

Jonathan Z. Ong (He/Him)

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EDUCATION

Nanyang Technological University

MA in Psychology, GPA: 5.00/5.00

Advisor: Professor Victoria Leong

Affiliation: Early Mental Potential & Wellbeing Research Centre (EMPOWER)

Singapore

Jan 2023–Jun 2025

Project: Sociometric AI Screening Tool to Risk-Stratify Infant Neurodevelopmental Trajectories

- Developed an early-screening framework from naturalistic parent–child interactions with children aged 6–36 months to identify neurodevelopmental risk.
- Created a play-based battery of tasks indexing working memory, inhibition, and cognitive flexibility in naturalistic parent–child contexts.
- Linked social contingency and EEG/ECG synchrony to emerging executive functions.
- Validated social interaction metrics against clinician ratings and widely used developmental screens for clinical translation.

Project: Optogenetic Parent–Offspring Mouse Model of Neural Synchrony and Social Learning

- Developed a dyadic rodent model to test the causal role of prefrontal neural synchrony in naturalistic parent–offspring social learning.
- Adopted a dynamical systems approach to characterize temporal dynamics in dam–pup interactions and foraging behavior under synchrony vs. desynchrony optogenetic manipulations.
- Verified experimental manipulations via immunohistochemistry to ensure precise targeting of medial prefrontal cortex circuits.
- *Thesis: Interpersonal Neural Synchrony Mechanisms for Parent-Offspring Social Learning*

Monash University

BPsych(Hons), GPA: 4.00/4.00, Best Graduate Award

Malaysia

Mar 2021–Dec 2021

Monash University

BPsych, GPA: 3.92/4.00, Best Graduate Award

Malaysia

Jul 2017–Jul 2020

HONORS & AWARDS

A*STAR Fully-Sponsored Master's Studentship (~70,000 USD)

Nanyang Technological University (PI: Professor Victoria Leong)

Jan 2023–Jan 2025

Two-Time Best Graduate Award Recipient

BPsych and BPsych(Hons), Monash University Malaysia

2020, 2021

Graduate Pathway Research Scholarship (~2,400 USD) BPsych(Hons), Monash University Malaysia	2021
Undergraduate Studies Loan Exemption (~6,200 USD) BPsych, Malaysian National Higher Education Fund Corporation	2021
Monash High Achiever Award (~1,100 USD) BPsych, Monash University Malaysia	2019

RESEARCH EXPERIENCE

Nanyang Technological University Research Assistant; PI: Professor Victoria Leong <i>Project: The First 1,000 Days PlayPod Project</i>	Singapore Jan 2024–Present
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- Contributing to the development of an end-to-end pipeline that integrates multimodal behavioral and physiological data from parent–infant play.
- Building one of the largest curated datasets of its kind to train predictive models of infant neurodevelopmental profiles from as early as 12 months.
- Advancing clinical translation by developing novel social interaction metrics with applications in both diagnostic and commercial settings.

Sunway University Research Assistant; PI: Professor Alexandre Schaefer <i>Project: Aging, Health and Well-Being (AGEWELL)</i>	Malaysia Jul 2022–Nov 2022
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- Recruited a socioeconomically diverse cohort aged 60+ and administered neuropsychological and EEG assessments to investigate cognitive aging.
- Derived event-related potentials as markers of executive function and aging-related decline.
- Examined the protective role of cognitive reserve against age-related cognitive decline.

Monash University Research Assistant	Malaysia 2018–2022
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- Conducted literature reviews and applied qualitative methods including transcription, Malay-to-English translation, and thematic coding to investigate cultural differences in cancer stigma (PI: Professor Elizabeth Jones).
- Collected and analyzed dyadic social interaction data from questionnaires and behavioral coding to examine individual differences in social perceptions using the Actor–Partner Interdependence Model (PI: Dr. Goh Pei Hwa).
- Co-organized the first and second Southeast Asian Indigenous Psychology Scientific Meeting (2021, 2022), marking the inaugural gathering of Southeast Asian Indigenous Psychology scholars (Supervisor: Dr. Rachel Sing-Kiat Ting).

PEER-REVIEWED PUBLICATIONS

Koh, D. M., **Ong, J. Z.**, & Goh, P. H. (2025). Helicopter parenting and social competence among single Malaysian adults: Filial piety as a moderator. *Journal of Adult Development*. Advance online publication. <https://doi.org/10.1007/s10804-025-09543-9>

Ham, G. X., **Ong, J. Z.**, Augustine, G. J., & Leong, V. (2024). Protocol to study dam-pup social transmission using a modified paradigm for transmission of food preference. *STAR Protocols*, 5(2), 103077. <https://doi.org/10.1016/j.xpro.2024.103077>

Goh, P. H., & **Ong, J. Z.**[†] (2022). It's a guy thing: Sex as a moderator of the relationship between social anxiety and perception of interpersonal warmth in initial heterosexual interactions. *Asian Journal of Social Psychology*, 25(4), 806–815. <https://doi.org/10.1111/ajsp.12536> [†] Corresponding author.

IN PREPARATION

Vafa, S., **Ong, J. Z.**, Yong, M. H., Arokiaaraj, A. S., Shee, D., Chia, Y. C., & Schaefer, A. (under review). Online cognitive testing with Asian older adults during the COVID-19 pandemic: A proof-of-feasibility study. *Behavior Research Methods*. Preprint: <https://doi.org/10.31234/osf.io/t8exs>.

Ham, G. X.^{*}, **Ong, J. Z.**^{*}, Domenikos, R., Augustine, G. J., & Leong, V. (in preparation). Optogenetic synchronization of rodent dam–pup prefrontal cortex increases socially contingent behavior and stable states for knowledge transmission. ^{*}Shared first authorship.

CONFERENCE POSTERS

Marzuki, A. A., Thanaraju, A., **Ong, J. Z.**, Yip, W. Z., Yap, Z. J., ... Schaefer, A. (2022). *AGEWELL: Investigating the predictors of healthy neurocognitive aging in a socioeconomically and ethnically diverse Malaysian cohort*. Poster awarded People's Choice Award at the Annual Meeting of the Society for Neuroscience 2022, Singapore Chapter. <http://doi.org/10.13140/RG.2.2.18928.74241>

Ong, J. Z. & Goh, P. H. (2020). *It's a guy thing: Sex as a moderator of the relationship between social anxiety and perception of interpersonal warmth in initial heterosexual interactions*. Poster awarded 3rd Place for Best Poster Presentation at the Jeffrey Cheah School of Medicine and Health Sciences Research Symposium (2020). <http://doi.org/10.13140/RG.2.2.12484.85121>

PUBLIC ENGAGEMENT & MEDIA

Ahmad Faez, H. B., Padmanabhan, R. V., **Ong, J. Z.**, Tay, J. W., Nguyen, H. T., Phan, D. T., & Owens, C. (2025). The 1kD Playpod Project. Poster presented at *AI Empowering Child Development – Day 2: Public Science Exhibition*, Keppel Centre for Art Education, National Gallery Singapore, 23 Aug 2025. [PDF]

Ong, J. Z. (2025). Ethics and Data Management in Baby Research. Invited talk, Research Integrity and Ethics Office, Nanyang Technological University, 27 May 2025. [PDF]

Leong, V., Campolo, D., & **Ong, J. Z.** (2024). Understanding infants' mental skills: New AI and sensor tools to measure development. *Nanyang Technological University Magazine: Pushing Frontiers*, (23), 22–23. [PDF]

TEACHING & MENTORING

Nanyang Technological University

Singapore

- **Mentor:** Training over 15 undergraduate thesis students and research assistants in research methodology, ethics, data management, and analysis (Spring 2023–Present).
- **Teaching Assistant:** Introductory Psychology (Fall 2023, Spring 2025).

Monash University

Malaysia

- **Grader:** Biological Psychology; Developmental Psychology; Contemporary Social Psychology; Research Theory and Methods (2022).
- **Peer Tutor:** Introductory Psychology (Spring 2022); Research Methods and Theory (Fall 2021, 2022).
- **Volunteer Teacher:** Chin refugee children (~15 students), Fall 2017.

SK & SMK Bandar Tun Hussein Onn 2

Malaysia

- **Part-Time Teacher:** Elementary (Jun–Dec 2016) and high school (Feb–May 2017) classes (~30 students).

SKILLS

Experimental Methods

EEG and ECG hyperscanning, fMRI and fNIRS neuroimaging, naturalistic parent–infant paradigms, behavioral recordings, and task design for human and rodent models.

Programming Languages and Platforms

R, MATLAB, Python, SPSS, JASP, Statistica.

Statistical and Analytical Approaches

Generalized linear modeling, structural equation modeling, dynamical systems modeling, time series analysis, data wrangling, data visualization, pipeline development.

Typesetting and Web Development

Document preparation in \LaTeX ; website development in HTML, CSS, and Ruby.

Wet Lab Skills

Rodent husbandry and genotyping, brain harvest and immunohistochemistry, optogenetic manipulations.