

# Jun Ho Chai CURRICULUM VITAE

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## Education

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2016 - 2021 (graduated 27 Feb 2022)	<b>PhD in Psychology</b> Thesis Title: Developing very short computerised early vocabulary assessments in a multilingual setting for the Malay, Mandarin and English language. Funded by the Ministry of Science, Technology and Innovation (MOSTI).	University of Nottingham Malaysia
2013 - 2016 (graduated 23 July 2016)	<b>BSc (Hons) Psychology</b> Final Year Project: Role of memory constraint in emergence of language structure, a simulation study.	University of Nottingham Malaysia
2012	<b>South Australian Certificate of Education (SACE)</b> - ATAR: 85.75	Taylor's College, Malaysia

## Research Experience

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June 2023 - present	<b>Postdoctoral Researcher (Research Assistant Professor)</b> Research activities about learning mechanism of early language development, with a focus on: <ul style="list-style-type: none"><li>- eye-tracking studies</li><li>- naturalistic recordings</li><li>- corpus analysis</li></ul> Leadership activities: <ul style="list-style-type: none"><li>- Supervising research assistants in data preparation and coding.</li><li>- Modular teaching: AFFECTIVE CODING FOR HUMAN MEDIA (45548-10) including R for data analysis</li></ul>	Chosun University, South Korea
June 2022 - May 2023	<b>Postdoctoral Researcher</b> <ul style="list-style-type: none"><li>- Linked mother-child interaction patterns to early language development</li><li>- Conducted corpus analyses with transcribed mother-child interaction.</li><li>- Investigated eye-tracking measures to assess early vocabulary</li><li>- Researched early language development using LENA, IPLP and multimodal data</li></ul>	Chosun University, South Korea
October 2021 - May 2022	<b>Visiting Researcher (remotely)</b> <ul style="list-style-type: none"><li>- Conducting research on early language development using LENA recordings</li></ul>	Chosun University, South Korea

	- Preparing manuscripts for research work	
June 2021 - July 2021	<b>Research Associate</b> - Conducted Exploratory Factor Analysis and interpreted results from the UNM Equality, Diversity and Inclusion Survey	University of Nottingham Malaysia
February - March 2021	<b>Associate Software Developer (Part Time - Remote)</b> - Implemented computerised adaptive testing on a Django platform containerized with Docker - Developed automated scripts to prepare data files for language-specific vocabulary assessments	University of Oslo, Norway
2017 - 2021	<b>Postgraduate Researcher</b> - Developed a Bayesian IRT-based computerised adaptive testing system for brief tablet-based language assessments in children under 3 - Analysed vocabulary and response data using generalised linear mixed-effects models	University of Nottingham Malaysia

## Teaching Experience

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Fall 2023	<b>Lecturer (Part Time)</b> Affective Coding for Human Media (45548-10) including R for data analysis (College of Global Humanities)	Chosun University, South Korea
September - December 2020	<b>Lecturer (Part Time)</b> - Facilitator and lecturer for 10 weekly lectures of Research Methods & Analysis (previously Statistical Methods 2).	University of Nottingham Malaysia

## Invited talks/workshops

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25 June 2024	<b>Investigating the Convergence of Child Language Assessment Measures with 14-month-old Korean Infants</b> - Chosun Center for Data Science in Humanities (조선대 인문데이터과학연구소) Annual Workshop	Chosun University, South Korea
25 June 2024	<b>Accessing and analyzing Peekbank's eye-tracking datasets</b> - Chosun Center for Data Science in Humanities (조선대 인문데이터과학연구소) Annual Workshop	Chosun University, South Korea
24 June 2024	<b>R workshop based on behavioural data</b> - Chosun Center for Data Science in Humanities (조선대 인문데이터과학연구소) Annual Workshop	Chosun University, South Korea

30 January 2024	<b>Refining Infant Word Recognition Analysis through Optimised Gaze Feature Selection based on Random Forest</b>	Chosun University, South Korea
25 January 2024	<b>Going beyond reporting of main effects (영어로 진행)</b> [2023 실험음성학연구회 동계워크숍]	Hankuk University of Foreign Studies
27 - 29 December 2022	<b>Basic and intermediate statistics using R</b>	Chosun University, South Korea
7 & 29 April 2020	<b>Introduction to doing statistics in R</b>	University of Nottingham Malaysia
5 December 2019	<b>Research Workshop - Analysing Quantitative Surveys</b>	University of Nottingham Malaysia

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## Publications

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### Manuscripts under review or in prep

- Chai, J. H., Jung, J., & Ko, E-S. Bidirectional patterns of agentivity in dyadic interactions and the importance of adults' initiative role in children's language development.  
<https://osf.io/preprints/psyarxiv/ks4xq>
- Jung, J., Chai, J. H. & Ko, E-S. The Interplay of Family Socioeconomic Status, Parental Engagement, and Maternal Employment on Vocabulary Development in Korean Children.  
<https://osf.io/preprints/psyarxiv/depvx>
- Ko, E.-S., Jo, J., & Chai, J. H. Word-order adaptation and lexical repetition in Korean child-directed speech: Implications for infants' learning nouns in a verb-dominant language.  
<https://osf.io/preprints/psyarxiv/dxbhm>
- Chai, J. H., McDonald, M., & Ko, E.-S. Investigating the convergent validity of child language assessment measures: A Korean study. <https://osf.io/preprints/psyarxiv/5q24v>
- Chai, J. H., Mun, S., & Ko, E-S. Word Segmentation: Dissecting the Interplay between Statistical Properties and Register Advantages in Naturalistic Corpus.  
[https://docs.google.com/presentation/d/1N60utxjGdj5AG-nhtQQOzUviKr2ksD\\_BAewaH0kNFoY/](https://docs.google.com/presentation/d/1N60utxjGdj5AG-nhtQQOzUviKr2ksD_BAewaH0kNFoY/)
- Chai, J. H., Mun, S., & Ko, E-S. Input features mediate word segmentation efficacy, peaking at 14 months: A computational modelling study.  
[https://docs.google.com/presentation/d/1N60utxjGdj5AG-nhtQQOzUviKr2ksD\\_BAewaH0kNFoY/](https://docs.google.com/presentation/d/1N60utxjGdj5AG-nhtQQOzUviKr2ksD_BAewaH0kNFoY/)
- Chai, J.H., Kim M., Shim M., Lee Y., Ko, E.-S. Refining Infant Word Recognition Analysis through Optimised Gaze Feature Selection based on Random Forest.

<https://docs.google.com/presentation/d/1evKGybzXWLiboKZYkzGsyYXUU6CeFaxGhyOjzIY6hCo/>

## Journal Articles

- Chai, J. H., Low, H. M., Wong, T. P., Onnis, L., & Mayor, J. (2021). Extra-linguistic modulation of the English noun-bias: Evidence from Malaysian bilingual infants and toddlers. *Journal of Cultural Cognitive Science*, 5, 49–64. <https://link.springer.com/article/10.1007/s41809-021-00078-5>
- Lo, C. H., Rosslund, A., Chai, J. H., Mayor, J., & Kartushina, N. (2021). Tablet assessment of word comprehension reveals coarse word representations in 18-20-month-old toddlers. *Infancy*. <https://onlinelibrary.wiley.com/doi/full/10.1111/inf.12401>
- Chai, J. H., Lo, C. H., & Mayor, J. (2020). A Bayesian-Inspired Item Response Theory–Based framework to produce very short versions of Macarthur–Bates Communicative Development Inventories. *Journal of Speech, Language, and Hearing Research*, 63(10), 3488–3500. doi:[http://dx.doi.org/10.1044/2020\\_JSLHR-20-00361](http://dx.doi.org/10.1044/2020_JSLHR-20-00361)

## PhD Thesis

- Chai, J. H. (2022). Developing very short computerised early vocabulary assessments in a multilingual setting (Doctoral dissertation, University of Nottingham). <https://eprints.nottingham.ac.uk/67007/>

## Awards

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| 2022 | <b>The LEGO foundation Scholar Travel Awards for ICIS 2022</b> (unclaimed, VISA delayed due to COVID-19)   |
| 2018 | <b>Postgraduate Cross Cultural Travel Award</b> from School of Psychology, University of Nottingham Malaysia. Travelled to University of Oslo for research purposes. |

## Conferences (past 5 years)

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- Chai, J.H.**, Kim, M., Shim, M., Lee Y., Ko, E-K. (2024). Refining Infant Word Recognition Analysis through Optimised Gaze Feature Selection based on Random Forest. ICIS 2024 Congress, Glasgow, UK.
- Chai, J.H.**, Zapiór, B., Ko, E-K. (2024). How do mothers and children initiate conversational exchanges?: The dynamics of multimodal cue usage in beginning vocal exchanges across child development. ICIS 2024 Congress, Glasgow, UK.
- Chai, J.H.**, McDonald, M., Ko, E-K. (2024). Investigating the Convergence of Child Language Assessment Measures in 14-month-old Korean Infants
- Chai, J.H.**, Mun, S., Ko, E. S. (2023). How Child-Directed Speech Enhances Word Segmentation: Insights from a Computational Modeling Study of Korean. In THE 48TH BOSTON UNIVERSITY CONFERENCE ON LANGUAGE DEVELOPMENT (USA)
- Jung, J., **Chai, J.H.**, & Ko, E. S. (2023). Socioeconomic Status, Parental Play and Book-reading, Maternal Work Status and Vocabulary Development in Young Korean Children. In THE 48TH BOSTON UNIVERSITY CONFERENCE ON LANGUAGE DEVELOPMENT (USA)

- Chai, J.H.**, Mun, S., Ko, E. S. (2023). How caregivers' speech patterns enhance word segmentation: Insights from a computational modelling study on a Korean corpus. In Many Paths to Language (MPaL) 2023. (Netherland)
- Jung, J., **Chai, J.H.**, & Ko, E. S. (2023). Socioeconomic status, parental play and book-reading, maternal work status and vocabulary development in young Korean children. In Many Paths to Language (MPaL) 2023. (Netherland)
- Chai, J. H.**, Jung, J., Kwon, T., Ko, E. S. (2022). Mother's initiative role in conversational exchanges and its effect on children's language outcome. In the XXIII International Congress of Infant Studies 2022 Developmental Cascades. (Canada)
- Jung, J., **Chai, J. H.**, Ko, E. S. (2022). The effect of socioeconomic status on early vocabulary size in South Korean children. In the XXIII International Congress of Infant Studies 2022 Developmental Cascades. (Canada)
- Mayor, J., **Chai, J. H.**, Lo, C. H., & Mani, N. (2020). Babylex-IRT: Estimating early vocabulary sizes using a Bayesian-inspired item-response theory approach. In The International Congress of Infant Studies 2020. (Canada)

## Academic Services

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Reviewed for the following journals:

Current Psychology

Journal of Child Language

Infant and Child Development

Asia Pacific Journal of Educators and Education

## Technical Skills

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**Data Analysis Pipeline/Computational:** R; Python; UNIX/Linux; SPSS; Matlab; **Corpus/Speech:** Praat; CLAN; ELAN; **Experimentation:** PsychoPy

## Language

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Mandarin (Native); Cantonese (Native); English (Bilingual Proficiency); Malay (Professional Working Proficiency); Korean (Limited Working Proficiency); German (Elementary Proficiency)

# References

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