

# Jonathan Z. Ong (He/Him)

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## EDUCATION

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### 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

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### 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

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

## RESEARCH EXPERIENCE

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<b>Nanyang Technological University</b> 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.

<b>Sunway University</b> 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.

<b>Monash University</b> 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

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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.**<sup>†</sup> (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> <sup>†</sup> Corresponding author.

## IN PREPARATION

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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.<sup>\*</sup>, **Ong, J. Z.**<sup>\*</sup>, 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. <sup>\*</sup>Shared first authorship.

## CONFERENCE POSTERS

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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

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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

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### 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

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### Experimental Methods

EEG and ECG hyperscanning, 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  $\text{\LaTeX}$ ; website development in HTML, CSS, and Ruby.

### Wet Lab Skills

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