42 healthy adult controls (29 women, 13 men, with 72yrs mean age) were tested with all items translated from the original version and with new „language specific“ items included.

**Results**

The Czech version includes items that 90% of the healthy population answered correctly. Of the original MLSE items, naming and identifying, semantic associations, and sentence comprehension were problematic for the Czech population.

However, based on these results, only minor changes were made in subtests of the MLSEcz: in naming pictures; repetition of syllables; word repetition and comprehension, non-verbal semantic association; sentence comprehension; reading words and pseudowords; sentences repetition.

**Conclusion/take home message**

The Czech adaptation of the MLSE will be the subject of a complex standardization process (testing of patients with PPA and the healthy population) in the near future. After standardization,

the test will be available for the clinical practice of speech-language therapists for early identification of language deficits in patients with PPA and to set up a therapy that will help preserve functional communication.

Key-words PPA, MLSEcz, functional communication, diagnostics

**P51. INVESTIGATING THE EFFECTIVENESS OF SENTENCE LEVEL THERAPY IN APHASIA WITH TWO DIFFERENT APPROACHES**

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**Background:** The present study is a randomized control trial, which investigates the effectiveness of sentence-level therapy, delivered through different approaches- direct (one-to-one therapy) vs combination therapy (one-to-one together with group therapy) and compared it with a control group of delayed therapy, for Greek-speaking people with aphasia.

**Aim/s:** The study explored the effectiveness of: a) mapping therapy vs control and b) direct vs combination mapping therapy.

**Method:** This study ran within the framework of the “Thales” Aphasia project, the largest investigation of aphasia in the Greek language and aphasia speech and language therapy (SLT) intervention. We recruited 14 individuals with aphasia in Greece; 6 of them were at the control group of the delayed treatment; 8 received direct and 6 combination therapy approach. Participants on the therapy approaches were assessed two times before therapy (double baseline, week 1- 6), post-therapy, and 3-months later (follow-up). Participants on the control–delayed therapy group were assessed three times before therapy (week 1-6-19). Therapy approaches individuals were randomly allocated to follow a 3-hours per week for 12 weeks speech and language therapy program in one of the two therapy approaches (direct –combination).

**Results:** Descriptive statistics will be used to summarize data. Individual participants’ quantitative data from the different assessment points will be compared to explore changes in each participant’s language, social participation, and quality of life (repeated measures ANOVA). Between (group: individual vs. combination) and within subjects (time) analysis (mixed ANOVA) will be used to determine the effectiveness of different ways of delivering therapy across time.

**Conclusions:** This study will provide novel information on the effectiveness of mapping therapy when delivered in different contexts (direct vs. combination therapy) and can support evidence-based practice in Greece and

promote cross-cultural comparisons.

**Keywords:** RCT, aphasia, mapping therapy

## **P52. QUANTITATIVE MEASURES OF DISCOURSE SKILLS IN GREEK-SPEAKING INDIVIDUALS WITH APHASIA**

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**Background:** Discourse is a fundamental aspect of everyday communication. Aphasia may have an impact on the information a speaker communicates in discourse. Several quantitative measures, like correct information unit (CIU) and main event analyses, are available for monitoring changes in the discourse of individuals with aphasia in English-speaking countries.

**Aim/s:** The aims of this study were (a) to compare the discourse performance of Greek-speaking healthy adults and adults with aphasia and (b) to investigate the influence of stimuli type on performance.

**Method:** Seven adults with aphasia (APH) and seven neurologically intact adults (NI) matched for age and educational level took part in the study. The NI demonstrated normal cognitive functioning as measured by the Montreal Cognitive Assessment - MoCA (Nasreddine et al., 2005). Participants' language samples consisted of their storytelling of two pictures ("Cookie Theft", and "Cat in the Tree") and a picture sequence ("The Fight") from Nicholas and Brookshire (1993). The samples were audio-recorded and then orthographically transcribed. The obtained language samples were analyzed for CIU, CIU per minute, and proportion of main events.

**Results:** The results indicated that adults with NI had a significantly higher proportion of CIUs, CIUs per minute, and main events than adults with aphasia. There was no significant difference in the results for the picture stimulus between a single picture and picture sequence for the quantitative measures CIU and CIU per minute. Both groups reported significantly more main events when responding to the sequential picture.

**Conclusions:** The findings of this study are consistent with the literature. For more robust findings in the Greek language, a future study with a higher number of participants in both groups should be conducted.

**Keywords:** discourse, aphasia, quantitative measures, Greek language

## **P53. EXPIRATORY MUSCLE TRAINING - EFFECTS ON SPEECH AND SWALLOWING IN PARKINSON'S DISEASE AND MULTIPLE SCLEROSIS**

*PhD Malin Antonsson<sup>1</sup>, PhD Kerstin Johansson<sup>2</sup>, SLP Ulrike Lesueur<sup>4</sup>, SLP Anna Bonde Dalemo<sup>3</sup>, Professor emerita Lena Hartelius<sup>1</sup>*

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<sup>4</sup> Department of Neurology, Angered Hospital

### **Background**

Reduced strength in respiratory muscles is common in several neurological diseases including Parkinson's disease (PD) and multiple sclerosis (MS), and can have a negative impact on voice, speech, and swallowing. One treatment showing promise is expiratory muscle strength training (EMST) where you use a device that provides resistance during expiration. Although some studies show positive effects post EMST, studies evaluating the effect of maintenance training are lacking.

### **Aim / Objectives**

The aim of the study was to investigate the effects of EMST on speech, voice and swallowing in persons with PD or MS.

### **Methods**

Fifteen participants with PD or MS completed the entire study protocol. Participants underwent 5 weeks of EMST and 12 weeks of maintenance training, i.e., training with lower frequency. Half of the participants were randomized to start with sham before EMST.

The primary outcome measures were maximum expiratory strength (MEP), sustained phonation and the Timed Water Swallow Test (TWST). Besides these measures, the participants filled in the Questionnaire on Acquired Speech Disorders (QASD), Sydney Swallowing Questionnaire (SSQ) and a study specific questionnaire with open-ended questions.

### **Results**

EMST had a positive effect on MEP for both the PD- and the MS-group (within-group comparisons). No effect was seen on sustained phonation or swallowing capability measured with TWST. In addition, no effect was seen on the questionnaires QASD (voice, speech and communication) or SSQ (swallowing).

Post maintenance, the majority of participants (91.7%) described experiencing the intervention positively; 73% reported that it had a positive effect on communication, and 50% experienced a positive effect on swallowing.

#### Conclusions / take home message

This is the first study evaluating EMST both post EMST and post maintenance training. Despite a positive effect in MEP, no other measures showed an improvement post EMST. Despite this, EMST was positively experienced by the majority of participants

## **P54. PUPPETRY AS A VOCABULARY DEVELOPMENT TOOL FOR TYPICALLY DEVELOPING PRESCHOOLERS**

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**Background:** According to the literature puppet theatre and the performing arts in general can have a positive impact on the educational development of pre-school children. Furthermore, finding shows performing arts can help preschool children to enrich their vocabulary without memorization.

**Aim/s:** This study aimed to investigate how puppet theatre affects vocabulary development (perception and expression) in typically developing pre-school children aged 3 to 4 years.

**Method:** The study took place for 1 month in a nursery school in Athens. The participants were thirteen children (7 boys and 6 girls) of Greek ethnicity of preschool age, specifically 3-4 years of age. During the first two weeks, cognitive and linguistic assessment was performed (Raven's, DVIQ Pre Schoolers, Word Finding Vocabulary Test), at the third week all children were assessed on expressive and perceptual vocabulary of gardening, and two days after the puppet show (25 minutes) was performed. The aim was to develop children's vocabulary with words related to gardening. A double follow-up was conducted the day after the puppet show and again two weeks after the puppet show. The children were assessed first on expressive vocabulary and then on perceptual vocabulary.

**Results:** Findings revealed statistically significant differences over time for both perceptual  $F(2.23,24.55)=14.63$  ,  $p< .001$  and expressive vocabulary  $F(2.48,27.32)=19.34$ ,  $p< .001$ . The vocabulary was maintained, i.e. there was no significant drop from the first follow up to the second follow up.

**Conclusions:** This study is the first to report a positive effect of puppet theatre in Greek-speaking preschool children. Further research with larger samples is needed to implicit the outcome.

**Keywords:** puppet theatre, vocabulary development, preschool children's

## **P55. EXPLORING DYSPARTHRIA ASSESSMENT LANDSCAPE IN SPAIN: TOWARDS STANDARDIZATION AND VALIDATION IN THE SPANISH LANGUAGE**

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**Background:** Dysarthria's complex nature challenges speech-language pathologists (SLPs), especially in creating precise and culturally relevant assessments. The lack of validated, culturally adapted tools for dysarthria in Spanish complicates diagnosis and intervention planning. This study addresses the critical need for standardized and validated assessment instruments tailored to Spanish-speaking populations.

**Objective:** We aim to shed light on the prevailing practices, tools, and methodologies employed by SLPs in Spain in the assessment of dysarthria. By identifying current practices and gaps, the study underscores the necessity for standardized and validated assessment methods specific to the Spanish language and culture.

**Method:** A meticulously designed questionnaire surveys the assessment strategies employed by Spanish SLPs, covering aspects such as clinical experiences, types of dysarthria encountered, utilized assessment tools and tasks, and perceived shortcomings in existing assessment protocols. Targeting a broad spectrum of SLPs across Spain, the study endeavors to capture a comprehensive understanding of dysarthria assessment in clinical settings.

**Results:** While definitive results are forthcoming, initial responses suggest a significant reliance on non-standardized assessment protocols and ad hoc adaptations of tools among professionals in Spain. The preliminary findings indicate a tendency towards observational evaluations and general speech-language pathology assessments, highlighting a pronounced need for dysarthria-specific assessment tools in the Spanish language.

**Conclusions:** This ongoing study emphasizes the urgent necessity for developing, standardizing, and validating dysarthria assessment tools in Spanish. Such instruments are essential for enhancing the precision of diagnoses and the efficacy of subsequent interventions for Spanish-speaking individuals with dysarthria.

**Keywords:** Dysarthria, Assessment Tools, Spanish, Standardization, Validation



**P56. SILENT AND FILLED PAUSES IN ALZHEIMER'S DISEASE (AD)  
AND THE LOGOPENIC VARIANT OF PRIMARY PROGRESSIVE  
APHASIA (LVPPA)**

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**Background**

Recent research has highlighted the role of speech markers in differentiating neurodegenerative diseases. This study investigated silent and filled pauses in AD and lvPPA, two conditions that share some neuropathological features but have distinct clinical presentations.

**Aim / Objectives**

The aim of the study was to unravel the impact of these neurodegenerative diseases on speech fluency and pause patterns.

**Methods**

The study involved 18 adults, including 6 individuals with AD, 6 with lvPPA, and 6 neurotypical adults. There were no significant differences in age, education, and gender between the groups. Participants with AD and lvPPA were matched on a global cognitive measure. Connected speech samples were elicited using a picture description task. Five speech measures (speech rate, mean pause duration, pause duration percentage, silent and filled pauses per total words) were analyzed to evaluate differences in speech patterns.

**Results**

The results revealed significant differences between the groups across all measures except for filled pauses. As expected, individuals with lvPPA demonstrated a slower speech rate compared to neurotypical adults. Individuals with AD exhibited longer mean pause durations compared to the control group. Furthermore, there was a significant increase in the number of pauses per total words and a higher pause duration percentage in the speech of individuals with lvPPA compared to controls, indicating a distinctive pattern of speech disruption in this group.

**Conclusions / take home message**

These results underline the challenges faced by individuals with AD and lvPPA in maintaining fluency and coherence in speech. Despite the small sample size, these findings contribute to the growing body of evidence on the speech characteristics associated with AD and PPA and highlight the importance of pauses as a key aspect of connected speech production in these conditions and for differential diagnosis.

**Keywords**

Primary progressive aphasia; Alzheimer's disease; connected speech; pauses

**P57. THE RELATIONSHIP BETWEEN MATERNAL INFANT-DIRECTED  
SPEECH AND LANGUAGE DEVELOPMENT**

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Lexical and syntactic features of maternal IDS are characterised by simplification and redundancy, which is thought to be an instinctive strategy to support children's language acquisition. However, there is considerable variation between individuals. In previous research, we found that the lexical and syntactic diversity of IDS at 18 months does not correlate with the size of children's equally diverse vocabulary at 18 months, therefore we cannot assume a simultaneous adaptation trend. However, the reduction in verbal vocabulary size in maternal ID narrative samples at 6 months has been associated with children's higher CDI expressive vocabulary scores at 18 months - thus, a longitudinal relationship between maternal IDS and language development can be detected. The present study aims to explore the links between patterns of maternal IDS in free conversations and children's subsequent language outcomes including language delay.

We made audio recordings in free-play settings with the same dyads who participated in the previous study. In our preliminary analysis, we selected 30 mother-child dyads, divided into 3 groups based on children's expressive vocabulary measured at 24 months by the CDI W&S form (1: <50 expressive vocabulary, n=10; 2: median vocabulary, n=10; 3: largest vocabulary size, n=10). All dyads played with the same toys in a standardized situation at 6 and 18 months. A 10-minute audio recording of each play situation was analysed in terms of MLU, number of utterances/words.

Our preliminary analysis showed no detectable difference between mothers of children with different vocabulary levels in patterns of IDS at either 6 or 18 months. However, the results of Group 1 show a similar pattern to Group 3 (e.g. MLU - Figure 1 and Figure 2). This might mean that variation of lexical/syntactic features of early IDS in a certain range may not or only slightly influence children's later language outcomes .

## **P58. VERBAL FLUENCY - EVALUATING COGNITION THROUGH LANGUAGE**

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**Introduction Background:** Verbal fluency, defined as the number of accurate lexical productions complying with a given criterion, respecting a certain unit of time, is a good predictor for both lexical function, vocabulary volume, lexical networks and linguistic organization, as well as a suitable evaluation index of executive functions, specific search strategies, and the ability to activate or inhibit responses or memory integrity. Normative studies have been conducted in different languages and countries, but the fluency tests were also used for neuropsychological assessments.

**Objectives:** Thus, starting from these concepts, the present work aims to identify the specifics of the development of verbal fluency in romanian adults, romanian language speakers, and to observe which factors can be predictors of fluency performance. The aim is to illustrate the relationship between fluency and gender, age, level of education and socio-economic level, among a sample of 100 people aged between 18 and 85 years.

**Method and tools:** Data were collected based on a demographic questionnaire and audio recordings, applying tools targeting phonemic fluency: the FAS combination, as well as tools targeting semantic fluency: Category Test, Animals.

**Results and conclusions:** It was observed that age and educational level can be predictors in the assessment of verbal fluency, gender and socio-economic level not having a significant influence on the quality or correctness of the answers. Age showed a negative correlation with fluency performance, both quantitatively and qualitatively, as age increases, the number of correct answers, clusters and switches decreases, while educational level showed a positive correlation with fluency performance. The paper represents a first perspective on verbal fluency in a pilot sample, limited by the relatively small number of participants, with additional research directions aimed at extending the assessments and results to a larger number of respondents.

**Keywords:** verbal fluency, predictors of verbal fluency, executive functions

**P59. UKRAINIAN OBJECT NAMING TEST**

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Despite the type of aphasia, word-finding difficulties remain a major issue in this disorder. Thereafter, object naming remains one of the key tests used in aphasia assessment. To date, there has not been such a test in Ukrainian; therefore, the purpose of the project presented here is to develop the first object naming test in Ukrainian.

It has been well established that spoken word production incorporates semantic, lexical, and phonological levels of processing. The breakdown at each of these levels can be observed by corresponding error types as well as psycholinguistic characteristics such as imageability, frequency, and length. Therefore, the goal of the test presented here aimed to develop object naming test taking into account these psycholinguistic characteristics.

Given the absence of relevant language corpuses in Ukrainian, the development of this test started from the questionnaire, followed by psycholinguistic RT behavioral experiment and then validation and standardisation of the test were conducted.

Ninety healthy participants were given a five-point scale questionnaire to assess the frequency features of selected words. Ninety subjects evaluated the imageability of items as high or low. Psycholinguistic characteristics, such as frequency and imageability, were then assigned to the items, and length was determined by the tester. The list was validated for naming agreement with ten healthy subjects. Following finalisation, a picture naming experiment was conducted with thirty healthy participants, controlling for these characteristics.

The validation of the Object Naming Test was carried out with twenty healthy subjects, and the process of standardization piloting commenced with individuals exhibiting moderate to mild aphasia resulting from stroke, traumatic brain injury (TBI), and/or tumor.

The results, discussion, and implications of the validation of this test with healthy subjects as well as standardisation with people with aphasia are currently under analysis and will be presented in a poster.

**P60. MEDICAL SPEECH–LANGUAGE PATHOLOGY IN BULGARIA**

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**Abstract:**

**Introduction:** This study emphasizes the particular characteristics and challenges of Medical Speech–Language Pathology (MSLP) in Bulgaria. Life expectancy at birth in a country is the lowest in EU. Stroke is responsible for 15–9% of all deaths – more then 40 000 cases are reported annually.

**Objectives:** This study presents the historic and current status, opportunities and perspectives for the development of MSLP in Bulgaria.

**Method:** Succinct theoretical overview and comparative analysis of the existing literature data sources on MSLP in Bulgaria. This study presents: (i) an historic analysis of the development of this dynamic, expanding, and continuously developing health profession in the Bulgaria; (ii) a brief historical notes (timeline) related to the development of Speech–Language Pathology in Bulgaria; (iii) the present scope of practice of Speech–Language Pathology in Bulgaria, which is a key problem for the prospects for the development of this specialty and profession in Bulgaria, and (iv) the establishment of master's degree program in MSLP.

**Results:** Bulgaria has traditions in the development of MSLP dating back to the 1950s. The first division on Logopedics with stuttering section was created in 1951 by the neurologist Dimitar Daskalov (1959–1976) within National Research Institute of Neurology and Psychiatrics in Sofia. The first so called “clinical logopedists” were physicians. Unfortunately, for a 70-year period, the Bulgarian health policy failed to develop a stable health system of logopedics rooms. Nowadays, patients with aphasia or dysarthria do not receive health support for therapy of their communication disorders.

**Conclusions:** The complexity of ever-changing health standards, new health policies, changes in the healthcare environment, necessitates an advanced level of professional expertise on MSLP. The description of the scope of practice is fundamental for the development of MSLP.

**Keywords:** Medical Speech–Language Pathology, communication disorders, health system, evidence–based practice

**P61. MULTISENSORY TRAINING INTERVENTION FOR HEARING  
IMPAIRED CHILDREN: A PRELIMINARY RESULTS OF A PILOT  
STUDY**

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One of the most crucial and early objectives of the rehabilitative program for hearing-impaired children, is auditory perception education. The development of spoken language in children is directly linked to their auditory capacity. Most studies conducted on children with hearing loss indicate delayed development of verbal language, which might impact linguistic and communicative abilities into adulthood. This paper examines the influence of the Interactive Multisensory Environment (iMSE) on the hearing training of deaf children in comparison to traditional methods. According to some studies, a multisensory stimulation is more effective than monosensory protocols. This work focuses on a research project involving the experimentation of a multisensory multimedia room. This room is intended for perceptual training activities with hearing-impaired patients. Our study aims to investigate whether the use of this multisensory environment offers equal or better learning opportunities compared to perceptual training conducted in a traditional therapeutic setting. Over a 7-week duration, two groups of deaf children were evaluated and trained, one utilizing the iMSE (Experimental Group) and the other employing a traditional PC-based method (Control Group). The training encompassed four different thematic categories. The goal of these tests is to evaluate the child's abilities in detecting, categorizing, and distinguishing certain acoustic-perceptual properties that characterize verbal signals. These tests are administered under ideal listening conditions, with hearing aids or cochlear implants worn, and at conversation intensity. These initial findings suggest that the iMSE not only enhances children's motivation and engagement but also delivers improved results. The iMSE offered an immersive and dynamic learning experience. Results indicate that the iMSE yielded positive effects on the training outcomes of deaf children, as evidenced by improved performance and engagement. This research sheds light on the potential benefits of innovative multisensory technology in educational settings for children with hearing impairments, offering insights for future educational interventions.

## **P62. PROPOSAL FOR A DIGITALIZED SLOVAK VERSION OF THE MINI LANGUAGE STATE EXAMINATION: WORK IN PROGRESS**

*Mr. Tomáš Benko<sup>1</sup>, Mrs. Dominika Kilvályová<sup>1</sup>, Mrs. Tatiana Strapcová<sup>1</sup>, Mr. Pavol Pánisz, Professor Peter Garrard<sup>2</sup>, Professor Zsolt Cséfalvay<sup>1</sup>*

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### **Background:**

Early diagnosis and analysis of language deficits in patients with primary progressive aphasia is a challenge even for experienced speech-language therapists. MLSE (Mini Language State ExaminationI) is a newly developed diagnostic tool, which has the potential to evaluate all important areas of language processes in a short time.

### **Aim:**

Our goal was to create a proposal for a digitalized version of the Slovak adaptation of the MLSE, which would facilitate the administration of MLSE, as well as the automatic calculation of all test scores.

### **Methods:**

In the Slovak adaptation of MLSEsk during the prenorming phase, we added new items to the original test items (language and culture-specific pictures, words, or sentences), and in the final Slovak version, we selected those items that 90% of the healthy adult population (N=83) solved successfully. Subsequently, we analyzed performance in each 11 subtests on a sample of healthy adult population (N=76) of different ages and education.

### **Results:**

We developed a user-friendly digitalized MLSEsk scoring sheet, using basic web technologies of HTML, CSS and JavaScript. Functionality enhancements include automating all MLSE score calculations. Additionally, we integrated a feature to generate a report of the results. We received positive feedback from experienced SLTs who used this version on a smaller sample of patients with PPA.

### **Conclusion/take-home message:**

Our initial experience using our proposed digitized version of the MLSE shows that this version has the potential to offer SLTs a form that facilitates administration, scoring during testing, and automatic calculation of total and subscores of the MLSE.

### **References:**

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**P63. FIGURATIVE LANGUAGE IN APHASIA: PROOF AGAINST THE RIGHT-HEMISPHERE HYPOTHESIS FROM SLOVAK SPEAKING PWA**

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**Background:** The right-hemisphere hypothesis has been a topic of discussion in the context of figurative language processing in adults with brain damage. However, recent studies have shown that figurative language processing is impaired following damage to both the right and left cerebral hemispheres.

**Aim:** A tool for assessing higher language skills, which will incorporate a subtest specifically designed to evaluate figurative language processing is being developed. This pilot study aims to validate the figurative language processing tasks within this tool on a sample of patients with right-brain damage (RBD) and left-brain damage (LBD). Additionally, the study seeks to investigate potential dissociations in figurative language processing patterns associated with damage to each hemisphere.

**Methods:** The figurative language processing subtest comprises four tasks: verbal explanation of a metaphor, metaphor meaning identification from pictures, interpretation of irony, and joke completion. These tasks were piloted on two clinical samples: people with mild aphasia (LBD, N=19) and possible cognitive communication disorder (RBD, N=18) due to stroke or tumor. Each clinical sample was compared to a control group matched for age, gender, and education.

**Results:** The RBD group demonstrated significantly lower performance on the figurative language subtest compared to the control group ( $p = .018$ ,  $r = .452$ ), with difficulty in joke completion ( $p = .043$ ,  $r = .374$ ). Similarly, the LBD group displayed significant impairments, as evidenced by lower total scores ( $p = .002$ ,  $r = .599$ ) and difficulties with joke completion ( $p = .003$ ,  $r = .565$ ).

**Conclusions:** The pilot validation of the figurative language processing subtest yielded promising results, demonstrating its ability to discriminate between individuals with and without brain damage. Notably, both the RBD and LBD groups exhibited similar performance patterns, lending further support to the growing body of research challenging the exclusive right-hemisphere dominance hypothesis in figurative language processing.

**Keywords:** figurative language, aphasia, right brain damage, left brain damage



## **P64. IMPACT OF LANGUAGE IMPAIRMENT ON ACTIVITIES, PARTICIPATION FROM THE PERSPECTIVE OF PATIENTS WITH STROKE-INDUCED APHASIA**

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*<sup>1</sup> Comenius University, Department of Communication Disorders*

### **Background**

Aphasia has a profound effect on a patient's life, especially on their communication and participation in everyday activities. Patient-reported outcomes for persons with aphasia offer a new method of obtaining subjective reports of social and psychological well-being.

### **Aim**

To analyze the impact of aphasia on activities, participation, and emotional state of patients with different severity and clinical syndromes of aphasia.

### **Methods**

The study involved thirty-one individuals suffering from chronic aphasia: eleven patients with Broca aphasia, ten with conduction aphasia, and ten with anomic aphasia. The impact of acquired language disorders on patients' activities and participation was evaluated using the Slovak version of the Aphasia Impact Questionnaire (AIQ21, Swinburn et al., 2018, Mackulin, Cséfalvay, 2021). Patients with varying degrees of severity and clinical aphasia syndromes were assessed with comprehensive language assessment DgAAA (Cséfalvay et al. 2018).

### **Results**

Analysis of the results showed that aphasia had the most significant negative impact on activities, and participation in the group of patients with Broca's aphasia, and the least on patients with anomic aphasia. The total score in the AIQ21 did not show a significant relationship with the overall rating of the participants in the language battery, however, higher scores on the comprehension subtest were associated with significantly better scores on all AIQ domains ( $r = -0.45, -0.39, -0.52, p < .05$ ). Moderately strong, significant relationship was demonstrated between the scores in production subtest and activity domain ( $r = -0.41, p < .05$ ), but not with participation and emotional state.

### **Conclusion/take-home message**

Our preliminary research results indicate that individuals with aphasia see comprehension impairment as a significant factor that hinders their ability to participate in daily life or engage in specific activities.

**Key Words:** aphasia, AIQ21, communication, participation

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## P65. THE IMPACT OF DISORDERED VOICE ON REACTION TIME AND ACCURACY IN SPATIAL DIRECTIONAL TASKS

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<sup>1</sup> Liepaja University, Voice and Speech Research Lab

**Background:** Professional voice users, such as teachers and university professors, frequently experience voice disorders. These disorders can adversely affect both the individuals experiencing them and listeners, impacting speech perception, listening and cognitive load, and task performance.

**Aim:** The study investigated the effects of disordered voice instructions on participants' reaction times and accuracy in spatial directional tasks.

**Methods.** Forty-three right-handed, healthy, Latvian-speaking university students (21 female, mean age  $21.11 \pm 2.41$  years) were exposed to auditory instructions in Latvian indicating spatial directions (left, right, up, down). All auditory stimuli consisted of two-syllable words: /kreisa:/, /laba:/, /augša:/, and /leja:/. Instructions were delivered in both disordered and normophonic voice qualities. Disordered voice stimuli were recorded by a male with severe spasmodic dysphonia (44 years, G3R3B1A0S3I3, DSI -7.2) and a female with chronic laryngitis (52 years, G1R1B0A1S0I0, DSI -0.35), alongside normophonic recordings from age- and sex-matched controls. Each participant responded to 576 stimuli, half in a disordered voice, by moving a joystick in the instructed direction.

**Results:** Statistical analysis revealed a significant effect of dysphonic voice on reaction times ( $p < 0.001$ , Tukey multiple comparisons of means), with a median reaction time of 0.658 s (SD = 0.372 s) for disordered voice instructions compared to 0.705 s (SD = 0.370 s) for normophonic voice instructions. Interestingly, reaction times decreased for instructions by the speaker with normophonic voice. Task accuracy remained high across conditions (97.6% - 98.4%), with no significant effect of voice quality on task execution accuracy ( $\chi^2(2) = 5.165$ ,  $p = 0.076$ ).

**Conclusions:** Dysphonic voice quality significantly affects reaction times in spatial direction tasks, indicating increased listening effort. This suggests that voice quality of teachers can influence cognitive load and potentially contribute to mental fatigue, affecting learning outcomes. The findings underscore the importance of maintaining vocal health among university professors to facilitate effective learning.

**Keywords:** voice disorders, reaction time, accuracy, listening effort, occupational voice, perception

## **P66. EVALUATION OF PARAMETERS, TOOLS, AND APPLICATIONS IN ACOUSTICAL VOICE ANALYSIS**

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University Of Patras

**Background:** With the explosion of mobile devices (smartphones, tablets, etc.), numerous applications and services for voice recording and analysis have emerged. However, the results of these applications are often unreliable and lack consistency compared to their respective reporting tools.

**Aim:** The purpose of this paper is to investigate the recording techniques and the corresponding audio parameters used today, both in appropriate analysis environments (e.g. Praat) and in relevant portable applications. Particularly important is the knowledge and "certification" of simple portable applications that could replace, to some extent, the modern laboratory environments currently used by clinicians.

**Methods:** A sample of 20 volunteers (10 women) without a history of pathological voice, aged between 45 and 65 years was selected to perform the experimental procedure. Each participant was asked to produce sustained vowel /a/ for about 5 seconds at a habitual level. The procedure was repeated three times by each subject, first in an office space and then in a soundproof chamber. The mobile application selected was Harmonicity Meter and the analyzed data were compared with that from other software Praat. The acoustic parameters calculated by the portable application are the mean fundamental frequency ( $f_0$ ), the parameter of frequency variation from cycle to cycle (Jitter), the variability of the amplitude from cycle to cycle (Shimmer) and the ratio of harmonic to noise (HNR).

**Conclusions:** The results of the mobile application Harmonicity Meter could not be used reliably for the evaluation of a voice since the acoustic parameters HNR, Shimmer and Jitter it provides are not valid. The only confirmed parameter that is correctly calculated by the portable application is the fundamental frequency  $f_0$ . Therefore, clinicians may use Harmonicity for screening for  $f_0$ , whereas caution should be used for other parameters.

**Key Words:** Acoustic voice analysis, Harmonicity Meter, Smartphone, HNR, Jitter, Shimmer,  $f_0$ .

## P67. SELF-ASSESSMENT OF VOCAL FATIGUE AMONG PRIESTS

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**Objectives:** Priests belong to the group of vocal professionals because their work includes vocally demanding activities, such as preaching, singing, speaking in a noisy environment, conducting religious education classes and spiritual counseling. Research on the voice of priests is few and mostly focused on the prevalence of voice disorders. The purpose of the present study was to examine the existence of vocal fatigue among priests in Croatia and compare their results with those of nonprofessional voice users.

**Methods:** The study involved a total of 104 participants, 52 priests, and 52 nonprofessional voice users, ages 26 to 65. (mean 42.31, SD 11.42). All participants were male. The subjective voice assessment method, self-assessment questionnaire Vocal Fatigue Index (VFI), was used as a measuring instrument.

**Results:** The Independent Samples T-test revealed a statistically significant difference between the group of priests and the group of nonprofessional voice users in all three domains ( $p < 0.01$ ). The mean of the three factor scores of the VFI in the group of vocal professionals were higher than those in the control group of vocal nonprofessionals. Also, the scores of three factors of VFI were not influenced by age.

**Key words:** vocal fatigue, VFI, priests, vocal professionals

### P68. THERAPY IN PSYCHOGENIC APHONIA: A CASE STUDY

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#### Background

Aphonia can be caused by both organic and psychogenic factors. Psychogenic aphonia (PA) is characterized by the absence of vocal sound without any organic changes in the larynx. During a laryngeal examination, no pathological conditions are observed, and phonatory contraction is not recorded.

#### Aim / Objectives

This study investigates the effects of symptomatic voice therapy and audio-visual biofeedback on normalizing voice acoustics and improving quality of life in adults diagnosed with psychogenic aphonia.

#### Methods

A 52-year-old woman experiencing long episodic aphonia was referred to speech clinic in Kutahya, Turkey, by a psychiatrist. Having suffered from aphonia for 52 days, she underwent evaluations using the Multidimensional Voice Program and flexible endoscopy (FE) both before and after therapy. Additionally, the Voice Handicap Index (VHI) and Voice-Related Quality of Life (V-RQOL) scales were administered. Qualitative interviews were conducted to gain insights into the patient's experience and quality of life. The therapy included vegetative sound studies with visual and auditory biofeedback and hierarchical phonation exercises using the push-pull method, leading to improvements that extended beyond the therapy sessions.

#### Results

The initial therapy session markedly improved the patient's voice, addressing initial problems such as severe muscle tension, false vocal cord movement, and a phonatory gap identified via flexible endoscopy (FE). Post-therapy, vocal cord adduction was achieved, with fundamental frequency and perturbation measurements returning to normal. Notably, the patient showed complete improvement in both the Voice-Related Quality of Life (VRQOL) and Voice Handicap Index (VHI) outcomes, with these positive results maintained until the follow-up treatment.

#### Conclusions

Evaluating the patient's psychological experiences was crucial for effective counseling and follow-up, helping prevent relapse. The patient reported significant improvements in her life participation and psychological well-being. This success was attributed to professional collaboration and the correct implementation of consultancy.

#### Keywords

Psychogenic aphonia, voice, therapy, health quality, voice disorder

## **P69. EFFECT OF A STRAW PHONATION THERAPY PROGRAM ON THE VOICE OF FEMALE SPEECH-LANGUAGE PATHOLOGY STUDENTS WITH MILD DYSPHONIA**

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The purpose was to examine short- and longer-term effects (3 months follow-up) of a one-month intensive straw phonation (SP) therapy on the voice quality and voice-related quality of life of female speech-language pathology (SLP) students with mild dysphonia.

**Methods.** Thirty-two female SLP students (mean age: 18.5 years) with mild dysphonia were included. A randomized controlled trial was used. Three experimental groups received a short-term intensive voice therapy of one month with SP in air (n=8), in 2cm water (n=8) or in 5cm water (n=8). The control group (n=8) received a comparable voice therapy program by using [u] phonation with similar soft onset and slightly pursed lips. Three maintenance sessions were provided via telepractice the next month. A multidimensional voice assessment was performed immediately before therapy (pre), immediately after therapy (post1) and at 1 month (after maintenance therapy = post2) and 3 months follow-up (post3) by an assessor blinded to group assignment and study phase.

**Primary outcomes:** A significant improvement in Dysphonia Severity Index (DSI) was found in the SP in 2cm water group between post1 and post2. Trends of improvement are visible in the DSI scores between pre and post1 in the SP in air group, and between pre/post1 and post2 in the 5cm water group. A clinically relevant improvement in Acoustic Voice Quality Index could be found between pre and post1 in the SP in 2cm water group.

**Secondary outcomes:** SP in 2cm water group showed a significant increase in highest intensity (pre and post1/post2), a significant decrease in lowest frequency (pre and post3), and in vocal fatigue index (pre and post1/post2).

**Conclusion.** Positive effects were found for the three SP interventions. Most promising results were found for SP in 2cm water, suggesting an optimal impedance match between the glottis and vocal tract in this specific population with mild dysphonia.

## **P70. WHAT ARE PARENTS' DIFFICULTIES DURING THE ADMINISTRATION OF INDIRECT COMMUNICATIVE-LINGUISTIC ASSESSMENT? PRELIMINARY RESULTS**

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<sup>1</sup>Università Politecnica Delle Marche

### **BACKGROUND**

Indirect communicative-language assessment in toddlerhood is often conducted through parent-report surveys (Sim et al., 2019). Recently, web-based adaptations have been developed from paper versions of indirect assessment questionnaires (Farabolini et al., 2023). There is evidence on the differences between in-person vs remote compilation for neuropsychological tests (Hamner et al; 2022) but not for communicative-language tests.

### **AIM**

We aimed to report and examine parents' difficulties during the compilation of a web-based indirect communicative-language assessment.

### **METHODS**

Parents of 40 monolingual Italian children aged 24 to 36 months were asked to fill in a digital evaluation protocol, including the Italian MB-CDI, ASCB and BRIEF-P surveys, next to a trained examiner (PA, speech therapist) who recorded their observations during compilation. Additionally, parents fill in a web-based satisfactory rating questionnaire.

### **RESULTS**

In the ASCB, parents reported difficulties in choosing among the proposed answers on 8 occasions. In the MB-CDI, the examiner recorded 25 parents' questions (17 concerning how to identify whether a word is known or not, 5 on the complexity of the sentences, 2 on word pronunciation, 2 on the transcription of the longest sentence, 1 about the behavior-related questions).

In the BRIEF-P, parents reported difficulties in understanding the questions on 14 occasions.

Finally, the difficulty related to autonomous compilation was rated 3.5/10 (2.8) while the positive impact of the presence of a trained examiner was rated 5.7/10 (2.8).

### **CONCLUSION**

Parents reported difficulties in understanding the questions and choosing among the proposed answers related to our assessment tool.

Our results shed light on the importance of the presence of a trained examiner to support parents in the indirect communicative-linguistic assessment and promote the assessment's reliability.

### **KEYWORDS:**

Language, difficulties in parent report, web assessment.

## **P71. HOW TO BRING A NON-LINEAR PHONOLOGY PERSPECTIVE TO CLINICAL PRACTICE OF SPEECH AND LANGUAGE THERAPISTS?**

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Children with SSD constitute a heterogeneous group, differing in variables such as age, severity, etiology, speech errors, and involvement of other aspects of the linguistic system, leading to difficulties in linguistic profile assessment and diagnosis. Unfortunately, there is still a gap in practical guidelines in the assessment of the segmental and suprasegmental characteristics of SSD, essential for defining therapeutic objectives that allow adequate intervention planning.

**Aim:** To create a guide SSD analysis in the light of non-linear phonology

**Methods:** The guide was design based on an extensive review of the literature, addressing relevant research in clinical linguistics, specifically the use of non-linear phonology to analyze the speech children with SSD. It has been subject to validation content based on a panel of three experts: a linguist, a SLT, and a linguistics professor, all of them with a PhD in Linguistics.

**Results:** Non-linear phonology was assumed as a theoretical framework for reflection on aspects inherent to phonological assessment and intervention in a clinical context. The contents are organized into 6 statements, based on: the dictatorship of the segment, as an exclusive measure for evaluating phonological development; the differences between phonetic inventory and phonological inventory; analysis of the approach focused on phonological processes; the recruitment, for clinical assessment and intervention, of units made available by Non-Linear Phonology since the 70s of the 20th century, with a special focus on units relating to the prosodic word, word stress and syllable; the comparison between linear and non-linear approaches in clinical practice.

**Conclusions/Take-home message:** According to the experts panel, this guide includes a relevant bibliographical review of national and international data and constitutes a guiding tool for the analysis and evaluation stage of SSD, promoting uniformity in clinical practice.



## **P72. THERAPY APPROACHES FOR CHILDREN WITH SDD: CURRENT PRACTICE OF SLT WORKING IN PORTUGAL**

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**Background:** Speech Sound Disorders (SSD) are the most common communication difficulties among preschool children and represent a significant portion of Speech-Language Therapists' (SLT) caseloads. Interventions for children with SSD may involve different therapy approaches, categorized into phonological-based and motor-based approaches. Nearly a decade after Portuguese speech therapists were questioned about their practices with children with SSD, it is crucial to understand which intervention approaches are currently most prevalent.

**Aim/ Objectives:** This study aims to describe the most frequently used approaches by SLT in treating children with SSD.

**Methods:** A cross-sectional survey was conducted in Portugal. The questionnaire used was the result of a translation and cultural adaptation process from the questionnaire originally used in the study of Brumbaugh and Smit (2013). The data collected were analyzed using descriptive statistics.

**Results:** A total of 128 questionnaires were collected. The majority of participants (96.1%) were females, and over 70% of respondents held a Bachelor's degree, with nearly 40% having completed their degree more than 15 years ago. The results indicated that the most frequently used intervention approaches were phonological awareness (74.2%), cued articulation (58.6%), minimal pairs approach (56.3%), and traditional articulatory therapy (56.3%). Some approaches were unfamiliar to most SLT (over 50%), such as PROMPT, Nuffield Dyspraxia Programme, Complexity Approach, Metaphon Therapy, and Nonlinear therapy. Most speech therapists use more than one intervention approach in their clinical practice.

**Conclusions/take-home message:** The use of various intervention approaches may reflect SLT's response to the heterogeneous nature of SSD cases, and this is crucial for intervention effectiveness. However, there still seems to be an important path to go in terms of familiarizing SLT with phonological-based approaches that consider the complexity of children's phonological system since the prevalence of phonological-based SSD cases is higher worldwide compared to motor/articulatory-based SSD cases.

**P73. THE EFFECTS OF SHARED BOOK READING IN EARLY INTERVENTION ON LANGUAGE DEVELOPMENT: A SYSTEMATIC REVIEW**

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In the early stages of development, the conversations between adults and children during daily routines support the child's language development. Shared Book Reading (SBR) is an interactive experience carried out when two people, usually a child and a caregiver, explore a book. A growing body of research has demonstrated that this activity supports language development in the early years, so families have been encouraged to incorporate SBR moments into their daily routines. As such, several early intervention programs for language development based on SBR have been developed and implemented for children and their parents/caregivers. Nonetheless, some studies have found that the impact of SBR on language development is not as significant as expected for very young children (0-3 years old). This systematic review aims to 1) describe the effects of shared book reading in the language development of children within the early intervention age range; 2) describe the effects of intervention with parents on their performance during SBR; 3) analyze the impact of shared book reading in specific populations (with language developmental impairment/delay). Concerning methods, records of the last ten years were identified from five databases using the search terms "Shared Book Reading", "Early intervention", AND "Language Development". Three experienced researchers screened retrieved records regarding inclusion criteria such as focus on interventions directed at parents/caregivers, focus on very young children, description of language outcomes, and analysis of strategies used by parents during SBR. The results will be presented based on the factors and methods significantly impacting language development and/or parents' performance during SBR. In this study, we will point out the strategies implemented during the dyadic interaction that improve the strength of SBR in supporting language development.

**Keywords:** shared book reading; language development; early intervention

## **P74. VALIDATING THE ESTONIAN ADAPTATION OF THE FOCUS® QUESTIONNAIRE**

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In Estonia, the aim is to intervene as early as possible in the case of communication disorders. For this, it is essential to assess not only children's linguistic development but also their communication skills more broadly. To fulfil this purpose, a valid and reliable clinical assessment tool, FOCUS (Focus on the Outcomes of Communication Under Six), was developed in Canada in 2010.

The aim of this study was to assess the suitability of the Estonian translation of the FOCUS questionnaire for evaluating the communicative development of Estonian children, and to determine its psychometric properties (reliability and validity).

Participants in the study were 64 parents of children between 24 and 36 months of age recruited from kindergartens in three Estonian counties. Participants included the parents of 43 children with typical language development (TLD) and 21 children with delayed language development (DLD). Parents completed the FOCUS questionnaire, and to determine the convergent and discriminant validity of the FOCUS, they also completed the Ages and Stages Questionnaire: Social-Emotional, Second Edition (ASQ:SE-2). To assess test-retest reliability of the FOCUS, 47 participating parents completed the FOCUS questionnaire two times.

The results of this study show that the FOCUS questionnaire distinguishes children with DLD from children with TLD ( $p < 0.001$ ). The results also demonstrate very high internal reliability ( $\alpha = 0.97$ ) and test-retest reliability ( $r = 0.93$ ;  $p < 0.001$ ), as well as strong construct validity (Pearson correlations ranged from  $r = 0.60$  and  $r = 0.92$ ). In the DLD group, medium to strong correlations were obtained between the FOCUS total score and the ASQ:SE-2 communication-related domains, demonstrating both convergent and discriminant validity.

The results of this study indicate good psychometric properties of the Estonian translation of the FOCUS questionnaire. Thus, the questionnaire is suitable for assessing the communicative skills of children aged 24-36 months.

**Keywords:** FOCUS questionnaire, assessing communicative skills in young children, adapting questionnaires

**P75. EARLY LANGUAGE SCREENING AT 30 MONTHS OF AGE – A QUALITATIVE STUDY WITHIN CHILD HEALTH SERVICES IN SWEDEN**

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**Background:** Today, there is no international recommendation to use language screening within primary care. Swedish child health services has used different speech and language screenings since early 1970. Previous studies have indicated that healthcare professionals struggle to interpret results of language screening conducted on children aged 2 ½ to 3 years in Sweden.

**Aim:** To investigate child health nurses' experiences of employing and interpreting the language screening used at 2 ½ years of age.

**Methods:** Semi-structured interviews were conducted with 15 child health nurses from different geographical areas. The interviews were performed digitally, transcribed, and qualitative content analysis with inductive approach was used.

**Results:** The analysis has not yet been finalised. Meaning units will be identified, structured and analysed prior to coding and sorting into categories and subcategories to depict the participants perceptions and experiences of using and interpreting the language screening at Child health services.

**Conclusions:** The findings will have implications for the clinical work of the SLPs within Child health services, for routines and recommendations within child health services and hopefully for future research.

**Keywords :** Language screening, Child health services, speech and language development

## **P76. THE IALP INFLUENCE ON SPEECH–LANGUAGE PATHOLOGY IN BULGARIA AND JAPAN**

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**Abstract:**

**Background:** It has only since the founding of the International Association of Logopedics and Phoniatrics (IALP) by Emil Froeschels in 1924, that the field of communication sciences and disorders has become formalized into an independent scientific and clinical discipline. A fundamental goal of IALP is “...to facilitate science, education, and clinical practice through international cooperation and collaboration”.

**Purpose:** Summarizing key historic stages in the field of Speech–Language Pathology (SLP) in Bulgaria and Japan, special emphasis is placed on the influence of the IALP on the development of SLP in Bulgaria and Japan.

**Method:** A historical approach was used, including biographical, ethnographic, iconographic and archives, and the analysis of special literature sources. The different stages of the development of SLP in Bulgaria and Japan were outlined. The brief timeline of the essential periods and figures in both countries were presented.

**Results:** SLP in Bulgaria and Japan have their roots from the beginning of the 19th century and are related with special education for deaf. The study of SLP in both countries started with a focus on stuttering. The Bulgarian Logopedics has a strong European influence. In Japan, SLP had been influenced not only by European schools of thought, but by perspectives from the United States. In the middle of the 20th century, the influence of otorhinolaryngology and phoniatrics became stronger.

**Conclusion:** The foundation of SLP in Bulgaria and Japan was influenced by the European tradition and its development accelerated following the Second World War. Over the last decades, the dissemination of scientific concepts and profession profile has extended to both countries following national educational, economic, cultural, and historic traditions. This study was addressed on the important IALP influence on SLP development in Bulgaria and Japan with findings presented on a comparative timeline.

**Key words:** Speech–Language Pathology, IALP, Bulgaria, Japan

## **P77. LEXICAL ACCESS & WORD PROCESSING IN CHILDREN WITH LANGUAGE DISORDERS**

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Morphological processing constitutes a multifaceted cognitive endeavor that involves several different skills, including segmenting words into morphological constituents, identifying individual morphological constituents that make up a word, understanding the meaning of morphological constituents, and combining the meanings of morphological constituents to form the meaning of the word. Lexical access is a complex process that involves multiple representation levels, including phonological, semantic, morphological, syntactic, and orthographic. Difficulties with morphological processing and lexical access can have a significant impact on a child's ability to learn and use language. Children with language disorders may have even more difficulties in this process, resulting in problems to read, write, and even communicate. This study explores the potential role of morphological awareness in mediating lexical access during a visual word recognition process. A cohort of 30 children, aged 7 to 10, diagnosed with language impairments, participated in a lexical decision task involving 100 words exhibiting varying degrees of morphological complexity (e.g., simple nouns, derived words, non-attested words, and pseudowords), alongside 50 pseudowords. The preliminary analysis reveals significant differences in reaction times across word types: children with language impairments showed faster processing for words with clear morphological structures (e.g., "mailman/carteiro"), suggesting they rely on morphemes to access word meaning. The frequency of words also influenced processing, as well as the school year. These findings suggest that morphological awareness potentially exerts a fundamental influence on lexical access and word processing in children with language disorders. However, further investigation employing a larger and more diverse sample is imperative to corroborate these initial findings and explore their implications for intervention.

**Keywords:** Morphological knowledge, lexical access, language pathology

## **P78. PAROLE PER GIOCARE. AN INTERVENTION PROPOSAL FOR CHILDREN WITH LANGUAGE DEVELOPMENT DELAY**

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**BACKGROUND.** Intervention in late talkers improves linguistic performance, behavioral and social skills (Robertson 1999). A low-cost possibility is to teach parents how to stimulate responsive communicative behaviors in their children and how to provide correct linguistic stimulation (Landry 2008).

**AIM.** To structure an indirect intervention program through low-cost parent training for the NHS. The hypothesis is that indirect care can reduce the number of children who access direct therapy and the number of direct therapy sessions.

**METHODS.** The intervention program is a group parents training. Children who had a language delay at the age of 24/36 months (<10<sup>o</sup> percentile at MacArthur CDI) are eligible. Other inclusion criteria: parents' Italian language skills, no organic causes of language delay.

We conducted a series cases study. Twenty families agreed to participate to the program, 3 groups were carried out.

The program consisted in four two hours group sessions. Parents are involved with interactive activities, quizzes and riddles, video, role plays, table discussions, readings and explanations. Each session is dedicated to a specific issue: (1) popular beliefs and correct information about language emergency; (2) strategies and linguistic stimulations; (3) book sharing and sheared reading; (4) activities to stimulate executive functions.

**RESULTS.** Two families did not complete the program, eighteen families responded positively to the final satisfaction questionnaire. Twelve children underwent a diagnosis of language disorder, three of theme required less than ten direct therapy sessions. Four children required further diagnostic investigations.

**CONCLUSION.** Families reported good satisfaction level appreciating the way they learnt how to stimulate their children through interactive moments. However, many children had moved on direct therapy. A comparison with a non-intervention group would be useful to measure which of the two groups requires a greater period of direct therapy.

**KEYWORDS:** late talkers; parent coaching; language stimulation; early intervention.

## **P79. DIAGNOSTIC CHARACTERISTICS OF CHILDHOOD APRAXIA OF SPEECH: EXPERIENCES OF LITHUANIAN SLPs'**

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**Background.** Childhood apraxia of speech (CAS) is a motor-based speech sound disorder with a core impairment in planning the precise spatiotemporal parameters of speech movement sequences (ASHA, 2007). Key diagnostic characteristics of CAS, emphasized by Yorkston et al. (2010), Fish (2016), Strand (2016) can be categorized into non-speech oral motor difficulties, speech sound errors, prolonged and interrupted coarticulation, inappropriate prosody, context-related speech issues, and other associated conditions.

This research aims to identify the diagnostic characteristics that Lithuanian speech and language pathologists (SLPs) consider important for diagnosing CAS.

**Methods.** The data of this research were collected as part of Lahtein-Kürsa (2002) PhD project 'Manifestation and Assessment of Childhood Apraxia of Speech in Estonian-Speaking Children'. An online survey was designed to assess how strongly SLPs from Estonia, Finland, and Lithuania associate specific features with the diagnosis of CAS. In this paper, particular attention is given only to the open-ended responses provided by SLPs from Lithuania (N=69). Both qualitative and quantitative content analyses of the data were conducted.

**Results.** Lithuanian SLPs consider prolonged and interrupted coarticulation (N=38), specific non-speech oral motor (N=20) and speech sound (N=19) error patterns as the most important diagnostic characteristics of CAS. In contrast to theoretical findings, features related to inappropriate prosody (N=6) are identified as diagnostic markers of CAS infrequently. SLPs highlights other significant conditions associated with CAS diagnosis, including coexisting language disorder (N=27), slow progress in therapy (N=11), poor gross and fine motor skills (N=11), concentration and behavioral issues (N=15), other learning difficulties (N=11).

**Conclusions.** SLPs tend to focus less on appropriate prosody and context-related speech errors and highlight the coexisting challenges in language, motor and learning difficulties, faced in CAS cases. SLPs acknowledge the complexity of CAS and the need to address multiple factors in assessment.

**Keywords:** childhood apraxia of speech, diagnostic characteristics, SLPs experiences



**P80. UNDERSTANDING THE DEVELOPMENT OF PHONOLOGICAL AWARENESS IN GREEK-SPEAKING PRESCHOOL CHILDREN: A LONGITUDINAL STUDY**

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Phonological awareness, children's knowledge of words as comprised of smaller, discernible units, is a strong predictor of children's progress in reading and spelling. Despite the significance of phonological awareness for the subsequent development of literacy skills, the origins of phonological awareness in preschool children have received little attention.

The current study seeks to investigate the development of phonological awareness abilities in typically developing Greek-speaking children, aged 3;0 -6;0, for which little information is available.

Two groups of children were assessed longitudinally: Group 1 (n=16) aged 3;0-3;5 years; Group 2 (n=22) aged 4;6-5;0 years at the beginning of the study. Assessments were conducted at three points (T1, T2, and T3), six months apart. To evaluate phonological awareness development (1) a published silent blending task was used to assess children's ability to compose words from the constituent individual phonemes or syllables; and (2) an experimental segmentation task was used to assess the ability to segment words into constituent syllables or phonemes.

Repeated Measures Anova was conducted to compare performance on both tasks over time. Analysis yielded a main effect of time on blending skills development for both groups. A statistically significant change in blending was observed between T1 and T3 for both groups. A main effect of time on segmentation performance was observed for Group 1; significant gains in segmentation performance between consecutive time points were found. Syllable segmentation performance improved significantly between 3;6 – 4;0. Segmentation abilities seemed to plateau for Group 2.

Findings indicate that phonological awareness skills undergo significant development during the preschool years. Phoneme blending develops gradually but is not fully attained by all children. Syllable segmentation abilities emerge early on whereas phoneme segmentation skills follow a slow developmental process with great variation among children, indicating a challenge of advancing to phoneme segmentation without literacy instruction.

## **P81. TEST BATTERY FOR ORAL MOTOR SKILLS (TOMS): A TOOL FOR SPEECH EVALUATION IN BULGARIAN**

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**Background.** The number of reliable and valid diagnostic tools available to Bulgarian speech and language therapists is critically low, although there are some translated and adapted tests.

The aim is to present the process of developing a battery for the evaluation of speech and its disorders called the Test for Oral Motor Skills (TOMS). The battery is a criterion-oriented and functional assessment tool for phonetic and phonological processes at all levels of expression, as well as the oral motor skills needed for speech and feeding.

**Methods.** The sample consists of 212 Bulgarian children aged 5;0 to 7;6 years, divided into four groups: typical speech development, articulation disorders, dysarthria and suspected childhood apraxia of speech. TOMS comprises of 2 pre-tests (anamnesis and assessment of phonemic perception and phonological processing) and 3 main parts. Part I includes oral mechanism exam, oral praxis and state of the elementary movements outside speech, as well as diadochokinetic rate, oral motor and oral sensory protocols concerning feeding issues. Part II includes speech evaluation at the levels: isolated sounds, word repetition, word naming, dialogue and contextual monologue. Part III includes tasks for breathing, voice quality and prosody.

**Results.** The battery standardization includes test-retest, expert evaluation, content and item analysis. TOMS has excellent indicators of validity (Cronbach's consistency  $\alpha = .852$  to  $.951$ , validity Loshy's coefficient = 1), reliability (Pearson's correlation coefficients with values at  $.997$  at a significance level of  $0.001$ ), economy and objectivity.

**Conclusions.** TOMS is a valid criterion-oriented instrument for evaluation and differential diagnostics of the articulation and phonology at all levels of Bulgarian language. It can be used also as a therapy planning tool in cases of dysarthria, suspected childhood apraxia of speech, articulation disorders and phonological delay.

**Key words:** test of oral motor skills, childhood apraxia of speech, dysarthria, articulation disorders, phonological delay.

## **P82. STORY READING COMPREHENSION PROFILES IN CHILDREN WITH AUTISM SPECTRUM DISORDER**

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**Background.** Story reading comprehension is one of the most important skills learned in school. Though previous studies have investigated reading comprehension difficulties in Autism Spectrum Disorder (ASD) and highlighted factors that contribute to these difficulties (Åsberg et al., 2019; Mayes & Calhoun, 2007), this evidence has mainly stemmed from children with ASD and intact cognitive skills. Also, much emphasis has been placed on the relation between autistic children's reading comprehension and word recognition skills (Solari et al., 2019), while the roles of fluency and morphosyntax remain underexplored.

**Objectives.** The current study investigates how disturbances in word decoding, fluency and morphosyntax might account for variability in the story reading comprehension performance of autistic children with low and intact cognitive abilities.

**Methods.** The study recruited 16 children with ASD and low cognitive abilities, and 22 age-matched children with ASD and intact cognitive skills. The children were assessed on decoding, fluency, morphosyntax, and story reading comprehension.

**Results.** The children with ASD and low cognitive abilities scored significantly lower than their peers with intact cognitive abilities in all reading subdomains ( $p < .04$ ), except for decoding. Regression analyses showed that reading comprehension in the group with intact cognitive abilities was mainly driven by decoding ( $p = .007$ ) and fluency skills ( $p = .004$ ). For the children with low cognitive abilities, story reading comprehension mainly drew on decoding ( $p = .028$ ), and morphosyntax ( $p = .037$ ).

**Conclusions.** Story reading comprehension was more affected in the children with ASD and low cognitive abilities than those with intact cognitive skills. About half of the children with intact cognitive skills exhibited mild-to-moderate comprehension difficulties, further implying that ASD may influence reading comprehension regardless of cognitive functioning. Strengths in decoding predominantly drove cognitively-impaired children's reading performance, while the cognitively-unimpaired group mainly recruited fluency and lexical skills to cope with story comprehension demands.

**Keywords:** ASD, low cognitive skills, reading comprehension

### **P83. RECEPTIVE LEXICON IN GREEK-SPEAKING INFANTS**

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This study investigated receptive vocabulary size and composition in 250 Greek children aged 8-16 months from monolingual Greek-speaking middle-class families using the Greek adaptation of the McArthur-Bates Communicative Development Inventory, Words and Gestures (MCDI-WG). Receptive vocabulary increased with age, the largest increase being observed after 10 months. Rapid vocabulary learners reached the 300-word point by the age of 13 months, while slow learners reached the 50-word point by the age of 14 months. Participants were classified in different groups according to receptive vocabulary level: 1-50, 51-199, and  $\geq 200$ . As regards grammatical composition, common nouns increased markedly from 32% of the total vocabulary at 1-50 level to 55% (equal to the percentage this category contributes to the checklist) when receptive vocabulary exceeded 50 words, and then remained steady. Functional words, words referring to people as well as words included in the category SEAGR (sound effects and animal sounds, games and routines) decreased progressively as receptive lexicon increased, although they were over-represented at 1-50 level. Although predicates (verbs and adjectives) tended to increase with receptive lexicon, results were not significant. Irrespective of lexicon size, common nouns were the most representative category, followed by predicates and words included in SEAGR category. In relation to semantic composition, words referring to animals, clothes, body parts, and outdoors increased when receptive vocabulary exceeded 50 words and then remained steady, while words referring to vehicles and household increased when receptive vocabulary exceeded 200 words. Words referring to foods and toys were represented in receptive lexicons with a percentage equal to that they contribute to the checklist at all levels. Findings reveal a holistic lexical representation at the earlier stages of lexical comprehension development, a noun bias as receptive lexicon increases and an infant's tendency to acquire faster words related to everyday situations.

## **P84. PHONBANK CONTRIBUTIONS TO THE STUDY OF PORTUGUESE ATYPICAL PHONOLOGY**

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**Background:** The open-access corpora at PhonBank (Rose & McWhinney, 2014) increased our knowledge of phonological acquisition worldwide, favoring data sharing. Studies have shown how useful the Phon software is for researchers and Speech and Language Therapists (SLTs) interested in the phonology of typical (TD) and protracted development (PPD) (Rose & Stoel-Gammon, 2015; Hedlund & Rose, 2020). European Portuguese (EP) is well represented at PhonBank, with several TD corpora and one PPD corpus, PHONODIS. As far as we know, this is the first corpus of its kind for EP, and one of the few in open-access. One of the measures offered by Phon is Word-Level Analysis of Polysyllables (WAP), a relevant measure to study the effects of prosody (word length) in phonological development (Masso et al. 2016).

**Method:** PHONODIS offers audiotaped experimental cross-sectional data collected with CLCP-PE, a picture naming test developed at the Crosslinguistic Child Phonology Project (Bernhardt & J. Stemberger, 2010). The tool includes 150 lexical targets, produced by 26 monolingual Portuguese children with PPD, aged 3;2 to 11;05. Data collection followed the procedures in Ramalho (2017). Informed consents and ethical procedures followed the Behavioural Research Ethics Board of UBC guidelines.

**Results:** We use the WAP measure at Phon to describe data at PHONODIS. This allows us to measure the impact of word length on word accuracy produced by Portuguese children with PPD. The results provided by WAP demonstrate how useful prosodic constituency is for the characterization of PPD. Our results are compared with those from TD Portuguese monolinguals, collected in a similar experimental setting.

**Conclusions:** Phon is a useful tool for researchers and SLTs, in academic and professional contexts. It increases knowledge on PPD and improves evidence-based practices in assessment and intervention contexts.

**P85. SPEECH-LANGUAGE ASSESSMENT OF SOCIAL PRAGMATIC  
COMMUNICATION ABILITIES BETWEEN AUTISM SPECTRUM  
DISORDER (ASD) AND DEVELOPMENTAL LANGUAGE DISORDER  
(DLD)**

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**Background:**

Delayed or impaired language skills in combination with distinctive (social) behavioural patterns, are among the initial signs of autism spectrum disorders (ASD). Recognizing the pivotal role that SLTs can play in the early identification of autism, it becomes imperative to distinguish ASD from developmental language disorders (DLD), given their suspected overlapping language profiles.

**Objective and Aim:**

To address this challenge, this thesis aims to provide an overview of diagnostic possibilities for social pragmatic communicative skills, with a specific focus on differentiating between specific ASD and DLD language markers. By distinguishing the patterns and applying specific diagnostic tools, SLTs can contribute to the early identification of autism, serving as the foundation for adequate and targeted interventions.

**Method:**

To critically examine existing literature a narrative review was chosen. Information on both, ASD and DLD linguistic profiles, as well as pragmatic communicative subtests of three standardized diagnostic tools (from psychology and SLT) were synthesized and comparatively analyzed.

**Preliminary Results:**

Findings revealed that SLT diagnostic instruments divergently determine social pragmatic communication abilities and to this date there is no tool that encompasses all aspects.

We assume that merging tasks from psychological tools and SLT tools might increase the possibility of distinguishing ASD and DLD.

**Conclusion:**

Early identification of ASD holds significant implications for further interventions and, consequently, the quality of life for children and their families. By focusing on social pragmatic-communicative abilities, SLTs can contribute to more accurate identifications between ASD and DLD. This thesis emphasizes the potential impact of incorporating psychological tasks into SLT diagnostics and underscores the importance of ongoing research in this critical area.

**Keywords:**

Social pragmatic communication, SLT diagnostics, ASD, DLD

## **P86. CHARACTERISTICS OF WORDS AND PSEUDOWORDS READING ACCORDING TO THE TYPES OF ERRORS IN CHILDREN WITH AUTISM SPECTRUM DISORDER**

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**Background:** Even when the general cognitive abilities of children with Autism Spectrum Disorder (ASD) are in the normal range and they have good verbal performance, only a small percentage of them achieve average reading scores. Although data on word reading strategies are very sparse and offer conflicting evidence, the dominant view is that a lexical route of reading prevails. Moreover, there is almost no research focused on the specific features of reading single words and pseudowords.

**Aim:** The present study aimed to compare the error types during reading semantically unrelated words and pseudowords and to search for specific characteristics by which to analyze the leading reading path and related deficits in ASD.

**Methods:** 61 children and adolescents between 8 and 16 years old participated in the study: 30 of them were diagnosed with ASD and 31 were with typical development. The participants were asked to read aloud 3- and 7-letter words and pseudowords that were not semantically connected and contain the main phonological features of the Bulgarian language. A custom computer program was used to process errors at the word, syllable, cluster, and letter levels.

**Results and conclusions:** The participants with ASD in the present study demonstrated more reading errors of different types in comparison to the TD participants. It should be noted, that some of participants with ASD read both words and pseudowords very similarly to the performance of the control TD group. A larger proportion of participants with ASD however made more phonological errors in reading and they are more prone to lexicalization (substitution of words and pseudowords with meaningful words). The results obtained imply that children and adolescents with ASD are more likely to rely on recognition processes rather than decoding processes.

**Keywords:** Autism Spectrum Disorder; words and pseudowords; decoding; word recognition; reading strategies.



## **P87. QUANTITY PERCEPTION AMONG ESTONIAN KINDERGARTEN CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER**

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**Keywords:** Developmental language disorder, Auditory discrimination; Auditory perception; Brain event-related potential; Language development; Mismatch negativity MMN

Previous studies indicate delayed language processing in children with developmental language disorder (DLD), including prosody perception difficulties that predict subsequent language development impairments [1,2,3]. Prosody perception in school-aged children with DLD remains compromised [4,5]. Estonian, distinguished by its three-way quantity distinction in prosody that merges tonal and durational elements [6], has not been explored neurophysiologically in children.

Estonian's three-way quantity system differentiates short (Q1), long (Q2), and overlong (Q3) quantities, based on syllable duration and pitch contour, essential for distinguishing grammatical cases, word meanings, and orthographic representation. DLD encompasses a range of speech perception/production issues [7,8], with behavioural evidence showing DLD children's difficulties in distinguishing, pronouncing, and orthographically marking these quantities [9].

This study investigates neurophysiological and behavioural differences in perceiving Q1, Q2, and Q3 quantities between children with DLD (N = 25) and typically developing peers (N = 25), aged 4.6-6.5 years. Methods include psychometric testing, sleep-EEG, and auditory event-related potentials with naturally produced stimuli: words in different quantity degrees. Two computerized behavioural tasks assessed quantity discrimination and lexical decision-making.

Initial results from this longitudinal study reveal that, while neural responses to stimuli were detected in both groups, typically developing (TD) children differentiated between Q2 and Q1/Q3, unlike their DLD counterparts. The TD group performed better in quantity discrimination, with no significant reaction time differences across groups. Further analyses using linear mixed models and time frequency analysis will aim to deepen our understanding of these findings.



## **P88. NARRATIVE OF BRAZILIAN CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDER**

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Autism Spectrum Disorder (ASD) is characterized by social and communication deficits. Social and emotional factors are crucial for the development of pragmatic skills, including narrative abilities. This study aimed to examine the narrative discourse characteristics of Brazilian children diagnosed with ASD. A clinical cross-sectional study was conducted with 52 children (40 males and 12 females), aged between 6 and 10 years, divided into two groups: G1 (n=26) children with ASD diagnosis, and G2 (n=26) typically developing children, matched for age and biological sex. Descriptive statistics were employed for group characterization; the Test of Equality of Proportions between two samples for anamnesis data; and the MannWhitney test for non-paired samples to compare language tests between groups ( $\alpha = 0.05$ ). Both groups (G1 and G2, with 20 males and 6 females each) were from medium to high socioeconomic status and attended private schools. In terms of narrative discourse, significant differences in partial retelling were observed, with lower performance in G1. However, both groups showed similar performances in tasks such as "details, partial retelling," "total retelling," "oral comprehension," and "inference." No significant differences were found in emissive vocabulary, as 96% of G1 individuals and 100% of G2 were within the standard range. Regarding morphosyntactic aspects, there was a significant difference in the use of nouns and prepositions, with G2 employing a higher quantity in their sentences compared to G1. In a qualitative analysis of integral retelling, both groups demonstrated intrusions, references, and omissions. The findings suggest no differences in emissive vocabulary, no variations in morphosyntactic structure among the groups, impaired narrative discourse in children with ASD (specifically in the partial retelling task), and similar oral comprehension within the groups.

**P89. UNLOCKING THE POWER OF COMMUNICATION: A CASE STUDY OF SLP INTERVENTION IN CDLS IN CYPRUS**

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Cornelia de Lange is a rare genetic condition. Phenotype features include intellectual disability and distinctive craniofacial features: small head (microcephaly), arched eyebrows, small downturned nose, small widely spread teeth and high arched palate. Children and adults with Cornelia de Lange may also exhibit cleft palate, hearing loss, and intellectual disabilities. Speech and Language development in children with CdLS falls under a wide spectrum of individual characteristics combined with the fact that the existing bibliography focuses mostly on the physical characteristics leaving clinicians with no evidence-based treatment plans.

**Objective:** This study aims to present a case study of a 6-year-old old girl with Cornelia de Lange Syndrome (CdLS) who also exhibits Developmental Apraxia of Speech (DAS).

**Methodology:** This particular case undergone, intensive speech therapy interventions which was implemented from 2018. The program targeted both receptive and expressive language. The main focus was an intense stimulation of a core vocabulary of words with simple phonotactic structure. This vocabulary included only words with CVCV, CVCVCV and were presented utilizing auditory, visual, tactile cues as well as melodic intonation.

**Results-Implications:** Progress was documented on the production of CVCV and CVCVCV words. The clinical implications of the present work could contribute to further knowledge regarding the application usage of core vocabulary in “unlocking” the expressive language in children with CdLS with DAS as an evidence-based practice.

**Keywords:** Cornelia de Lange, Developmental Apraxia of Speech, Case Study, Expressive Language, Intervention

## **P90. METAPHOR PROCESSING IN CHILDREN WITH HIGH-FUNCTIONING AUTISM SPECTRUM DISORDER: EVIDENCE FROM PRODUCTION AND COMPREHENSION**

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**Background.** Research in the field of figurative language processing in Autism Spectrum Disorder (ASD) has demonstrated that autistic individuals experience systematic difficulties in the comprehension of different types of metaphors (Kalandadze et al., 2018). However, there is scarce evidence regarding metaphor production skills in ASD (Kasirer et al., 2020). Importantly, the exact source of metaphor processing difficulties in ASD remains largely controversial. The main scientific debate focuses on the mediating role of structural language skills and cognitive traits in ASD individuals' ability to comprehend and generate metaphors.

**Objectives.** This study examines metaphor comprehension and production skills in 18-Greek-speaking-children with high-functioning ASD as compared to a group of 31 typically-developing-children, while also examining the role of vocabulary and working memory (WM) in metaphor processing in both groups.

**Methods.** Participants completed a low-verbal multiple-choice sentence-picture matching task that tested their ability to comprehend conventional predicate metaphors, and a sentence-continuation task that assessed their ability to generate metaphors.

**Results.** Results show that the ASD group had significantly lower performance than the TD group in both metaphor comprehension and production ( $p < .001$ ). The findings also reveal that vocabulary skills were a key factor in the metaphor comprehension and production abilities of children with ASD only ( $r = .897$ ,  $r = .596$ ,  $p < .01$ , respectively). Moreover, WM correlated significantly with metaphor comprehension performance in the ASD group ( $r = .716$ ,  $p < .001$ ). Of note, children with ASD generated significantly more inappropriate responses and no-responses in the metaphor production task compared to the control group ( $p = .006$ ,  $p = .034$ ).

**Conclusions.** The results reveal that children with ASD had difficulty with comprehending and using metaphorical language. The high rates of inappropriate-responses in the ASD group add to evidence about different ways to perceive information in a verbal metaphorical context. This could be due to a diminished influence of lexical and WM skills on figurative language processing in ASD.

## **P91. INFORMED CONSENT OF PEOPLE WITH DYSLEXIA: THE ROLE OF EASY LANGUAGE**

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Obtaining informed consent from participants is a standard procedure in research practice today. However, it is not enough for a person to voluntarily participate in a research procedure for the researcher to claim to have obtained informed consent – the potential participant must actually be fully informed. They must receive and understand sufficient information about the research, and it must be ensured that they have the opportunity to decide not to participate in the research at any time before, during or after the research process (Frankfort-Nachmias et al., 2015). Therefore, informed consent must be of sufficiently high quality to be valid, i.e. it must contain the following three elements: adequate information, voluntariness and competence (Directorate-General for Research and Innovation; European Commission, 2010). Although preparing informed consent is a complex process in general, it is particularly challenging when working with specific populations, e.g. clinical groups who have language and literacy difficulties, such as dyslexia. Research has shown that people with dyslexia (PwD) are particularly vulnerable when it comes to the written form of explaining what and how research is being conducted. They could be exploited or engaged in unsafe practices because of their difficulties (Berget & MacFarlane, 2019; Coleman et al., 2021; Gillin, 2015), particularly in the context of research recommendations that require written informed consent. Easy language (EL) refers to the language adaptation of a text to facilitate both reading and comprehension (Lindholm, & Vanhatalo, 2021), especially for PwD (Kuvač Kraljević & Lenček, 2021). Therefore, the use of EL guidelines for language adaptations and graphic adjustments is important when obtaining informed consent from PwD. We will provide an overview of recommendations and examples for informed consent forms for PwD from the perspective of the scientific field and research practice of speech and language pathology.

## P92. WHAT ABOUT PRE-SCHOOL MATH? FROM THE NON-SYMBOLIC TO THE SYMBOLIC PROCESSING OF QUANTITIES

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Mathematical skills are based on two systems of arithmetic representation and number processing: 1) non-symbolic and 2) symbolic (numerical). Non-symbolic comparisons are innate and develop from infancy throughout childhood, while symbolic skills emerge later during the preschool years and develop rapidly at the beginning of formal schooling. These systems communicate through transcoding processes (Dehaene, 2001; Kolkman et al., 2013). Numerical comparisons require the transcoding of two quantities (Dehaene & Cohen, 1995). Quantity assessment can be influenced by the distance effect and the size effect, i.e. number sizes and the numerical distance between them (Dehaene, 2011). The aim of this study was to investigate quantity processing in preschool children. The material was based on Li et al. (2018). The participants were 122 kindergarten children who were divided into two groups (four- and five-year-olds) and examined individually. A mixed-design ANOVA (2x2) was conducted to test main effects and interactions of two variables, each with two levels: group as between-subjects factor and task type (non-symbolic/symbolic) as within-subjects factor. Main effects of group ( $F(1) = 43.492$ ,  $p < .01$ ) and task type ( $F(1) = 169.794$ ,  $p < .01$ ) were found. Both groups performed better on the non-symbolic tasks, and the older group outperformed the younger group on both tasks. A series of t-tests were conducted to test for differences between different ratios (easy vs. difficult) and numerosities (smaller vs. larger number of items). The effects of size and distance on performance were only demonstrated in the younger group of children. The results are consistent with the findings of previous studies that support the developmental perspective of two systems of arithmetic representation and number processing. They can be used for the early detection of dyscalculia risk and the development of prevention programs.

### **P93. DO VOWELS MATTER? DIFFERENTIAL DIAGNOSIS OF CHILDHOOD APRAXIA OF SPEECH AND PHONOLOGICAL DISORDER IN ESTONIAN-SPEAKING CHILDREN**

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Vowel errors are an agreed upon differential feature of childhood apraxia of speech (CAS) (ASHA, 2007; Murray et al., 2015; Iuzzini et al., 2022). Little research has focused on investigating the manifestation of such errors across different speech sound disorders and these have primarily been limited to larger Germanic and Romance languages (Pollock & Berni, 2003; Lewis et al., 2004; Blech et al., 2017; Lenoci et al., 2021). Estonian language is known for its complex system with 9 vowels and 36 diphthongs. An analysis of vowel errors in Estonian can bring important insight into the universality of currently accepted English-based CAS features.

This study aims to identify whether vowel and diphthong errors differentiate Estonian-speaking children with suspected CAS, suspected phonological disorder (PD) and typical speech development (TD). A corpus of 91 isolated stimulus words including both single vowels and diphthongs were elicited in a word repetition task from children with CAS (n=6), PD (n=14) and a TD group (n=20) aged between 4y6m to 6y6m. Perceptual analyses were performed by three blinded evaluators to assess vowel and diphthong realizations and error types.

Children with suspected CAS made significantly more vowel and diphthong errors compared to TD and PD children across a variety of measurements. Error-wise, children with CAS made significantly ( $p<0,05$ ) more distortion and substitution errors compared to children with PD.

This study shows that vowel and diphthong errors differentiate children with CAS from children with PD and TD. Incorrect vowel and diphthong production seems to be a relevant diagnostic feature for CAS in vowel-rich languages such as Estonian. Future investigations should focus on larger datasets and cross-linguistic comparisons of languages with vastly different vowel systems.

## **P94. EXPLORING GESTALT LANGUAGE PROCESSING (GLP) IN AUTISTIC CHILDREN: INSIGHTS FROM AUSTRIAN SPEECH-LANGUAGE THERAPISTS**

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### **Background:**

Although GLP has been observed in a variety of children it has been interpreted as being pathological, resembling a form of non-communicative echolalia, mostly seen in autistic children. However, research suggests that GLP also leads to self-generated, natural-developed language, only in different stages. To date, GLP remains largely unknown to many SLTs, and no German data could be found.

### **Objective:**

By employing an online survey, we gain insights of perceived gestalts and types of echolalia observed by SLTs in autistic children within a clinical setting. The aim is to generate findings that contribute to the understanding of German GLP and anticipate possible interventions.

### **Methods:**

A specific designed online questionnaire targeting SLTs working with autistic children in Austria, was employed. The questionnaire captured gestalts and echolalia and SLTs perspectives on communicative characteristics of both. Complete datasets were included and quantitatively analyzed using SPSS. Descriptive analysis was conducted to summarize and present the identified gestalts and perspectives.

### **Results:**

31 participants across all provinces in Austria completed the survey. 80% reported having 1-5 autistic children in therapy weekly, particularly between the ages of 3-5 years old. 97% of the participants acknowledged echolalia, attributing it a communicative character, yet 74% admitted to not fully understanding them. Surprisingly, 58% of the participants noted that autistic children often spoke English, even when no one in their immediate environment speaks the language. 94% reported observing gestalts in forms of (parts of) songs, phrases from series, and numbers. Interestingly, 39% of the participants identified similar communicative patterns in analytic language learners.

### **Conclusion:**

This study indicates that gestalts are common among autistic children, yet not exclusive to this group. The majority of SLTs do not fully comprehend the meaning of the gestalts, which suggests potential limitations in interventions aimed at addressing communication.

**Keywords:** Gestalt Language Processing, Autism, SLT

**P95. A PHONICS-BASED READING INTERVENTION FOR CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER (DLD) – A SINGLE-BLINDED RANDOMIZED CONTROLLED TRIAL**

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**Background:** The ability to read is a fundamental skill and a prerequisite for learning and participation in society. The common co-occurrence of DLD (developmental language disorder) and RI (reading impairments) is well known. Previous studies have reported difficulties with both decoding and reading comprehension in DLD populations.

**Aim:** In the light of an increased risk of co-occurrence of poor decoding skills in children with DLD the present study aims to explore the effects on the decoding skills of an intensive phonics-based reading intervention in school-age children with DLD.

**Method:** The participants (n=67, 6-11 years) recruited from school language units, were randomized to an intervention group, an active control group (computer-based math game) or a passive control group (teaching as usual). The intervention group played on the phonics-based computer program Grapholearn (GL). The intervention took place in the schools for 5 weeks (20 sessions, á 15-30 minutes). A pre-test, directly post intervention, and 8-10 weeks post intervention were administered, including the CELF, nonword repetition, Raven's matrices and three decoding tests (letter naming, word and nonword decoding with TOWRE and with a GL-based decoding task).

**Results:** The findings indicate no effect of the intervention program on any of the measures of decoding at post tests. We also report the reading abilities in the DLD cohort as compared to new norms from 220 typically developing children for letter naming, decoding words and nonwords, and nonword repetition.

**Conclusions/Take home message:** School-age children with DLD in special school language units do not profit from a 5-week-intensive phonics intervention. Future research could elucidate if a longer intervention is needed.



## **P96. UNDERSTANDING AND ADDRESSING AUDITORY PROCESSING DISORDERS IN NEURODEVELOPMENTAL CONTEXTS**

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**Background:** Auditory Processing Disorders (APDs) represent a spectrum of auditory perception issues in everyday listening situations. These disorders involve a reduced ability to perceive sounds and human speech, especially in environments with competing noise, while maintaining normal hearing. APDs affect 0.5-7% of the population, reflecting a cerebral difficulty in processing and segregating incoming auditory stimuli. Predominantly diagnosed in children of early school age (around 7 years), efforts for early detection can begin from the age of 5. APDs are classified under the ICD-11 code "AB5Y Other specified disorders with hearing impairment."

**Clinical Question-Aim:** This study addresses the comorbidity of APDs with neurodevelopmental disorders such as dyslexia, attention deficit hyperactivity disorder (ADHD), autism spectrum disorder, and developmental language disorder in children.

**Method:** A comprehensive literature review was conducted, examining published studies from the last decade on Google Scholar. The review focused on specific keywords like "APD AND comorbidity neurodevelopmental disorders," aiming to understand the intersection of APDs with other developmental conditions.

**Findings:** The study highlights the urgent need to address APDs' comorbidity with other neurodevelopmental disorders. Current educational practices often do not align with the needs of children with APDs, particularly those with dyslexia who are frequently subjected to oral examinations in school settings. These children require individualized interventions based on evidence-based clinical practices, integrating scientific validation with clinical expertise and published research.

**Conclusion-Future Directions:** The study emphasizes that each child with APD processes auditory information uniquely. Therefore, referrals and subsequent treatment plans should consider each child's specific deficits and characteristics, moving away from generic "one-size-fits-all" approaches. The research advocates for personalized strategies in managing APDs, especially in children with concurrent neurodevelopmental challenges, paving the way for more effective and tailored interventions.

## **P97. EXECUTIVE AND ATTENTIONAL FUNCTIONS OF BRAZILIAN CHILDREN EXPOSED TO THE ZIKA VIRUS**

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Between the ages of 4 and 5, children have the ability to inhibit their behaviors and by the age of 7 they are effective in dealing with distractors and focusing attention. The development of executive functions depends on the completion of the myelination process of the fronto-striatal circuits, so their maturation will only occur at the end of adolescence and the beginning of adulthood. The Zika virus is extremely neurotropic and can affect child development in several ways. **OBJECTIVE:** to verify attentional and executive functions in children exposed to the Zika virus without microcephaly. **METHOD:** Cross-sectional observational study carried out with a cohort of Brazilian children exposed to ZIKA virus infection during pregnancy, but without microcephaly, CEP opinion nº 5.039.240. 100 volunteers were recruited, 46 in the control group and 54 exposed and without microcephaly, matched by sex and age. The Wechsler Non-Verbal Intelligence Scale, Cancellation Attention Test and Trail Making Test were administered in one session. Described statistics and inferential tests (Chi-square and Student's t) were used, with a significance level of  $p \leq 0.05$ . Bivariate logistic regression analyzes were performed for each of the variables to adjust and correct age differences. **RESULT:** The average age was 5.48, with 59% being male and 41% female. The borderline intellectual coefficient was higher in the Exposed group (20.4% > 0.0%), there was no difference for the logical reasoning variable. Attentional function (57.4% > 6.5%) and executive function (63.0% > 8.57%) classified as low were significantly higher in the research group. It is concluded that the performance of children exposed to the virus and without microcephaly was lower.

**P98. TASK OF NAMING VERBS IN BRAZILIAN CHILDREN AND ADOLESCENTS WITH INTELLECTUAL AND HEARING DISABILITIES**

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**Objective:** To investigate the conventional use of verbs in Brazilian children and adolescents with language impairment due to intellectual disability (Down Syndrome) and hearing impairment (with Cochlear Implant).

**Method:** Children and/or adolescents aged 6 years and over who were orally selected for convenience were divided into two groups: GDI (Group with Intellectual Disability) and GPAS (Group with Sensorineural Hearing Loss), who responded to the Actions Naming Tasks. Responses were recorded in audio and documented in specific printed protocols. Responses were classified according to criteria: validity (V), conventionality (C), semantic domain (DS), verbal structure (EV), syntactic structure (ES), and verbal use (UV). Data were tabulated and analyzed with descriptive and inferential statistics.

**Results:** In both groups, there was a prevalence of valid and conventional verbal responses. Participants used only intradominant semantic approximations. Regarding the structure of the verbs, the Object Verb (EVO) and the use of isolated verbs prevailed. The most used verbal tense was the present, and the nominal form was the gerund.

**Conclusion:** Both groups follow the same trends as those with typical development. Individuals with Down syndrome have greater difficulty in producing verbs.

**P99. METHODOLOGY FOR SELECTING WORDS IN LEXICAL  
ASSESSMENT TASK FOR KINDERGARTEN TO PRIMARY SCHOOL  
CHILDREN**

*Phd Student Pauline Menjot<sup>1</sup>, Associate professor Anne-Lise Leclercq<sup>1</sup>, Professor Annick  
Comblain<sup>1</sup>*

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Vocabulary comprehension and production constitute a fundamental aspect of proficient communication (Ebbels et al., 2022). Consequently, its assessment is an integral part of speech therapy evaluation in the context of developmental language disorder (DLD). Research indicates that children with DLD have difficulty learning, retaining and using vocabulary (McGregor et al., 2020), often presenting a comparatively reduced lexical stock compared to their peers without DLD (Nash & Donaldson, 2005). Currently, there is no validated, computerized French-language tool with the same naming and designation lexical items for children. However, the evaluation of both receptive and productive aspects of lexical items is relevant to the specificity of the diagnosis (e.g., a lexical access difficulties versus a lack of vocabulary) (Bragard et al., 2010). Furthermore, the integration of digital technology allows for greater standardization of the measurements carried out, compared with the paper/pencil format, particularly for encoding response time (Ecalte et al., 2021).

This paper presents the specific methodology for developing a computerized lexical comprehension and production task for children from third kindergarten to fifth primary. First, the target items (which were the same in comprehension and production) were selected based on their age of acquisition, frequency, syllabic structure, and imageability (according to the Lexique 3.83 database). Second, for the designation task, four distractors were selected for each target item, based on the same variables. Third, the level of relevance and evocation of the visual illustration of each target and control item were validated with 48 adults. Finally, the principle of anchor items was used to apply an item response model to the analysis of data to be collected from a sample of 300 children. The entire methodological process, the choice made, and future prospects for the use of this lexical assessment task will be discussed.

Keywords : DLD; lexical assessment; speech therapy assessment

**P100. DIAGNOSTIC FEATURES OF PHONOLOGICAL DISORDER AND  
THEIR CORRELATION WITH TREATMENT APPROACHES:  
PERSPECTIVES FROM LITHUANIAN SLTS**

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**Background.** The phonological disorder (PD) is children's speech sound disorder of the cognitive-linguistic origin. Because of that, a probability of likely differences among linguistic systems remains. Research studies conducted by foreign authors allowed revealing differential diagnostic features of the PD and treatment approaches in the English-speaking children.

**Aim of the research.** To identify the significant diagnostic features of PD and their correlation with practice of treatment approaches applied by speech and language therapists (SLTs) in Lithuania.

**Methods.** An online questionnaire-based survey for SLTs who provide support to a children with the PD (N=162) was used. Finally, descriptive statistics, multi-dimensional statistical methods (factor analysis; multiple regression analysis) were employed.

**Results.** When differentiating and identifying the PD, the following 5 main features are significant in the point of view of Lithuanian SLTs: difficulties of the phonological awareness; speech and adjacent difficulties in learning; consistent errors in substituting, omitting, assimilating sounds; alterations in speech motor skills; difficulties in the use of sounds in speech and syllables, repetition of words. The research results show that application of approaches based on motor learning to treat the PD is determined by consistent errors in substitution, omission and assimilation of sounds by children and alteration in motor skills identified by SLTs; whereas application of phonologically-based approaches is determined by dominating difficulties in phonological awareness. Diagnostic features of the PD that are the most manifesting and least significant with practitioners, their correlations with applied approaches for treatment will be discussed in more detail way.

**Conclusions / take home message.** It was found that selection made by Lithuanian SLTs concerning which approaches for treating the PD to apply is related to the significant diagnostic features. The need for further research on the PD in various languages is obvious.

**Keywords:** phonological disorder, speech sound disorders, diagnostic features, treatment approaches, correlation.

**P101. PORTUGUESE SPEECH AND LANGUAGE THERAPISTS' PRACTICES: SERVICES DELIVERY FOR CHILDREN WITH SPEECH SOUND DISORDERS**

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**Background:** Factors such as session frequency and format (individual and/or group) can impact the efficacy of therapeutic interventions for children with speech sound disorders (SSD). Although research on this topic is limited, it is important to understand the current practices of Speech and Language Therapists (SLTs) and compare them to existing studies on services delivery for SSD.

**Aim/ Objectives:** This study aims characterize the Portuguese SLT services delivery for children with SSD.

**Methods:** A survey was conducted in Portugal using a translated and culturally adapted questionnaire from Brumbaugh and Smit's 2013 study. The data was analyzed using descriptive statistics.

**Results:** Among the 128 participants surveyed, 96.1% were female, with over 70% holding a Bachelor's degree. 69% had undergone specialized training in SSD, with 63.4% therapists treating more than half of their preschool caseload with this diagnostic. The majority of service delivery took place in private clinics (70.4%), with all therapists providing individual sessions. Of these sessions, 75% were scheduled on a weekly basis and 60.2% reported that each session is 45 minutes duration. Additionally, occasionally, 32.1% of therapists held group sessions with two children (20.3%), whereby 19.5% utilized homogeneous groups for their group interventions.

**Conclusions/take-home message:** More research is needed to understand how the delivery of services to children with SSD affects the effectiveness of intervention. Until then, describing SLT practices such as frequency, duration, and type of intervention can help improve interventions and it is important to increase the body of scientific evidence to support the practice of SLT with children with SSD.

**Keywords:** Speech Sound Disorders; services delivery; preschool-age children; SLT practice

## **P102. TARGET SELECTION CRITERIA FOR INTERVENTION IN SPEECH SOUND DISORDERS: THE PRACTICE OF PORTUGUESE SLT**

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Speech Sound Disorder (SSD) is one of the most prevalent diagnoses in early childhood. Children with SSD represent a heterogeneous group, which poses great challenges to the Speech and Language Therapist (SLT) when planning therapeutic intervention. Recently, the importance of combining traditional and new selection criteria to respond more effectively to children with SSD has been addressed. The traditional criteria present little or no scientific evidence and are based on the intuition and experience of the SLT. The newer criteria are guided by scientific evidence, based on linguistic aspects.

This study aims to identify the target selection criteria used by Portuguese SLT with children with SSD.

A cross-sectional survey was conducted in Portugal. The questionnaire used was adapted from the study of Brumbaugh and Smit (2013). The data were analysed using descriptive statistics.

There were 128 respondents. The majority (96.1%) were females and over 70% of the respondents held a Bachelor's degree and almost 40% finished their degree more than 15 years ago. Around 69% of them have specialized training in SSD. The most used target selection criteria are: "Phonological awareness in addition to intervening in speech sounds" (85.5%); "Phonological awareness to improve speech production" (84.4%); "Target sounds that are stimuable" (77.3%); "Intervention targets taking into account the child's oromotor planning skills" (77%); "Target sounds with the greatest impact on intelligibility" (72.4%) and "Target sounds taking into account the order of acquisition expected in development" (71.1%).

Despite the scientific evidence of the newer criteria and specialized training in SSD of the respondents of this study, the traditional criteria continue to be among the most used by Portuguese SLT. To guarantee the intervention's efficiency, SLT should focus more on using the new selection criteria into their practices to promote a better change in the children's phonological system.

SSD; Intervention; Target Selection Criteria

## **P103. LANGUAGE DEPRIVATION IN A CHILD WITH BILATERAL COCHLEAR IMPLANTS: A CASE REPORT**

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Cochlear implant (CI) is the standard intervention for deafness or severe hearing loss, with bilateral implantation encouraged due to the benefits of binaural listening for the development of spoken language. However, around 50% of users still do not achieve age-appropriate speech and language skills and are below the standard deviation of -1 (Hall et al., 2019, First Lang). Therefore, the exclusive CI intervention makes this population vulnerable to language deprivation.

This report presents the profile of a deaf child aged 7;5 years with congenital CMV infection and progressive hearing loss who, despite bilateral implantation at the age of 4;6 and three years of therapy (CI aided hearing thresholds between 30 and 45 dB), made no progress in listening and spoken language, and received no sign language input until the age of 6.

A psychologist and a SLT administered various assessments to determine the status of general cognitive abilities, listening, speech, spoken language and sign language skills using a combination of formal and informal assessment procedures.

The child scored in the lower average range for both global cognitive ability and perceptive reasoning. The speed of information processing is below average.

Measured by the CDI, the child only uses 186 signs and understands 253 signs. Only utterances with two signs were observed, even with picture prompts. Most of the items that are normally examined by VCSL checklist for much younger children were not yet developed at the time of the assessment (negation, simple adjectives, polar and content questions, personal or possessive pronouns).

This case emphasises the importance of careful monitoring of progress in CI users. Finally, we advocate bimodal bilingual intervention for deaf or hard of hearing children, as early sign language input can support the development of cortical language areas and thus prevent language deprivation in unsuccessful CI users.



**P104. UNDERSTANDING OF CAREGIVERS REGARDING  
PHONOLOGICAL ACQUISITION AND AUDITORY SKILLS**

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**Background:** The development of language and auditory skills plays a crucial role in the proper acquisition and progress of children. Speech and language disorders, especially those related to auditory and linguistic issues, are common during this phase. Effective intervention plays a fundamental role in overcoming challenges that may arise during the acquisition period. In school clinics, the demand for speech therapy is significant, leading to frequent waiting lists. **Objective:** To conduct a descriptive and qualitative analysis of auditory aspects and language development, with a special focus on phonological acquisition. This analysis is carried out from the perspective of parents of children who present language-related complaints. **Method:** The study is descriptive and cross-sectional. The sample was conveniently selected from the waiting list of the school clinic, containing 530 entries. The target population for this research was exclusively parents seeking assistance due to changes in Child Language, totaling 295 records. An online questionnaire was administered to parents of children seeking assistance due to language difficulties. The questionnaire addressed issues related to phonological acquisition and the development of auditory skills. **Results:** Questions related to hearing highlighted parents' excellent awareness of the importance of hearing in language development, as well as the frequent occurrence of ear infections in childhood. Furthermore, they revealed good coverage in Neonatal Hearing Screening in the studied population. Regarding phonological acquisition, parents identified changes in speech development, with a high incidence of children experiencing difficulties in acquiring the phonemes [s], [z], [ʃ], [ʒ], [l], [ɲ], [ʎ], [r], and [X]. **Conclusion:** Parents demonstrated a thorough understanding of aspects related to hearing and phonological acquisition, emphasizing the influence of hearing on linguistic development and the phonological acquisition of language phonemes

## **P105. PHONOLOGICAL PROCESSES PRESENT IN THE SPEECH OF CHILDREN IN THE PROCESS OF TYPICAL PHONOLOGICAL ACQUISITION**

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**Introduction:** The possibility of studying Phonological Disorders arises only after understanding typical phonological development. The pattern of phonological acquisition is similar among children and is considered non-linear and gradual. In attempting to approximate adult speech, some phonological processes may arise, which are attempts made by children to facilitate the production of sounds or groups of sounds. There are many studies based on the level of speech production that evaluate the process of acquiring Brazilian Portuguese; however, they are scarce in the city of Natal, Rio Grande do Norte, Brazil.

**Objective:** The aim of this research was to identify the phonological processes at play in the speech of children in the typical phonological acquisition process.

**Methodology:** This research has a qualitative/quantitative nature, with descriptive statistical analysis. Speech samples were collected from 8 children, aged between 2 years and 5 years and 11 months, through individual spontaneous conversations, using toys to enhance interaction and speech production. All lexical items produced by the children were transcribed using a restricted phonetic transcription.

**Results:** The observed processes included: Deletion of final liquid, devoicing of obstruents, anteriorization, liquid semivowelization, plosivization, liquid substitution, reduction of consonant clusters, deletion of unstressed syllables, final fricatives and intervocalic liquids. However, deletion of final liquids was the most recurrent process. Thus, it can be concluded that the phonological processes adopted by these infants differ from those observed in other regions of the country, and the data obtained in this study may assist in speech therapy for speech sound disorders in children residing in Natal.

**Conclusion:** It is concluded that more studies are needed in this region, as the most observed process is not common in other states of the country. It can be observed that deletion of final liquids is a characteristic of adult speakers in the region.

**P106. ORAL LANGUAGE COMPREHENSION IN GREEK-SPEAKING CHILDREN WITH DEVELOPMENTAL LANGUAGE DISORDER (DLD): EMPIRICAL FINDINGS FROM THE IMPLEMENTATION OF TWO INTERVENTION PROGRAMS**

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**Background**

Comprehension of oral language is a complex process, based on two levels: a linguistic one, involving processing oral information, and a cognitive one, which involves the inductive processing of information to draw conclusions.

Difficulties in oral comprehension are prevalent in DLD and constitute a risk factor for future challenges that impact the quality of life for this population. Consequently, research on therapeutic interventions addressing these difficulties is essential.

**Aim**

This study compared the impact of two intervention programs (semantic versus phonological) on oral comprehension of children with DLD.

**Method**

A total of 107 children with DLD aged 4;1-5;10 were assessed for non-verbal intelligence and language with a full battery of standardized measures and were randomly assigned to two experimental groups (a semantic and a phonological one) and one control group. A pre-post test design was implemented, with the semantic group receiving language intervention to build semantic knowledge and the phonological group focusing on developing phonological awareness.

The intervention was offered with a frequency of two sessions per week for 16 weeks (32 individual sessions in total). The control group received no intervention during this period. Performance assessments for all groups were conducted immediately after the conclusion of the intervention, with follow-up assessments to examine for the maintenance of results after four months. Analyses of variance for repeated measures (ANOVA) was applied to assess examine within- and between-group differences at the three time points.

**Results**

Results indicated significant effects on oral comprehension for both intervention groups which were sustained even after the 4-month period, while the control group showed no improvement over time.

**Conclusions**

The findings are discussed in terms of the effectiveness of semantic knowledge and phonological awareness programs on oral comprehension in the Greek language.

**Keywords**

Oral comprehension, evidenced-based intervention programs, semantic knowledge, phonological awareness.

**P107. STRATEGIES IN SEMANTIC VERBAL FLUENCY TASKS: HOW DO SWITCHING AND CLUSTERING EVOLVE FOR FRENCH-SPEAKING ADOLESCENTS?**

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Until now, the standard score for a semantic verbal fluency task has been the total number of correct words. However, recent studies highlighted the need for additional qualitative analyses. Indeed, the number of clusters and switches, and average cluster size are scores that provide relevant information on underlying cognitive processes: search strategies and cognitive flexibility could be estimated from switching, an effortful process, and lexico-semantic knowledge from clustering, a more automatic process. During adolescence, the number of clusters and switches seems to increase, but not the cluster size. Yet data tend to vary according to the category used, age, and possibly culture. It is therefore important to establish normative data for French-speaking adolescents to help identify developmental trajectories. In this research, we hypothesize an age-related increase in the number of clusters and switches, but not in cluster size. Also, we assume that strategies implementation is more efficient when the response period is longer. For this purpose, we recruit typically developing French-speaking adolescents aged between 10 and 15. We ask them to give as many words as possible in the animal and supermarket product categories for 120 seconds (instead of the traditional 60 seconds). Following Troyer et al. (1997), we will propose a quantitative analysis detailing the evolution of the total number of words and a qualitative analysis of clustering (number of clusters, average size) and switching (number of switches). In addition, we will compare the data of the first 60 seconds with the data obtained during the complete response period. We expect that our results (yet to be analyzed) will contribute to the existing literature by clarifying the strategies used by French-speaking adolescents in a semantic verbal fluency task, and by establishing normative data for analyzing performance in atypical development.

**Keywords:** semantic verbal fluency, clustering, switching, executive functioning.

## **P108. LANGUAGE FUNCTIONS IN CHILDREN BORN WITH CLEFT LIP AND/OR PALATE**

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<sup>3</sup>Statped

### **LANGUAGE FUNCTIONS IN CHILDREN BORN WITH CLEFT LIP AND/OR PALATE**

#### **Background**

There are some indications that children with Cleft Lip/Palate (CLP) may also be language impaired and hence at risk of developmental dyslexia. In Norway all children with CLP are routinely followed up regularly by a regional CLP-team with assessments of articulation and nasality. However, assessment of language is not part of this procedure and children with potential language impairment are thus at risk of not being identified.

#### **Aims**

The aim of the present study was to explore language functions and risk of developmental dyslexia in a sample of six-year-old children with CLP. Based on previous research we hypothesized that some of the children would show signs of language impairment and risk of developmental dyslexia.

#### **Methods**

A total of 48 children (27 boys, 21 girls) born in 2010 and 2011 participated in the study. The Children's Communication Checklist (CCC-2) (Bishop, 2011) and the Risk Index 5 (RI-5) (Helland, 2015) targeting language impairment and risk of dyslexia respectively, were filled out by parents and kindergarten teachers. CCC-2 data were available for 40 children (22 boys, 17 girls) and RI-5 data for 34 children (18 boys, 16 girls).

#### **Results**

40 % of the children scored in the language impaired range on the CCC-2, and 64% scored below norm on the RI-5 indicating risk of dyslexia.

#### **Conclusion**

These findings indicate that an overrepresentation of children with CLP may have more profound language problems in addition to articulatory deficits. To assess possible variations analysis of subgroups by type of cleft are planned.

#### **Keywords**

Cleft lip/palate

Language assessment

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**P109. THE POWER OF COMMUNICATION IN THE QUALITY OF LIFE**

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OdM is a non-profit association dedicated to the development of speech and language therapy worldwide, particularly in countries where the profession is under-represented or not represented. Its actions are based on 2 main lines of action: working towards the deployment of initial training, and providing technical support to health and education professionals working with people with disabilities in the fields of communication and oromyofacial functions.

Helping to establish and improve communication between healthcare/education teams and people with disabilities enables beneficiaries to make their needs better known, and thus enables teams to respond more appropriately. In this way, people with disabilities are recognized as full-fledged members of society by their families and communities, leading to greater inclusion.

This approach to disability, in countries where access to primary health care is difficult, seems all the more necessary to us, as it helps to re-establish a link, or even create one, between the disabled person and their loved ones. In some cases, this is a vital necessity, as it limits social exclusion and lack of care.

For our association, communication is above all a right to be defended for every individual.



**P110. DLD, DYSLEXIA AND ENGLISH AS L2**

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**Background.**

Being able to speak English is an important prerequisite for participating in professional and social contexts. In Norway, English has been introduced as a second language (L2) from the 1st grade onwards. Research shows that learning a foreign language can be particularly difficult for people with DLD and/or dyslexia. At the same time as the reading code will be cracked in Norwegian, the children will learn English, with its deep orthography and some linguistic structures that differ from Norwegian.

**Aim.** The aim of the present study was to assess the relationship between pre-school children's and school pupils' proficiency in English as L2.

**Methods.**

Here we will refer to our research on 1) linguistic mapping of 5-year-olds; 2) interviews with teachers regarding English lessons in 1st grade; 3) cognitive markers regarding English as a foreign language; 4) systematic testing of 6th graders' (control and dyslexia) oral and written skills in English during the period 2000 – 2023; 5) correspondence between early language assessment and grades in English in lower secondary school.

**Results.**

Students with DLD and dyslexia have difficulties with both spoken and written English, but the difficulties vary according to the underlying degree of language impairment (DLD) and dyslexia.

**Conclusion.**

Our research indicates that the proficiency in English as L2 in children with DLD and/or dyslexia is under-communicated in schools and support services. A new language can be learned in various ways. We need more research on how we can leverage explicit and implicit learning strategies for everyone to join English as well. Furthermore, we need research on whether English should be included as a subject as early as 1st grade at the same time as the reading code in Norwegian is to be cracked.

**P111. THE SILENT CHILDREN PILOT STUDY OF DETECTION OF  
PRESCHOOL-AGED CHILDREN WITH SELECTIVE MUTISM**

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Selective mutism (SM) is characterized by consistent failure to speak freely or spontaneously in demanding social settings, while communicating effortlessly in familiar situations. The onset of SM is usually during preschool years, consequently early childhood educators have an essential role in identifying SM1, 2.

This pilot study aims to identify preschool teacher awareness and interpretation of early signs of SM, as well as to highlight the management strategies implemented in the school setting. Furthermore, the kind of guidance provided to families for managing children's difficulties is investigated. A 23 opened/closed-end questionnaire was designed to explore teachers' perspectives of the clinical characteristics of SM, which was distributed to Greek preschool settings and targeted children aged 3-6 years. Both qualitative and quantitative analyses of the data were conducted. Responses to open-ended questions were categorized for quantitative analysis.

175 educators participated in the study and 120 children were detected with SM features. SM was ranked low in response to the question "Why do you think the child is not speaking?". The most common management strategy involved using questions to initiate dialogue and verbal reinforcement when the child responded verbally. Although a large majority informed parents about the child's communication difficulty, approximately 2 out of 3 educators recommended specialist referral.

This study highlights a relatively low level of awareness of SM among the surveyed sample of educators in Greece and a relative inadequacy in management strategies and guidance provision to families. Further research in this field will elucidate the actual needs of the population and assist in devising strategies for early detection of SM.

**KEYWORDS:** Selective Mutism, Preschool, Educators, Early Detection, Management Strategie