

3rd MSc (Speech-Language Pathology) Student Research Seminar

Thursday, 14th July 2016

1800hrs – 2000hrs

MD6 01-01B



3rd MSc (Speech-Language Pathology) Student Research Seminar

Abstract No	Student	Title of Project
Abstract 1	Anuja Varaprasad	The Efficacy of Literacy Intervention in Deaf Bilingual-Bicultural Children
Abstract 2	Carline Tan Ching Teng	Effectiveness of Phonological Therapy for Naming in Mandarin-Speaking People with Aphasia
Abstract 3	Charmaine Ong Shuwen	Nurse-Led Infant Feeding Pathway: Factors Affecting Pathway and Caregiver Perceptions
Abstract 4	Chloe Lim Hui	Evaluating the Usefulness of a Functional Communication Checklist for Teachers of Children with Autism Spectrum Disorder
Abstract 5	Connie Sohn Chaird	Effects of Language Treatment for Semantic Dementia: A Single Case Study
Abstract 6	Dickman Sharon Charmaine	Normal Disfluencies in Typically Developing English-Mandarin Bilingual Children
Abstract 7	Koh Kai Hui, Grace	Language Dominance and Phonological Development of English-Mandarin Bilingual Preschoolers
Abstract 8	Kwan Kah Mei, Rhoda	Effects of Nasogastric Tube on Swallowing Function in Patients with Dysphagia Following Stroke: Case Studies
Abstract 9	Lam Xin Yi	Prompt Hierarchy Training for Teachers Implementing Augmentative Alternative Communication (AAC) with Children with Autism
Abstract 10	Lee Yan, Bobbie Jen	Cross-Language Transfer Effects with a Modified Semantic Feature Analysis Therapy for English-Mandarin Bilinguals with Aphasia
Abstract 11	Leong Shi Yun	Cross-Language Transfer Effects of Verb Therapy for Mandarin-English Bilinguals with Aphasia
Abstract 12	Low Lixian, Alena	English Cognitive-Communication Screener for Acquired Brain Injury Impairments in Singapore
Abstract 13	Low Ye-Tong, Alberta	Effect of Dialect on Phonological Analysis: Evidence from Singapore English Speaking Bilingual Children
Abstract 14	Ng Wan Ting, Josie	Measurement of Muscle Activity During Swallow with Chin Tuck and Chin Tuck Against Resistance Using Surface Electromyography
Abstract 15	Ong Pei Yu, Mabel	Development of a Mobile Application with Spectral Biofeedback Features
Abstract 16	Phoebe Elizabeth Lim Pei Jun	Oral Feeding Outcomes on a New Nurse-Led Semi-Cue-Based Feeding Pathway for Healthy Preterm Infants
Abstract 17	Sun Yanhui, Felicia	Language Recovery and Oral Narrative Performance in Children with Acquired Brain Injury
Abstract 18	Tan Han Lin, Louisa	Efficacy of Music for Improving Language in Children with Special Needs
Abstract 19	Tan Jia Xin Danica	Oral Narrative Abilities of English-Dominant Singaporean Preschoolers
Abstract 20	Tan Xue Er, Cheryl	Utility of the Children's Communication Checklist for Bilingual Singaporean Preschoolers
Abstract 21	Tang Hui Min	Language Outcome and Written Narrative Performance in School-Aged Children Post Traumatic Brain Injury

Abstract 1

The Efficacy of Literacy Intervention in Deaf Bilingual-Bicultural Children

Anuja VARAPRASAD, Siok Keng TNG & Susan J. RICKARD LIOW

Background: Literacy acquisition is problematic for deaf bilingual-bicultural (Bi-Bi) children whose first language is sign and second language is written English. An earlier study on 11 Bi-Bi school-age children at the Singapore School for the Deaf found significant underperformance and heterogeneity in literacy skills given the complex factors that impact literacy outcomes in this population. The aim of this study was to identify individualised intervention strategies for two 14 year old children (EF and EM) from an earlier study based on theoretical underpinnings on Bi-Bi literacy acquisition as well as clinical evidence. Both children were in Primary 4, but were performing at different levels and had different co-morbidities. EF had good single word vocabulary but had difficulties with writing sentences while EM had difficulty spelling single words.

Method: A tailored approach was taken to intervention. For EF, intervention focused on building verb vocabulary and increasing sentence length through cultivating links between sign and English while intervention for EM involved the introduction of visual sequencing methods to support spelling accuracy.

Results: Quantitative and qualitative evaluation of intervention efficacy suggests that intervention was effective with some generalisation to untreated items.

Conclusion: The results suggest that intervention planning must be individually tailored and the heterogeneity in language processing in the Bi-Bi population needs to be taken into account.

Keywords: Deaf, Sign Language, Literacy, Intervention

Abstract 2

Effectiveness of Phonological Therapy for Naming in Mandarin-Speaking People with Aphasia

Carline Ching Teng TAN, Sajlia Binte JALIL & Susan J. RICKARD LIOW

Background: The efficacy of phonological therapy for naming deficits in aphasic patients has been widely reported but so far there is no published account of work with Mandarin-speaking patients. The aim of this study is to develop and test phonological cueing therapy in Mandarin based on language-specific components (onset, rime, tone) on word retrieval, and thereby determine the most salient phonological feature for word retrieval.

Method: Two Mandarin-speaking participants with aphasia were recruited. Participants were assessed on a picture-naming task at three baselines and post-therapy assessments. They were exposed to five to ten weekly 1.5-hour phonological therapy sessions targeting 21 nouns and 21 verbs. For pictures that the participant was unable to name, phonological cues were provided (a word of different tone, onset or rime) to aid word retrieval. An additional syllabic cue was provided for disyllabic target words.

Results: Participant showed improved naming of treated nouns and verbs following ten therapy sessions. The most effective cue for monosyllabic words was a word with different tone whereas the most effective cue for disyllabic words was a syllabic cue.

Conclusion: These results provide some evidence for the use of Mandarin phonological therapy to improve naming in individuals with moderate-severe aphasia.

Keywords: Anomia, Rehabilitation, Error Analysis

Abstract 3

Nurse-Led Infant Feeding Pathway: Factors Affecting Pathway and Caregiver Perceptions

Charmaine Shuwen ONG, Selena Ee-Li YOUNG, Desiree Ruo Wen LAU & Evelyn Ya Lian TAY

Background: Oral feeding is a complex motor task that preterm infants must master and the transition from tube to oral feeding is crucial to avoid delays in discharge. The aim of this study was to investigate the trends affecting 16 preterm infants' success on a new nurse-led semi-cue-based feeding pathway in advancing preterm infants towards full oral feeding.

Method: Data on the progress of 16 infants born at less than 33 weeks placed on the feeding pathway were collated. Using phenomenological analysis, 10 caregivers of these infants were also interviewed on their perceptions and attitudes towards the caregiver training provided to them.

Results: Preliminary findings showed that two of the five infants referred to Speech Therapy (ST) did not require intervention. This is likely due to factors such as the stipulated timeframe for review being too stringent and the type of teat (too fast) used for feeding in the ward. Caregiver perceptions and attitudes suggest that training is an essential component of the feeding pathway.

Conclusion: These findings suggest that changes to the pathway may result in more appropriate referrals to ST services, thereby reducing the cost of care and optimizing progression of the infants on the pathway. Consideration should be given to enforce that caregiver training is provided before discharge.

Keywords: Preterm, Infant, Oral Feeding, Semi-Cue-Based, Feeding Pathway, Caregivers, Perceptions, Attitudes, Caregiver Training

Abstract 4

Evaluating the Usefulness of a Functional Communication Checklist for Teachers of Children with Autism Spectrum Disorder

Chloe LIM Hui, Susan J. RICKARD LIOW & Anna Shiam KATTAPURAM

Background: A functional communication (FC) checklist that is easily understood could aid teachers and speech therapists (STs) in working together to serve the communication needs of students with autism spectrum disorder (ASD). The aim of this pilot study was to create and evaluate the usefulness of such a checklist.

Method: A pre-test post-test design was used in the study. In the pre-test phase, three participants (2 teachers, 1 ST) viewed three video clips of children with autism and selected FC goals for them. Participants also self-rated their confidence levels during their goal selection. Participants were then trained to use the FC checklist. In the post-test phase, participants viewed three additional video clips and the pre-test procedure was repeated.

Results: While goal selection by each participant remained varied pre-test and post-test, all participants expressed that the FC checklist gave them a common vocabulary and framework for systematic goal selection. All participants also rated their post-test confidence levels as higher or the same as pre-test levels.

Conclusion: The results suggest that the FC checklist may facilitate more robust interdisciplinary discussions in goal selection for students. Further refining of the checklist could also aid a multidisciplinary team in reaching a consensus in FC goal selection.

Keywords: ASD, Developmental Disorders, Special Education, Teacher-Speech Therapist Collaboration

Abstract 5

Effects of Language Treatment for Semantic Dementia: A Single Case Study

Connie Sohn CHAIRD, Sajlia Binte JALIL & Susan J. RICKARD LIOW

Background: Semantic dementia (SD) is a neurodegenerative disorder. Word finding difficulties (WFD) are a clinical feature of SD. Naming treatment for early stage SD is known to improve picture naming of treated words. However, generalisation of such treatment for SD is understood to be poor. The purpose of this study was to investigate whether naming treatment, supported by narrative discourse, would result in treatment gains beyond naming of treated words.

Method: One 61-year-old female participant with early stage SD received language treatment via Skype over 4 weeks. 60 functional words were treated with a cueing hierarchy followed by oral discourse. Homework, consisting of written discourse, was submitted during treatment period and over a 4-week maintenance period.

Results: Treatment benefits beyond improved naming of treated words were observed, including reduced WFD in oral discourse (in session) and increased written fluency (in homework). Treatment gains were successfully maintained with homework, and generalisation to improved category naming and reading abilities were also observed.

Conclusion: This case highlights the potential for language treatment to benefit individuals with early stage SD, beyond improved picture naming, and for treatment gains to be maintained despite the progressive nature of the disease.

Keywords: Semantic Dementia, Cognitive Intervention, Language Rehabilitation

Abstract 6

Normal Disfluencies in Typically Developing English-Mandarin Bilingual Children

Sharon Charmaine DICKMAN, Jun Wei ZHENG & Valerie LIM

Background: The aim of the research was to describe the frequency and type of speech disfluencies produced by typically-developing, English-dominant, English-Mandarin bilingual children. Specifically, the differences in stuttering-like disfluencies (SLD), non-stuttering-like disfluencies (NSLD), and Mean Length of Utterance (MLU) between English and Mandarin during a narrative task were investigated.

Method: Eighteen typically-developing, English-Mandarin bilingual children, aged between 5 to 7 years old participated in the study. Each child completed three tasks in both English and Mandarin: receptive and expressive language assessment, structured conversation, and a "Tell-Retell" narrative task using a wordless book. Each participant's parent also completed a Language Background Questionnaire seeking information about the child's language. Audio-recorded narrative samples were transcribed and analysed for number of SLD, NSLD, and MLU using CLAN, an automated software that analyses transcribed child language samples for the Child Language Data Exchange Systems (CHILDES).

Results: Preliminary analyses for five participants ($M_{age} = 5.92$) will be presented. The English-dominant children are expected to produce a greater number of disfluencies in Mandarin, with more NSLD than SLD.

Conclusion: Past literature reported language-specific differences in disfluency behaviours. The study's focus on English and Mandarin bilingual children will help inform clinical practice in the local context.

Keywords: Normal Disfluency, Narratives, English-Mandarin Bilingual

Abstract 7

Language Dominance and Phonological Development of English-Mandarin Bilingual Preschoolers

Grace Kai Hui KOH, Selena Ee-Li YOUNG, Helen CHANDLER-YEO & Susan J. RICKARD LIOW

Background: Phonological development is affected by the speaker's language background, and so normative data for phonology should take account of the language characteristics of the local context for greater accuracy in evaluating speech. Presently, there exists little normative data on the English phonology of bilingual children in Singapore. The aims of this study were to investigate the effects of language dominance on English phonology in English-Mandarin bilingual children raised in Singapore, and to collect normative speech data.

Method: The Articulation and Phonology subtests of the Diagnostic Evaluation of Articulation and Phonology (Dodd, Zhu, Crosbie, Holm, & Ozanne, 2002) were used to collect normative speech data in English from 181 children aged 3;6 to 4;11, divided into two groups, English-dominant (ED) and Mandarin-dominant (MD). Data collected were compared with Singapore English targets to measure for phonological accuracy, and type and frequency of error patterns produced.

Results: Overall results showed that language dominance influenced the development of English phonology. ED children presented with greater phonological accuracy than MD children, and the two groups used different error patterns, with ED children presenting with fewer error patterns than MD children.

Conclusion: These findings provide normative data for English phonology and contribute to better understanding of language characteristics on phonology in Singapore.

Keywords: Bilingual, Cross-Linguistic Processes, Speech Development

Abstract 8

Effects of Nasogastric Tube on Swallowing Function in Patients with Dysphagia Following Stroke: Case Studies

Kah Mei Rhoda KWAN, Selena Ee-Li YOUNG, Wai Lam YOON, Tze Chwan LIM, Angeline TAN & Jasmyn DE LEON

Background: There currently exist mixed findings in the literature on the effects of nasogastric tube (NGT) on the swallowing function of people with dysphagia. The aim of this study was to address whether NGT does indeed affect the swallowing function of people with acquired dysphagia post-stroke.

Method: Three individuals who had their first stroke in the past 3 months and were on NGT feeding were recruited. Four measures of swallowing function during videofluoroscopy were taken – epiglottic retroflexion, triggering of the swallowing reflex in relation to the position of the bolus, presence of valleculae and pyriform sinus residue, and penetration and aspiration.

Results: Two participants showed increased epiglottic retroflexion without NGT while one participant showed increased pyriform sinus residue without NGT.

Conclusion: The difference in the changes in epiglottic retroflexion and its sequelae between the participants was probably affected by NGT placement and the sensation of discomfort caused by NGT. There is a possibility of a ceiling effect since all three participants displayed epiglottic retroflexion and sequelae that were close to a normal swallow. Future work with a larger sample is recommended to explore the effect of NGT placement on epiglottic retroflexion and its sequelae.

Keywords: Deglutition Disorders, Nasogastric Tube

Abstract 9

Prompt Hierarchy Training for Teachers Implementing Augmentative Alternative Communication (AAC) with Children with Autism

Nicole Xin Yi LAM, B. N. Krishnamurthy, Poh Sim KANG & Susan J. RICKARD LIOW

Background: Using three case studies, the effectiveness of teachers' training on prompt hierarchy to promote independence in AAC use in children with autism was explored. Spillover effects of teachers' training in prompt hierarchy on decreasing socially inappropriate communicative behaviours were also examined.

Method: Participants (2 male, 1 female), ages 8-10, had little or no functional speech, were using a symbol/picture communication book and had an ongoing communication goal. Independence in AAC use and frequency of inappropriate communicative behaviours were measured at baseline and post-training phases over three standardized activities (Art, Snack, Work with Teacher).

Results: Analyses showed that all three participants demonstrated incremental shifts in their level of independence in AAC use and frequency of unprompted AAC use compared to baseline in at least one standardized activity. However, the improvements in participants' independence in AAC use were not consistently seen across all three activities and to the same extent.

Conclusion: Training teachers to systematically provide and fade off cues has been helpful in promoting independence in students' AAC use. Factors such as students' activity specific motivation, teachers' quality of prompt and knowledge on creating communication opportunities influence the efficacy of prompt hierarchy training on improving independence in students' AAC use.

Keywords: Special Education Setting, Developmental Disorders, Cues, Instruction

Abstract 10

Cross-Language Transfer Effects with a Modified Semantic Feature Analysis Therapy for English-Mandarin Bilinguals with Aphasia

Bobbie Jen LEE Yan, Sajlia Binte JALIL & Susan J. RICKARD LIOW

Background: Differences between monolingual and bilingual language representation indicate possible dissimilarities in rehabilitation patterns. Brain-imaging studies have also shown that a shared semantic store may exist for proficient bilinguals, allowing for cross-language transfer following therapy. The Spreading Activation Model – the basis of Semantic Feature Analysis (SFA) – describes the conceptual network as inter-connected nodes. During retrieval, activation spreads, attenuating from a concept along network links based on semantic likeness, suggesting that patients need not generate all six SFA features for semantically-related words. Aims of this study including exploring (1) the efficacy of a modified SFA in English and Mandarin on the target language, and (2) possible crossover effects to the non-target language.

Method: The 21-week study involved a multiple baselines single-case design with two pre-morbidly proficient male bilinguals with aphasia, who were at least 3 years post stroke-onset at the time of the study.

Results: Both participants showed therapy effects for (1) items treated in their pre-study therapy language; and (2) untreated items in both languages. Only the second showed effects for items treated in both languages. Neither showed cross-language transfer.

Conclusion: The results suggest that the language of ongoing therapy for patients should remain consistent, and that the treatment of semantically related items results in gains in similar untreated items.

Keywords: Bilingualism, Language Therapy, Stroke Rehabilitation

Abstract 11

Cross-Language Transfer Effects of Verb Therapy for Mandarin-English Bilinguals with Aphasia

Shi Yun LEONG, Sajlia Binte JALIL & Susan J. RICKARD LIOW

Background: Limited research has been conducted on the cross-language transfer (CLT) of verb therapy effects for bilinguals with aphasia (BWA). No research has been done on BWA who speak languages of marked linguistic differences (e.g. English and Mandarin). Given the constraints on clinical resources, it is important to explore the language of treatment in which bilingual aphasia rehabilitation therapy would be more beneficial.

Method: A Mandarin-English BWA, 22 months post-onset, was recruited. He was assessed in English and Mandarin for picture naming at six time points: Three baselines (B1-3), after Semantic Feature Analysis treatment (1 x 1.5h session/week x 5 weeks) in English (PT1) and after treatment in Mandarin (PT2), and during a maintenance phase (MT).

Results: Positive cross-language generalisation was observed when items were being treated in Mandarin. Treatment gains in the target and untreated languages were poorly maintained after therapy was discontinued.

Conclusion: Findings from this study suggests that treatment in the premorbid more proficient language is likely to result in improvements in both languages of a bilingual. Ongoing treatment is important for long-term maintenance. Further qualitative analyses are planned.

Keywords: Confrontation Naming, Translation Equivalents, Vocabulary

Abstract 12

English Cognitive-Communication Screener for Acquired Brain Injury Impairments in Singapore

Lixian Alena LOW, Sajlia Binte JALIL & Susan J. RICKARD LIOW

Background: The prevalence of stroke and vascular cognitive impairment no dementia (VCIND) in Singapore is increasing rapidly. Patients with VCIND are at-risk of conversion to dementia. Detection of VCIND in adults with stroke would therefore facilitate appropriate intervention, and support positive outcomes. A culturally and linguistically appropriate screener was modified to facilitate early identification of a range of cognitive-communication deficits in English-speaking adults with acquired brain injury in Singapore.

Method: 60 neurologically-intact participants: 30 aged 40-59 years (18 females, 12 males), 30 aged 60-78 years (11 females, 19 males) were assessed using the modified screener and preliminary normative data obtained. Case studies of English-speaking adults with stroke using the modified screener were also conducted to identify the progression of cognitive impairment from the acute to sub-acute stage of stroke.

Results: Normative data available in the two age ranges obtained from assessing neurologically-intact participants provides a more accurate reference for clinicians, reducing the possibility of age as a confounding factor. The modified cognitive-communication screener appears to have good criterion validity as changes to patients' performance were supported by their Montreal Cognitive Assessment results.

Conclusion: The cognitive-communication screener appears to be a sensitive tool that provides quantitative information about changes to patient's performance.

Keywords: Mild Cognitive Impairment, Geriatric Assessment, Language Screening

Abstract 13

Effect of Dialect on Phonological Analysis: Evidence from Singapore English Speaking Bilingual Children

Ye-Tong Alberta LOW, Selena Ee-Li YOUNG & Helen CHANDLER-YEO

Background: A speaker's language background influences their articulation and phonology. As Singapore is home to various languages, establishing local speech norms will provide a more accurate reference for assessing phonological disorders in Singaporean children.

Method: Normative data using the Articulation and Phonology subtests of the Diagnostic Evaluation of Articulation and Phonology (Dodd, Zhu, Crosbie, Holm, & Ozanne, 2002) were collected from 100 typically developing English-Mandarin bilingual preschoolers in Singapore, aged 3;6 to 4;5 (years; months). Responses were scored against two standards – British Standard English (BSE) and Singapore English (SGE), in terms of speech sound accuracy, and the frequency and type of error patterns present.

Results: The results showed that the preschoolers' speech sound accuracy increased significantly when scored against SGE versus BSE targets. The number of children identified to be using several error patterns was reduced when SGE targets were used instead of BSE targets.

Conclusion: It is important to take dialectal variation into account in the assessment of speech. Speech and language pathologists need to identify whether a bilingual child's speech characteristics are related to a speech sound disorder, or are just normal variations of speech, thus ensuring more accurate assessment and diagnosis.

Keywords: Phonology, Singapore English, Speech Sound Disorder

Abstract 14

Measurement of Muscle Activity During Swallow with Chin Tuck and Chin Tuck Against Resistance Using Surface Electromyography

Wan Ting Josie NG, Wai Lam YOON & Susan J. RICKARD LIOW

Background: Dysphagia occurs in 16% to 22% of the population and poses serious risks like lower respiratory tract infection, malnutrition and death, which highlights the need for effective therapy methods. Recently there has been a shift towards incorporating exercise principles into dysphagia rehabilitation. Chin Tuck Against Resistance (CTAR) is a therapeutic exercise for people with dysphagia and it has been demonstrated as effective in exercising suprahyoid muscles. It incorporates concepts of intensity and muscle-specificity, but not task-specificity. CTAR performed with swallowing (CTAR swallow) comprises of these principles but had to be tested on healthy adults to determine effectiveness. Thus, objective of this study was to measure and compare muscle activity under 6 conditions: resting state, normal swallow, Chin Tuck, Chin Tuck swallow, CTAR and CTAR swallow, using a within-participants design.

Method: 36 healthy participants, aged 21-50 years old, performed three trials each of the 6 conditions in counterbalanced order with the angle of head flexion standardized at 20°. Readings of submental muscle group activity were collected using surface electromyography.

Results: Expecting to find significantly greater mean and maximum measurements of muscle activity during CTAR swallow compared to Chin Tuck swallow, normal swallow and CTAR.

Conclusion: CTAR swallow is a potentially functional alternative to CTAR.

Keywords: Deglutition Disorders, Swallowing Intervention, Submental Muscles

Abstract 15

Development of a Mobile Application with Spectral Biofeedback Features

Mabel ONG, Selena Ee-Li YOUNG, Karen Shi Mei LEE, Siu Hang LUI, Susan J. RICKARD LIOU, Hans ANDERSON & LE Vu Hai

Background: Spectral biofeedback has been studied in the field of speech-language pathology as a complementary tool in articulation therapy for individuals who have been resistant to traditional articulation therapy. The aims of this study were to evaluate the reliability of a mobile application with spectral biofeedback features in providing accuracy ratings of users' /s/ productions in various syllable positions.

Method: Eight participants aged 6;9 to 10;9 (years; months) with disordered consonant /s/ productions were recorded imitating 60 nonsense syllables on an iPhone 5C. The syllables had /s/ in initial, medial and final positions. Participants' productions of /s/ in each syllable were categorised by a Senior Speech Therapist for accuracy (accurate vs. inaccurate), and the same syllables were then categorised with the mobile application (accurate vs. inaccurate).

Results: Preliminary results for one participant suggest that the application had an overall agreement of 82.5% with the Speech Therapist.

Conclusion: This finding indicates that the mobile application has potential in providing reliable and valid feedback, thereby supplementing and enhancing home practice sessions by making feedback more easily accessible to individuals undergoing therapy.

Keywords: Articulation, Spectral Biofeedback, Mobile Application

Abstract 16

Oral Feeding Outcomes on a New Nurse-Led Semi-Cue-Based Feeding Pathway for Healthy Preterm Infants

Phoebe Elizabeth Pei Jun LIM, Selena Ee-Li YOUNG, Desiree Ruo Wen LAU & Evelyn Ya Lian TAY

Background: The aim of this study was to investigate the (1) outcome of a new, standardised feeding pathway for healthy preterm infants at the Special Care Nursery in KK Hospital, Singapore; (2) attitudes and perceptions of Nurses implementing the pathway towards infant feeding training conducted by Speech-Language Therapists.

Method: A matched-pairs design was employed to compare feeding milestones of infants on the pathway (N=10) with retrospective controls (N=10). Nurses' (N=10) infant feeding knowledge was evaluated through pre- and post-training theory tests; attitudes and perceptions were captured using (1) Likert scale ratings, and (2) semi-structured interviews, analysed through a general inductive approach.

Results: The age at attainment of full oral feeding was not significantly different between infant groups but pathway infants were discharged significantly earlier by 5 days ($p = .026$). Nurses demonstrated significantly higher post-test scores ($p = .008$), and an increase in confidence ratings of performing infant feeding post-training. Primary challenges to pathway implementation included staffing constraints and communication amongst the medical team.

Conclusion: The new feeding pathway may facilitate earlier hospital discharge for healthy preterm infants, with positive implications on healthcare cost savings for caregivers. Nurses' reflected cross-disciplinary training as beneficial, and provided suggestions for refinement of pathway implementation.

Keywords: Prematurity, Oral Feeding, Nurse-Led, Semi-Cue-Based, Feeding Pathway, Cross-Disciplinary Training, Attitudes, Perceptions

Abstract 17

Language Recovery and Oral Narrative Performance in Children with Acquired Brain Injury

YanHui Felicia SUN, Siew Li GOH, Stacy Man Ling TAN & Susan J. RICKARD LIOW

Background: Children with acquired brain injury (ABI) typically present with language deficits and studies have highlighted the presence of persistent deficits in complex language skills such as oral narrative. The first aim of the study was to identify the presence of persistent deficits in complex language skills. The second aim was to explore the oral narrative performance of children with ABI compared to matched typically developing (TD) children.

Method: The study employed a pair-wise case-matched design where two children with ABI (aged 13;0 to 14;0) were matched to TD children for (i) chronological age (± 6 months), (ii) language dominance and (iii) non-verbal cognition. All participants were administered the same test battery: Pediatric Test of Brain Injury (PTBI), Raven's Standard Progressive Matrices and an oral narrative task.

Results: Children with ABI seemed to demonstrate persistent deficits in complex language skills and poorer oral narrative performance compared to matched TD children. These deficits are likely to have adverse effects on academic achievement.

Conclusion: Results from this study will have implications in the clinical setting for intervention planning and allocation of resources. Additionally, oral narrative may serve as a supplement to PTBI to more accurately identify persistent language deficits.

Keywords: Language Recovery, Discourse, Cognitive-Linguistic Impairment, School-Age

Abstract 18

Efficacy of Music for Improving Language in Children with Special Needs

Han Lin Louisa TAN, Poh Sim KANG, Wei Ming LOI & Susan J. RICKARD LIOW

Background: The efficacy of music for improving speech and language has been shown across ages and diagnoses. Locally, the wide range of therapy settings and increasing number of children with special needs demand more cost and time effective service delivery. Research exploring co-treatment models on children other than those with Autism Spectrum Disorder remains sparse. The aim of this research was to determine the efficacy of music in improving language in children with special needs, and generalizability of therapy effects.

Method: 25 children (7 to 12 years) were split into three groups – A, B and control. A cross-over design with direct therapy (storytelling) with or without music, and indirect therapy was applied with two therapy phases lasting 6 weeks each. Therapy targeted three prepositions in each phase. Baseline language abilities were assessed, with re-assessment after each phase.

Results: Introduction of music in therapy led to significantly greater improvement ($p=.046$, $r=.53$) in associated language abilities, with case studies showing greater effectiveness in developmentally appropriate target prepositions. However, improvements were not maintained once direct therapy ceased.

Conclusion: Incorporation of music could lead to greater efficiency and effectiveness of language therapy in children with special needs, but sustainability and generalizability of therapy effects both require further exploration.

Keywords: Music, Language Therapy, Special Needs

Abstract 19

Oral Narrative Abilities of English-Dominant Singaporean Preschoolers

Jia Xin Danica TAN, Siok Keng TNG & Susan J. RICKARD LIOW

Background: Narrative assessment has been shown to be a sensitive and useful tool for identifying children with persistent and subtle language problems who are at risk for academic failure. Due to the exposure to Singapore Colloquial English (SCE), the narrative development of local bilingual children differs from their monolingual counterparts. The purpose of this research was to establish normative data on oral narratives in typically developing Singaporean English-dominant bilingual preschoolers.

Method: 17 typically developing English-dominant bilingual preschoolers aged 4;5 to 5;5 years (8 males, 9 females) were recruited from local preschools. Each child was asked to retell a story using a wordless picture book, "Frog, Where Are You?" The oral narratives collected were then evaluated in terms of story grammar and linguistic complexity using the Systematic Analysis of Language Transcripts (SALT) software.

Results: Percentiles for the different components of Narrative Scoring Scheme (NSS) and language measures were computed for the oral narratives, and inter-rater reliability was calculated for the NSS. Of interest, the effects of SCE on the oral narrative development of local preschoolers were clearly evident at the microstructure level.

Conclusion: Preliminary normative data can be used to support clinicians in the identification of English-dominant preschoolers with language difficulties.

Keywords: Discourse, Macrostructure, Microstructure

Abstract 20

Utility of the Children's Communication Checklist for Bilingual Singaporean Preschoolers

Xue Er Cheryl TAN, Anna Shiam KATTAPURAM, Lay Choo Mary LEE & Susan J. RICKARD LIOW

Background: The Children's Communication Checklist (CCC-2) is used to screen for language and pragmatic problems in children. The aim of this project was to collect normative data for the CCC-2 from the local Singaporean population and expand the currently limited assessment options for local speech-language therapists.

Method: 60 typically-developing (TD) preschoolers and three children with autism and their respective English teachers were recruited as participants. The TD children were split into English-dominant and Mandarin-dominant groups. The children were rated on the CCC-2 by their English teachers and scores for each group were compared. Scores of English-dominant children were also compared to UK normative data for CCC-2.

Results: Language scores are expected to reveal significant group differences: UK monolinguals are expected to have the highest scores, followed by the English-dominant and then the Mandarin-dominant children. There is no existing research to suggest how these groups might differ on the pragmatic scales. In addition, it is further hypothesized that language and pragmatic scores will be higher for TD children compared to children with autism.

Conclusion: Findings of this study will help to ascertain the utility of the CCC-2 for local children and support further understanding of the impact of bilingualism and language dominance on language and pragmatic development.

Keywords: Bilingualism, Language Dominance, Pragmatics, Autism

Abstract 21

Language Outcome and Written Narrative Performance in School-Aged Children Post Traumatic Brain Injury

Hui Min TANG, Siew Li GOH, Stacy Man Ling TAN & Susan J. RICKARD LIOW

Background: Children with traumatic brain injury (TBI) typically present with wide-ranging language impairments, spanning from deficits in basic communication to complex language skills. The aim of this study was to explore language recovery in children post-TBI using the Pediatric Test of Brain Injury (PTBI), a standardized assessment that assesses neurocognitive-linguistic skills vulnerable to this population. Writing skills are crucial for school-aged children so the secondary aim of this study was to determine if deficits in written language production persists more than 6 months post-injury.

Method: Two case studies of children post-TBI aged between 12 and 13 years were recruited. For each child, PTBI performance at two time points was compared: (i) 1 month post-injury, and (ii) more than 6 months post-injury. Participants were instructed to write a narrative based on a picture stimulus within 45 minutes. A comparison on the written narrative performance of children post-TBI and their typically developing (TD) age-matched peers was also made.

Results: Preliminary results show variable recovery patterns in basic communication and complex language skills, and poorer performance in written narratives compared to TD peers but individual variation was observed.

Conclusion: Findings provide insight into the variability in language recovery in children post-TBI, and hold implications for the assessment and long-term monitoring of written language production.

Keywords: Traumatic Brain Injury, Language Rehabilitation, Written Language Production