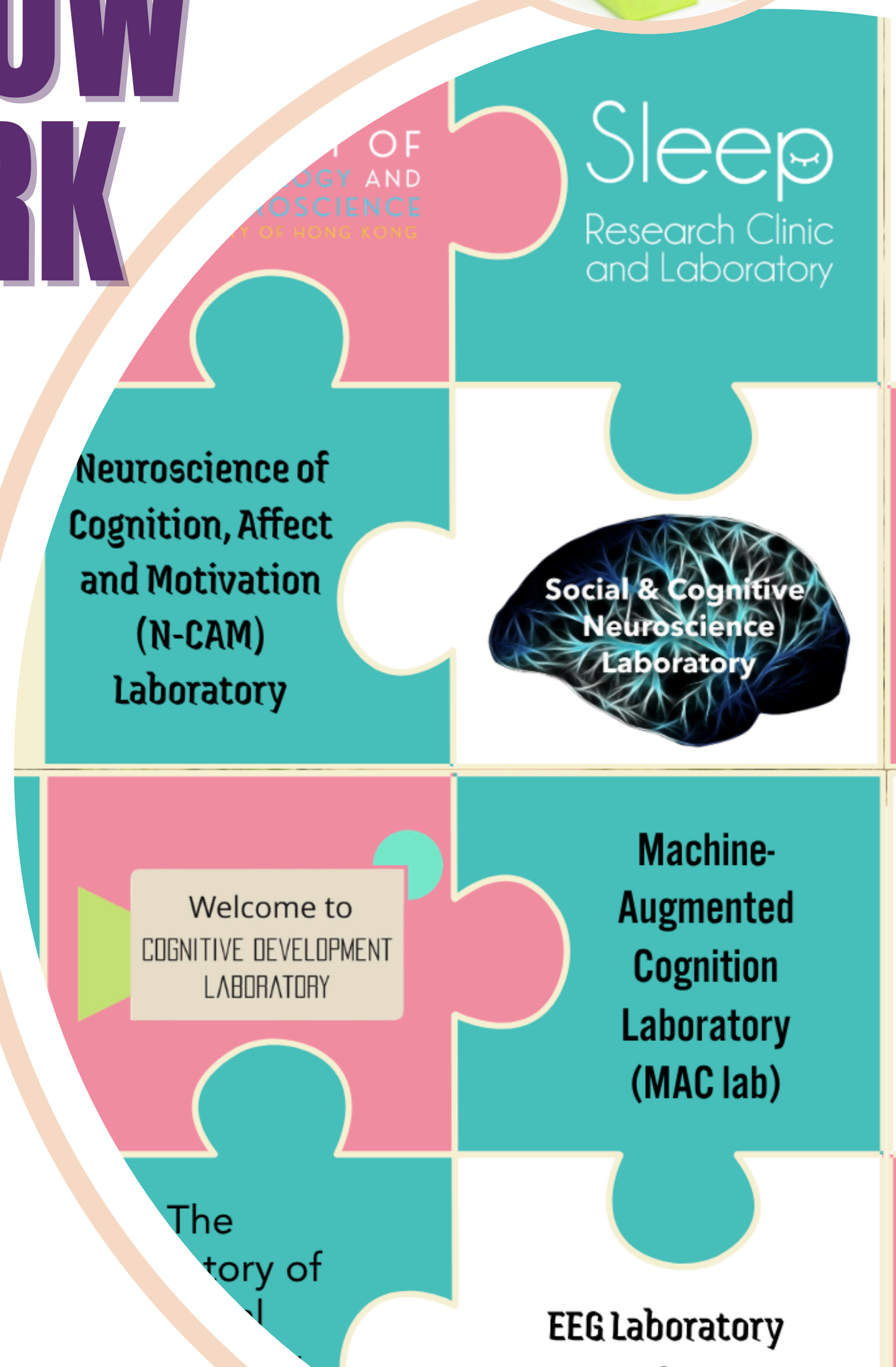
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GET TO KNOW OUR WORK





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WELCOME TO THE DEPARTMENT OF PSYCHOLOGY, HKU

The Department of Psychology at The University of Hong Kong (HKU) is a globally recognised centre for research and academic excellence. Renowned for our resolute commitment to rigorous empirical inquiry and impactful scholarship, we strive to translate scientific insights into practical applications that benefit society at large.

Our mission is to advance psychological science through innovative, world-class research that seamlessly integrates basic and translational approaches. We are dedicated to developing impactful solutions that enhance psychological health, digital well-being, resilience, and adaptive growth across diverse populations. By strategically bridging foundational psychological theories, human neuroscience, and applied practice, we foster a dynamic, interdisciplinary academic environment that not only expands scientific understanding but also delivers meaningful societal benefits. Through this integrated approach, we seek to address pressing mental health and developmental challenges, driving positive change at individual, community, and societal levels.

Our empirical research is structured into five interconnected thematic clusters namely:

- **Clinical and Health Psychology**
- **Cognitive Psychology and Neuropsychology**
- **Developmental and Educational Psychology**
- **Human Neuroscience and Artificial Intelligence**
- **Social and Personality Psychology**

Each supported by state-of-the-art laboratories and infrastructure that promote interdisciplinary collaboration and innovation. Collectively, these clusters contribute to the **Strategic Research Themes of our Faculty of Social Sciences**, particularly **Population, Wellbeing and Human Behaviour** and **AI, Society and Social Dynamics**, reflecting the Department's commitment to addressing pressing societal challenges through rigorous scientific inquiry and cross-disciplinary research. This strategic configuration enables us to address fundamental scientific questions while delivering meaningful societal benefits.

This booklet provides you a quick glance about research in individual' s laboratory at the Department of Psychology. For more information about our research, please visit our department website at www.psychology.hku.hk.

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The Laboratory of Clinical Psychology & Affective Neuroscience

Principal Investigator: Professor Charlene Lok-man LAM

Our Lab

The Laboratory of Clinical Psychology and Affective Neuroscience focuses on identifying mechanisms contributing to pathological fear and anxiety, with the goal of developing targeted interventions for affect and mood dysregulation and enhancing psychological well-being. We use a combination of physiological measures (e.g. pupillometry), functional neuroimaging (fMRI), and behavioural experiments to answer the research questions.

Research Interests

Our lab focuses on identifying brain mechanisms contributing to pathological fear and anxiety. We aim to develop novel and targeted interventions for affect and mood dysregulation, with the ultimate goal to transform psychological care for people who are affected by mental health issues and / or brain-related disorders. In the lab, we use a combination of physiological measures (e.g. pupillometry), functional neuroimaging (fMRI), brain stimulation (TMS) and behavioural experiments to answer research questions.

Current Research Projects

- Disrupting fear reconsolidation with transcranial magnetic stimulation (TMS)
- The neuropsychological mechanisms of parental distress in mothers with substance abuse
- Maternal anxiety
- AI and mental health

Research Recruitments

Participate in our research studies:

- EEG Fear Conditioning study
- Eye Movement & Fear Reconsolidation
- Personality, Cognitive Bias & Emotion
- Neuropsychological mechanism of parental distress in mothers with substance use

Recent Publications

- Zhou, Y.Y, Lee, TY, Chang, D & Lam, C.L. (2026). The Neural Basis of Explicit and Implicit Emotion Regulation: A Coordinate-Based Meta-Analysis. Oxford Open Neuroscience, kvag013. https://doi.org/10.1093/oons/kvag013
- Radua, J., Lam, C. L., & Fullana, M. A.. (2025). Neural correlates of human fear conditioning and sources of variability in 2199 individuals. Nature Communications. https://doi.org/10.31234/osf.io/73ra8_v1
- Dong, N., Zhou, Y., Lei, L., Lee, T. M. C., & Lam, C. L. (2025). The longitudinal impact of screen media activities on brain function, architecture and mental health in early adolescence. International Journal of Clinical and Health Psychology, 25(3), 100589. https://doi.org/10.1016/j.ijchp.2025.100589
- Lam, C. L., Hin, A. S., Lau, L. N. S., Zhang, Z., & Leung, C. J. (2025). Mental imagery abilities in different modalities moderate the efficacy of cognitive bias modification for interpretation bias in social anxiety. Journal of Behavior Therapy and Experimental Psychiatry, 88, 102031. https://doi.org/10.1016/j.jbtep.2025.102031
- Zhou, Y., Dong, N., Lei, L., Chang, D. H. F., & Lam, C. L. (2025). Predicting the treatment outcomes of major depressive disorder interventions with baseline resting-state functional connectivity: a meta-analysis. BMC Psychiatry, 25(1), 340. https://doi.org/10.1186/s12888-025-06728-0
- Lei, L., Lai, C. S. W., Lee, T. M. C., & Lam, C. L. (2024). The effect of transcranial direct current and magnetic stimulation on fear extinction and return of fear: A meta-analysis and systematic review. Journal of Affective Disorders, 362, 263-286. https://doi.org/10.1016/j.jad.2024.06.060

More Information

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Laboratory of Neuropsychology and Human Neuroscience

Principal Investigator: Professor Tatia Mei-chun LEE

Our Lab

Combining state-of-the-art functional neuroimaging techniques, computational tools, and behavioural methods, the Laboratory of Neuropsychology and Human Neuroscience aims to build and promote a more comprehensive understanding of neurocognitive and affective mechanisms underpinning human behaviour. Over the years, the Lab has focused on research themes related to neuroplasticity, healthy ageing, and affective regulation.

Research Interests

The Laboratory of Neuropsychology and Human Neuroscience's research focuses on (1) what and how experiences induce beneficial neuroplastic changes, and (2) the neurocognitive and neuroaffective underpinnings of functions that define the human nature of an individual. The goal of our Lab is to create knowledge that contributes to promoting brain health and psychological health.

Current Research Projects

Hong Kong Research Council Strategic Topics Grant-funded project

"An Integrated AI Solution for Large-Scale Improvement of Emotional Health among Older Populations: Risk Assessment of Depression and Intervention for Ageing Needs, Challenges, and Empowerment System (RADIANCE) "

Recent Publications

- **Lee TMC**, Chan AKY, Lee CH. Endocrine-Neuropsychological Interplay Underpinning Maternal Postpartum Depression. *Lancet Diabetes and Endocrinology*. 2026; 14, 624-626.
- Saboura S, Liu JM, Liu S, Yao CZ, Cui S, Zhang W, Zhang X, Cao Y, Bhat A, Guan J, Wu W, Mihalcea R, Wang H, Althoff T, **Lee TMC**, Huang M. Human preferences are susceptible to covertly misaligned AI advice. *Proceedings of the National Academy of Sciences (PNAS)*. 2026; 123 (38): e2600684123. https://doi.org/10.1073/pnas.2600684123 (2026).
- Liu JM, Gao M, Sabour S, Chen Z, Huang M, **Lee, TMC**. Enhanced Large Language Models for Effective Screening of Depression and Anxiety. *Communications Medicine*. 2025; 5: 457. https://doi.org/10.1038/s43856-025-01158-1
- Luo J, Wong NML, Zhang R, Shao R, Chan CCH, **Lee TMC**. A network analysis of rumination on loneliness and the relationship with depression. *Nature Mental Health*. 2025; 3: 46–57. https://doi.org/10.1038/s44220-024-00350-x
- Ma J, Chen M, Liu GH, Gao M, Chen NH, Toh CH, Hsu JL, Wu KY, Huang CM, Lin CM, Fang JT, Lee SH, **Lee TMC**. Effects of sleep on the glymphatic functioning and multimodal human brain network affecting memory in older adults. *Molecular Psychiatry*. 2025; 30: 1717 - 1729. https://doi.org/10.1038/s41380-024-02778-0 Published on October 14, 2024.

More Information

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Psychopathology, Affective Neuroscience & Decision Making Laboratory

Principal Investigator: Professor Frances Jingwen JIN

Our Lab and Research Interests

Our interdisciplinary research bridges affective science, neuroscience, and clinical psychology to better understand the psychological and neural mechanisms of affective experiences and related mental health issues (primarily anxiety and depression). Specifically, we investigate:

- how emotional information is processed and the corresponding neural correlates
- how we make emotion-related decisions, and

finally, how alterations to cognitive and neural systems relevant to emotion processing and decision-making contribute to our understanding of psychopathology.

Current Research Projects and Recent Publications

1. UNDERSTANDING PERCEPTUAL DECISION-MAKING ABOUT EMOTIONAL STIMULI AND THEIR ALTERATIONS IN PSYCHOPATHOLOGY

Our daily life is filled with emotionally charged information (e.g., seeing happy, fearful, and angry faces). Many of these emotional stimuli are easy to recognize, but others can be quite ambiguous to categorize. Most of us identify these visual stimuli easily and have little problem extracting the emotional information from what we see. An automatic task, such as recognizing a fearful face, involves complex computations carried out by the human brain. This project aims at elucidating the psychological, computational, and neural processes giving rise to emotion-related visual perceptual decision-making. Furthermore, we examine how these processes may be altered in internalizing psychopathology, such as depression and anxiety.

Methodology: questionnaires, computer-based behavioral paradigms, eye-tracking, computational modeling, and neuroimaging (fMRI, EEG and intracranial EEG).

Recent publications:

1. Hedley, F.E., Ngai, H.H., & Jin, J. (2026). Looking around in distress: Judgmental and attentional biases revealed in multi-evidence decision making in anxiety. *Journal of Psychopathology and Clinical Science*
2. Ngai, H.H., & Jin, J. (2025). Emotion-guided attention impacts deliberate multi-evidence emotion-related perceptual decision
making. *Psychophysiology*. https://doi.org/10.1111/psyp.70059
3. Mohanty, A., Freeman, J., & Jin, J. (2025). Top-down influences on the perception of emotional stimuli. *Nature Reviews Psychology*, https://doi.org/10.1038/s44159-025-00446-w
4. Ngai, H.H., & Jin, J. (2025). Emotion ensemble judgment: cognitive training for a positive perspective. *British Journal of Psychology*, https://doi.org/10.1111/bjop.12784

2. QUANTITATIVE MODELING OF MENTAL DISORDERS

This project utilizes computer simulation and real human data to gain insights into the hidden computational mechanisms of various mental disorders, in particular anxiety, depression, and psychosis.

Methodology: computer-based behavioral paradigms, questionnaires, computational modeling.

Recent publications:

Zhang, Y., Hedley, F.E., Zhang, R.Y., & Jin, J. (2025). Toward quantitative cognitive-behavioral models: An active inference account of social anxiety disorder. *Journal of Psychopathology and Clinical Science*, 134(4), 363–388. https://doi.org/10.1037/abn0000972

3. IDENTIFY COMPUTATIONAL AND NEURAL CORRELATES AND RISK FACTORS OF DEPRESSION AND ANXIETY

Collaborating with research teams globally, our lab has been involved in investigating cognitive behavioral, and neural risk factors related to adult and pediatric depression and anxiety disorders.

Methodology: clinical diagnostic interview, questionnaires, and neuroimaging (e.g., fMRI, EEG).

Recent publications:

1. Pitliya, J., Burani, K., Nelson, B,D., Hajcak, G., & Jin, J. (2025). Reward-related brain activity mediates the relationship between decision-making deficits and pediatric depression symptom severity. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, 10 (2), 138-147. https://doi.org/10.1016/j.bpsc.2024.06.007
2. Zhong, Y., Perlman, G., Klein, D., Jin, J., Kotov, R. (2024). The prospective predictive power of parent-reported personality traits and facets in first-onset depression in adolescent girls. *Research on Child and Adolescent Psychopathology*, 52, 1221–1231. https://doi.org/10.1007/s10802-024-01186-w

4. UNDERSTANDING UNCERTAINTY PROCESSING AMONG GENERAL AND CLINICAL POPULATIONS

How we process uncertainty, including forming and updating our beliefs about uncertain events that are emotionally charged, plays a crucial role in our daily decisions. Uncertainty processing has also been a longstanding pursuit in clinical psychology research. We are interested in deepening the conceptualization of uncertainty and developing novel measurements and paradigms to investigate uncertainty processing. This line of research will help gain insights into general emotion and motivation, as well as clinical phenomena, especially fear and anxiety.

Methodology: clinical diagnostic interview, questionnaires, behavioral paradigms, computational modeling, and psychophysiology.

Recent publications:

Hedley, F,E., Larsen, E., Mohanty, A., Liu, J.Z., & Jin, J. (2024). Understanding anxiety through uncertainty quantification. *British Journal of Psychology*, https://doi.org/10.1111/bjop.12693

More Information

Please visit our website at https://pandmlab.hku.hk

Sleep Research Clinic & Laboratory

Principal Investigator: Professor Shirley Xin LI

Our Lab

The Sleep Research Clinic and Laboratory endeavours to understand how sleep affects our daily function and our physical and mental wellbeing. Our ultimate goals are to translate research into practice and to inform the development of treatments and interventions to improve sleep and health.

Research Interests

- Circadian Rhythm
- Sleep & Cognition
- Sleep Disorders
- Sleep & Circadian Interventions

Current Research Projects

- Efficacy of Cognitive Behavioural Therapy for Insomnia with Adjuvant Melatonin Treatment in Older Adults with Chronic Insomnia: A Randomised Controlled Trial (SOAM Trial)
- Arousal, Sleep, and Circadian Disturbances in Youths with Attention Deficit Hyperactivity Disorder: A Longitudinal Study (ASC-O Study)
- Efficacy of CBT for Insomnia and Bright Light Therapy in Adolescents with ADHD and Comorbid Insomnia and Evening Chronotype: A Randomised Controlled Trial (ASC-I Trial)
- Sleep and Circadian Disturbances in Children & Adolescents: A Longitudinal Cohort Study
- Personalised Online Sleep Intervention and Offline Support Programme for Parents of Children with SEN
- Treatment Study for Insomnia in Pregnant Women with Comorbid Insomnia and Depression

More Information

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Recent Publications

- Ip B.Y.T., Lee S., Li S.X.# (2024). Telehealthdelivered parent-based sleep-focused intervention for insomnia in preschool children with autism spectrum disorder: A randomized controlled trial. Autism, https://doi: 10.1177/13623613241246502.
- Cheung F.T.W., Li X., Hui T.K., Chan N.Y., Chan J.W.Y., Wing Y.K., Li S.X.# (2023) Circadian preference and mental health outcomes in youth: A systematic review and

meta-analysis. Sleep Medicine Reviews, 72:101851.

- Sun W., Cheung F.T.W., Chan N.Y., Zhang J., Chan J.W.Y., Chan K.C.C., Wing Y.K., Li S.X.# (2023). The impacts of intra-individual daily sleep variability on daytime functioning and sleep architecture in healthy young adults: An experimental study. Journal of Sleep Research, 33(3):e13967.
- Chan N.Y., Lam S.P., Zhang J., Chan J.W.Y., Yu M.W.M., Suh S., Yang C.M., Okajima I., Li A.M., Wing Y.K., Li S.X.# (2022). Efficacy of emaildelivered vs. face-to-face group cognitive behavioural therapy for insomnia in youth: A

randomized controlled trial. Journal of Adolescent Health, 70(5):763-773.

- Ling J., Lin X., Li X., Chan N.Y., Zhang J., Wing Y.K., Hu X.,* Li S.X.# (2022). Neural response to rewards in youths with insomnia. Sleep, 45(2): zsab238.

Research Opportunities / Recruitment

- 失眠長者睡眠治療研究 (SOAM Trial)
- 自閉症譜系障礙兒童及家長「安眠加油站」治療研究 (SEN Study)
- 專注力不足／過度活躍症（ADHD）青少年睡眠縱向研究 (ASC-O Study)
- 兒童及青少年睡眠與晝夜節律研究
- 專注力不足／過度活躍症（ADHD）青少年失眠治療研究 (ASC-I Study)
- 孕婦失眠及抑鬱治療研究

Research into Eating, Adversity and Community Mental Health Laboratory (REACH)

Principal Investigator: Professor Vanessa See Heng YIM

Our Lab

The research group is interested in examining the psychopathology of eating disorders, co-occurring conditions and improving the effectiveness of psychological treatments for individuals with body image concerns, including digital interventions and early intervention approaches. The secondary aim is to improve access to timely, evidence-based support for disadvantaged populations, including those who have experienced violence and psychological trauma.

Research Opportunities / Recruitment

- Are you interested in taking part in studies on body image and disordered eating behaviours?
- Are you interested in youth mental health?
- Are you interested in learning more about the psychological trauma and wellbeing in humanitarian settings?
- Please scan the QR code for more up-to-date information. See our Instagram story to learn about our current study recruitment!

More Information

HKUREACHLAB

Our Instagram & Threads: hkureachlab

Our Website

Research Interests

- Eating Disorders and occurring conditions such as autism
- Youth mental health
- Psychological trauma and violence
- Using participatory and creative approaches to understand and improve mental health at the community level.

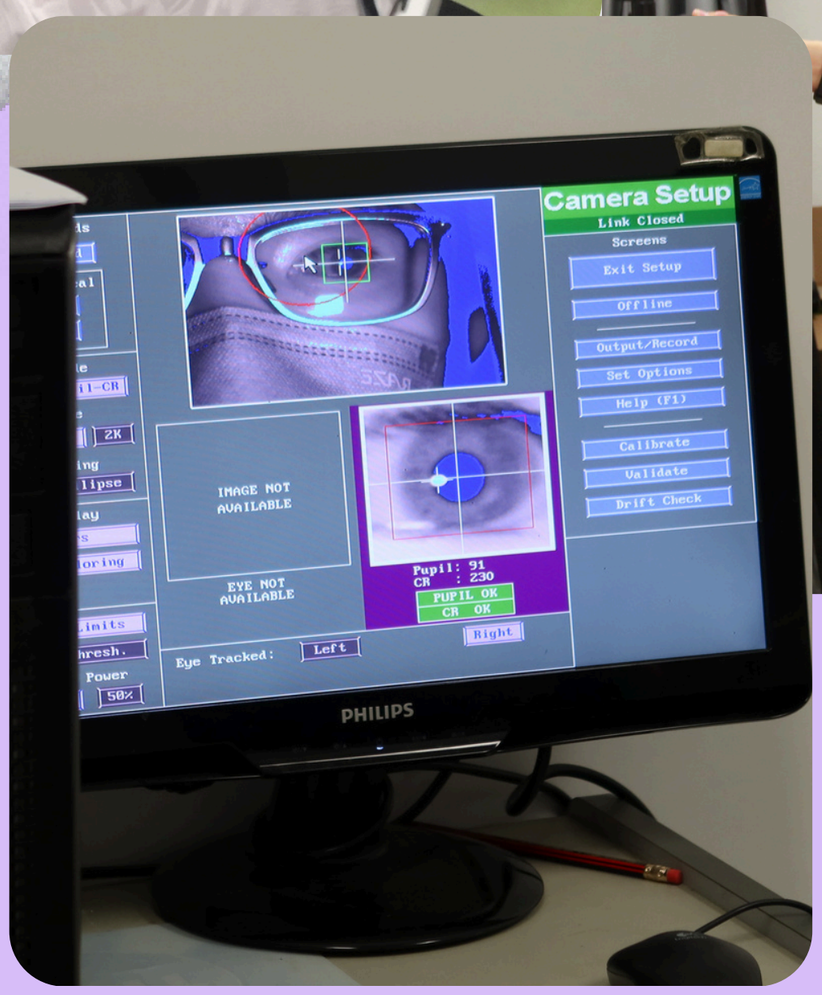
Recent Publications

- **Yim., S.H.**, Dore, E., King, E., Fialko, L. (2026). Brief, Early, and Effective: Evaluating CBT-T Outcomes and Change Trajectories in a No-minimum Threshold to access Eating Disorder Service. *Behavioural and Cognitive Psychotherapy*. https://doi.org/10.1017/s1352465826101350
- Kuehne, C., **Yim, S. H.,** Ince, B., Fordham, E., Matcham, F., Simblett, S., White, K. M., Folarin, A., Sharpe, H., Schmidt, U., & EDIFY Consortium (2026). Perspectives on Remote Monitoring via Smartphones and Wearables Among Individuals With Lived Experience or at Risk of Eating Disorders ("This Could Go Very, Very Wrong"): Qualitative Interview Study. *JMIR formative research,* 10, e86382. https://doi.org/10.2196/86382
- **Yim, S. H.**, Yoo, D. W., Polymerou, A., Liu, Y., & Saha, K. (2025). Generative AI for Eating Disorders: Linguistic Comparison With Online Support and Qualitative Analysis of Harms. International Journal of Eating Disorders. https://doi.org/10.1002/eat.24604
- **Yim, S.H.,** Schmidt, U. Views and experiences of eating disorders treatments in East Asia: a meta-synthesis. *J Eat Disord* **12**, 120 (2024). https://doi.org/10.1186/s40337-024-01070-4






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Camera Setup
Link Closed
Screens
Exit Setup
Offline
Output/Record
Set Options
Help (F1)
Calibrate
Validate
Drift Check
IMAGE NOT AVAILABLE
EYE NOT AVAILABLE
Pupil: 91
CR : 230
PUPIL OK
CR OK
Eye Tracked:
Left
Right
PHILIPS

Mind & AI Laboratory

Principal Investigator: Professor Benjamin BECKER

Our Lab

Our Lab pioneers innovative research at the intersection of Psychological Science, Brain Science, and Aging Science. We investigate cognitive vitality, brain plasticity, and neural dynamics across the human lifespan using multimodal neuroimaging techniques (MRI and EEG), and develop cutting-edge interventions and cognitive training programs to promote healthy aging, mitigate age-related cognitive decline, and address complex geriatric psychiatric disorders.

Research Interests

- Neurocognitive Mechanisms of Healthy Aging: Elucidating adaptive changes in cognitive function, neural architecture, and behavioral patterns throughout the aging process.
- Pathological Aging and Geriatric Mental Health: Examining the neurobiological impact of age-related neurodegenerative diseases and psychiatric disorders on brain function and psychological well-being.
- AI-Driven Precision Geroscience: Applying artificial intelligence and computational modeling to detect neural signatures that predict cognitive trajectories and distinguish normative from pathological aging
- Translational Gerontology: Designing innovative gerotechnologies (spanning brain-computer interfaces, cognitive training platforms, and digital therapeutics) to optimize cognitive reserve, psychological resilience, and social engagement in aging populations

Current Research Projects

Unravelling the dynamic aging brain: Cross-cultural neurocognitive responses associated with multisensory integration and emotional perception in aging

Recent Publications

- Zhou, N.N., Huang, C.J., Tsai, P.Y., Chang, L.H., Lin, C.P., Tsai, Y.H., Tai, J.H.Y., Tzeng, O.J.L., Huang, C.M.*, Huang, H.W. (2026). Direct and mediating effects of multilingualism on reducing perceived loneliness in the aging brain. *Brain and Language*, 277, 105764. https://doi.org/10.1016/j.bandl.2026.105764.
- Huang, H.W., Li, P.Y., Chen, M.C., Liu, C.L., Chang, Y.X., Lin, Q., Lin, C.M., Huang, C.M.*, Wu, S.C. (2025). Classification of internet addiction using machine learning on electroencephalography synchronization and functional connectivity. *Psychological Medicine*, *55*, e148.
- Wang, S.M. Wen, H.J., Huang, F., Sun, C.W., Huang C.M.*, Wang S.L. (2025). White matter microstructural integrity mediates associations between prenatal endocrine-disrupting chemicals exposure and intelligence in adolescents. *Neuroimage: Clinical*. 45, 103758.
- Patil, A.U., Madathil, D., Huang, C.M.* (2021). Age-related and individual variations in altered prefrontal and cerebellar connectivity associated with the tendency of developing internet addiction. *Human Brain Mapping*, 42(14), 4525-4537. doi: 10.1002/hbm.25562.

Research Opportunities

For research opportunities, please contact cmhuang@hku.hk.

More Information

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Brain and Behaviour Laboratory

Principal Investigator: Professor Dorita H. F. CHANG

Our Lab

The lab is primarily interested in understanding mechanisms underlying visual perception -- in particular binocular function, and their potential for neuroplastic reorganization.

Research Interests

- Visual perception
- Perceptual learning and plasticity
- Visuo-neuro rehabilitation

Current Research Projects

- Brain Imaging (fMRI, DTI, MRS) and Eye Balance
- Brain Stimulation (c/iTBS) and Enhancing Binocular Function
- Behavioural (Perceptual Training) of Binocular Vision

More Information

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Recent Publications

- Wang, J., & Chang, D. H. F. (2026). Combined effects of iTBS and perceptual learning on enhancing binocular balance. Cortex, 200, 124-135. https://doi.org/10.1016/j.cortex.2026.04.012
- Wang, J., Cheong, A. M. Y., & Chang, D. H. F. (2026). Changing sensory eye dominance with theta burst stimulation over visual cortex. Neuromodulation: Technology at the Neural Interface. https://doi.org/10.1016/j.neurom.2026.04.010
- Kam, K. Y., & Chang, D. H. F. (2026). Retinal-specificity of sensory eye dominance and its learning-induced improvements. Investigative Ophthalmology & Visual Science, 67(44), 1-16. https://doi.org/10.1167/iovs.67.4.44
- Kam, K. Y., Ng, L. C. H., & Chang, D. H. F. (2026). Mitigating age-related stereo decline with perceptual training. iScience, 29(4): 115485, 1-13. https://doi.org/10.1016/j.isci.2026.115485
- Or, J. K. N., & Chang, D. H. F. (2024). cTBS over ventral cortex enhances depth perception. Frontiers in Neuroscience, 18:1499030, https://doi.org/10.3389/fnins.2024.1499030
- Kam, K. Y., & Chang, D. H. F. (2024). The neurochemistry of learning-driven sensory eye dominance plasticity. Imaging Neuroscience, 2, 1-18. https://doi.org/10.1162/imag_a_00237
- Chan, A. Y. C., & Chang, D. H. F. (2022). Neural correlates of sensory eye dominance in human visual white matter tracts. eNeuro, 9(6):1-11. ENEURO.0232-22.2022; DOI: https://doi.org/10.1523/ENEURO.0232-22.2022

Social & Cognitive Neuroscience Laboratory

Principal Investigator: Professor Xiaoqing HU

Our Lab

Our research aims at understanding how we remember and forget about our past experiences, and the neurocognitive processes supporting these memory dynamics. One fundamental assumption of this research is that memory plays a central role in shaping our preferences and beliefs, and in guiding our judgments and behaviors. Our research aims to elucidate how motivational, emotional and cognitive processes may influence memory processes. Of particular interests, we consider sleep as an indispensable component to complete our understanding of memory. We mostly employ EEG, behavioral and online studies in our research.

Research Interests

- Sleep: How sleep shapes our memories, emotions and mental wellness, and how to manipulate memory and emotion during sleep?
- Memory: How memories are acquired, updated, corrected, and retrieved, and how unwelcome memories can be controlled and forgotten?
- Social Learning: How we know about ourselves, how we acquire likes and dislikes, and how we learn from others?

More Information

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Current Research Projects

- Motivated Forgetting, Belief and Attitude
- Sleep and Memory Dynamics
- Memory Control
- Emotion Regulation

Recent Publications

- Chen, D., Xia, T., Yao, Z., Zhang, L., & Hu, X.* (2024). Modulating social learning-induced evaluation updating during human sleep. npjScience of Learning, 9, 43, https://doi.org/10.1038/s41539-024-00255-5
- Lin, X., Chen, D., Liu, J., Yao, Z., Xie, H., Anderson, M.*, & Hu, X.* (2024). Observing the suppression of individual aversive memories from conscious awareness. Cerebral Cortex, 34(6), bhae080, https://doi.org/10.1093/cercor/bhae080
- Varma, M. M. #, Zeng, S. #, Singh, L., Holmes, E. A., Huang, J., Chiu, M, H., & Hu, X.* (2024). A systematic review and meta-analysis of experimental methods for modulating intrusive memories from lab-

analogue trauma exposure in non-clinical population. Nature Human

Behaviour, https://doi.org/10.1038/s41562-024-01956-y

- Xia, T., Chen, D., Zeng, S., Yao, Z., Liu, J., Qin, S., Paller, K.A., Torres-Platas, S. G., Antony, J.W., & Hu, X.* (2024) Aversive memories can be weakened during human sleep via the reactivation of positive interfering memories. Proceedings of the National Academy of Sciences, 121(31), e2400678121, https://doi.org/10.1073/pnas.2400678121
- Yao, Z., Xia, T., Wei, J., Zhang, Z., Lin, X., Zhang, D., Qin, P., Ma, Y.*, & Hu, X.* (2024). Reactivating cued approached positive personality traits during sleep promotes positive self-referential processing. iScience.27(7), 110341. https://doi.org/10.1016/j.isci.2024.110341

Brain and Cognitive Sciences of Aging Laboratory

Principal Investigator: Professor Chih-Mao HUANG

Our Lab

The MIND & AI Lab drives innovation at the intersection of social-cognitive and affective sciences, neuroscience, artificial intelligence, and mental health. Leveraging technological and computational progress, we investigate the neural underpinnings of social-cognitive and affective processes in humans, focusing on how these processes (1) shape and are shaped by interactions with emerging technologies and AI; (2) interact with mental health; and (3) can be regulated by neuropeptides (e.g., oxytocin) or brain-inspired technologies (e.g., BCIs and real-time neurofeedback). The lab is directed by Professor Benjamin Becker, an internationally renowned scholar who has received numerous awards and has been named among the world's top 1% and 2% of scholars and scientists by Clarivate and Stanford University, respectively.

Research Interests

- **Social, Cognitive, and Affective Neuroscience**: Neural mechanisms underlying conscious emotional experience and social-cognitive processes.
- **Mental Health**: Neural and computational mechanisms underlying mental disorders.
- **AI and Emerging Technologies**: AI-inspired neural decoding and human–technology interactions.
- **Translation**: Developing innovative interventions and technologies to improve mental health and well-being.

More Information

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Current Research Projects

- The impact of emerging technology and AI on mental health
- The neural basis of human AI interaction
- Enhancing motivation via neuropeptides
- Enhancing emotion regulation via neuropeptides and neurotechnology
- Neural decoding of emotion and motivation from fMRI

Recent Publications

- Jiang H, He J, Zimmermann K, Zhou X, Gan X, Ferraro S, Wang L, Zhou B, Kendrick KM, Zhao W, Yao D, Yuan T, Feng Z, Becker B (2026) Common and distinct neurofunctional signatures of dynamic naturalistic emotion regulation strategies. Nature Communications 17: 4272
- Becker B (2025) Will our social brain inherently shape – and be shaped by - interactions with AI?. Neuron 113: 2037-2041
- Montag C, Spape M, Becker B (2025) Can AI really help solve the loneliness epidemic? Trends in Cognitive Sciences 29: 869-871
- Ran Z, Gan X, Xu T, Yu F, Lan W, Song X, Jiao G, Liu X, Zhou F, Becker B (2025) A neurofunctional signature of affective arousal generalizes across valence domains and distinguishes subjective experience from autonomic reactivity. Nature Communications 16: 6492 [IF 16.6]
- Gan X, Zhou F, Xu T, Liu X, Zhang R, Zheng Z, Yang X, Zhou X, Yu F, Li J, Cui R, Wang L, Yuan J, Yao D, Becker B (2024) A neurofunctional signature of subjective core disgust generalizes to oral distaste and socio-moral contexts. Nature Human Behaviour, 8:1383-1402 [IF 29.9]

Research Opportunities / Recruitment

For research opportunities and collaborations please contact us at mindai.laboratory@gmail.com.

Computational Cognition Laboratory

Principal Investigator: Professor Andrew LUO

Our Lab

Our lab is primarily interested in creating algorithms that enable practical Brain-Computer Interfaces (BCI). The goal is to achieve flexible control while seeking data-efficient cross-subject generalization. When combined with robot policies, we seek to restore the quality-of-life for patients that are suffering from paralysis or neurodegenerative diseases.

Research Interests

Our research interests primarily lie in brain-computer interfaces, robot learning and control, as well as data-efficient generalization via meta-learning or test-time learning.

Current Research Projects

Meta-Learning for Brain Decoding, Hierarchical Robot Policies

Research Opportunities / Recruitment

Recruiting students with a strong background in data analysis, math, and interest in working with electrophysiology (ECoG, iEEG, EMG) data.

Recent Publications

- Nan, M., Yu, M., Mai, W., Prince, J. S., Adeli, H., Zhang, R., ... Luo, A. F. (2026, June). Meta-Learning In-Context Enables Training-Free Cross Subject Brain Decoding. Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 3604–3616.
- Yu, M., Nan, M., Adeli, H., Prince, J., Pyles, J. A., Wehbe, L., ... & Luo, A. (2026). Meta-learning an in-context transformer model of human higher visual cortex. Advances in Neural Information Processing Systems, 38, 168122-168180.
- Luo, A., Yeung, J., Zawar, R., Dewan, S. R., Henderson, M. M., Wehbe, L., & Tarr, M. J. (2025). Brain Mapping with Dense Features: Grounding Cortical Semantic Selectivity in Natural Images With Vision Transformers. The Thirteenth International Conference on Learning Representations.
- Luo, A., Henderson, M. M., Tarr, M. J., & Wehbe, L. (2024). BrainSCUBA: Fine-Grained Natural Language Captions of Visual Cortex Selectivity. The Twelfth International Conference on Learning Representations.
- Luo, A., Henderson, M., Wehbe, L., & Tarr, M. (2023). Brain diffusion for visual exploration: Cortical discovery using large scale generative models. Advances in Neural Information Processing Systems, 36, 75740-75781.

More Information

https://andrewluo.net

Predictors, Resilience and Intervention for Stress and Mood Disorders (PRISM) Laboratory

Principal Investigator: Professor Robin SHAO

Our Lab

The **P**redictors, **R**esilience and **I**ntervention for **S**tress and **M**ood Disorders (PRISM) lab has several major lines of research on stress and mood disorders, covering the prediction, identification and intervention on individuals with stress-related or mood-related symptoms. We are particularly interested in looking for biological and psychological markers for vulnerability to stress and mood disorders, and in testing interventions that boost stress resilience and reduce mood symptoms.

Research Interests

1) affective and cognitive neuroscience on healthy individuals

2) clinical neuroscience on individuals with mood disorders and "high-risk" populations

3) the neural, biological and behavioural mechanisms of stress and resilience

4) brain plasticity induced via neuromodulation

Current Research Projects

- Utilizing transcranial direct current stimulation (tDCS) to alleviate subthreshold depression via distinct positive and negative emotion pathways (GRF-funded)
- Enhancing resilience to major life stress using transcranial direct current stimulation: Efficacy, multimodal mechanisms and individual-level modulating factors (GRF-funded)
- Using game-based intervention to enhance stress resilience

Recent Publications

- Fang KK[#], Xu VE, Lee TMC*, **Shao R***. Neural signatures of stress resilience in emotion and cognitive domains: A meta-analysis of task-based fMRI studies. *Neuroscience & Biobehavioral Reviews* 2026; 106885. https://doi.org/10.1016/j.neubiorev.2026.106885.
- Xu VE[#], Fang KK, **Shao R***. Brain functional changes of suicidal ideation and behaviours: a meta-analysis of task-based fMRI studies. *Transl Psychiatry* 2026; https://doi.org/10.1038/s41398-026-04293-y.
- Yan X[#], **Shao R**[#], Jin J, Lu W, Jiang Z, Zhang G, Zhang Q*, Li X, Tian X, Stubbs B, Vancampfort D, Solmi M, Fornaro M, Carvalho AF, Yau SS, Cong F, So KF, Lin K*. Aerobic Exercise and Subthreshold Depressive Symptoms in Adolescents: Secondary Analysis of a Randomized Clinical Trial. *JAMA Netw Open* 2026; 9(7):e2621568.
- Li X[#], Zou W, **Shao R***, Lu W, Chao L, Zhao X, Su KP, Lin K*. Neuroinflammation and white matter microstructure as mediators of cognitive deficits in offspring of parents with bipolar disorder. *Brain Communications* 2026; 8(3): fcag181.
- Wu S[#], Liu Z[#], **Shao R**[#]*, Zou W, Li X, Lu W, Chen J, Yau S-Y, Lin K*. The role of the complement C3-hippocampus pathway in relation with mood symptoms in offspring of parents with bipolar disorder. *Bipolar Disord* 2025; 27(6): 461-471.
- Li X[#], Many ISC[#], **Shao R**[#]*, Zhao X, Wu S, Liu Z, Lin K*. The effect of non-invasive brain stimulation in reducing anhedonia and apathy in major depressive disorder and schizophrenia: A meta-analysis. *J Affect Disord* 2025; 388: 119561.
- Liu Z[#], Lu W, Zou W, Gao Y, Li X, Xu G, So KF, McIntyre RS, Lin K*, **Shao R***. A preliminary study on brain developmental features of bipolar disorder familial risk and subthreshold symptoms. *Biol Psychiatry Cogn Neurosci Neuroimaging* 2025; 10 (7): 769-780.
- Zhao X, Wu S, Li X, Liu Z, Lu W, Lin K*, **Shao R***. Common neural deficits across reward functions in major depression: a meta-analysis of fMRI studies. *Psychological Medicine* 2024; 54(11): 2794-2806.
- Lu W[#], Wu J[#], **Shao R***, Zou W, Zhang R, Li X, Kong J, Zheng D, Tian X, Gao Y, Yau S, Goldstein B, Xu G, So K-F, Wang J*, Lin K*. Genetic and symptomatic risks associated with longitudinal brain morphometry in bipolar disorder. *Nature Mental Health* 2024; 2: 209-217.
- Luo Q[#], **Shao R***. The positive and negative emotion functions related to loneliness: A systematic review of behavioural and neuroimaging studies. *Psychoradiology* 2023; kkad029.
- **Shao R**[#], Man ISC[#], Yau SY, Li C, Hou WK, Li SX, Liu FY, Lee M, Wing YK, Lee TMC*. The interplay of acute cortisol response and trait affectivity in associating with stress resilience. *Nature Mental Health* 2023; 1: 114-123.
- Man ISC[#], **Shao R**[#], Hou WK, Li SX, Liu FY, Lee M, Wing YK, Yau SY*, Lee TMC*. Multi-systemic evaluation of biological and emotional responses to the Trier Social Stress Test: A meta-analysis and systematic review. *Frontiers in Neuroendocrinology* 2023; 68:101050.
- Zou W[#], **Shao R**[#], Lu W, Zhang R, Yau S-K, Chen N, Xu G, So K-F, Lin K*. The differential relationships among C-Reactive Protein, attention functioning and brain structure in bipolar offspring with and without subthreshold mood symptoms. *Journal of Clinical Psychiatry* 2022; 83(6): 21m14113.
- **Shao R**[#], Gao M, Lin C, Huang C-M, Liu H-L, Toh C-H, Wu C, Tsai Y-F, Qi D, Lee S-H*, Lee TMC*. Multimodal neural evidence on the corticostriatal underpinning of suicidality in late-life depression. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging* 2022; 7(9): 905-915.
- **Shao R**[#]*, Lee TMC*. The executive and action control realms of suicidality. *Neuroscience & Biobehavioral Reviews* 2021; 126: 542-43.
- Qi D[#], Wong NML[#], **Shao R**[#], Man IS, Wong CH, Yuen LP*, Chan CC*, Lee TMC*. Qigong exercise enhances cognitive functions in the elderly via an interleukin-6-hippocampus pathway: a randomized active-controlled trial. *Brain, Behavior, and Immunity* 2021; 95: 381-90.

Research Opportunities / Recruitment

- If you are interested in research jobs in the lab or participating in our research projects, please directly contact me at rshao@hku.hk.

MIND (Mental health, Internet, Neuroscience & Decision-making) Laboratory

Principal Investigator: Professor Yuanwei YAO

Our Lab

Our team aims to investigate how people make decisions and how these processes are altered in individuals with internet addiction (e.g., gaming disorder and problematic social media use).

Research Interests

- Decision-making (including neuroeconomics)
- Behavioral addictions (problematic social media use, internet gaming disorder, etc.)
- Internet psychology (effects of the internet and emerging technologies on cognition and behavior)
- Digital health
- Computational modeling (reinforcement learning model, drift diffusion model, etc.)
- Computational psychiatry

Current Research Projects

- Decision-making deficits in problematic social media use
- Neuro-computational mechanisms underlying information seeking
- Non-invasive brain stimulation and decision-making

Research Opportunities / Recruitment

Our lab is accepting research interns (voluntary or credit-based). If you are interested in doing a research internship with us, please contact Dr. Yao.

Recent Publications

- Liu, L., Pang, Y. X., Song, Z. H., Chen, S. J., Han, Y. Y., & Yao, Y. W*. (2025). Computational mechanisms underlying the impact of Pavlovian bias on instrumental learning in problematic social media users. Journal of Behavioral Addictions, 14, 903-913.
- Buidze, T., Yao, Y. W., & Gläscher, J. (2025). Expectation violations as an effective alternative to complex mentalizing in novel communication. iScience, 28(7), 112795.
- Yao, Y. W., Song, K. R., Schuck, N. W., Li, X., Fang, X. Y., Zhang, J. T., Heekeren, H. R., & Bruckner, R. (2023). The dorsomedial prefrontal cortex is involved in subjective value representation across effort-based and risky decision-making. NeuroImage, 279, 120326.
- Yao, Y. W., Zhang, J. T., Fang, X. Y., Liu, L., & Potenza, M. N. (2022). Reward - related decision - making deficits in internet gaming disorder: A systematic review and meta - analysis. Addiction, 117, 19-32.
- Lopez-Gamundi, P*., Yao, Y. W*., Chong, T. T., Heekeren, H. R., Herrero, E. M., & Pallares, J. M. (2021). The neural basis of effort valuation: A meta-analysis of functional magnetic resonance imaging studies. Neuroscience & Biobehavioral Reviews, 131, 1275-1287.
- Yao, Y. W., Liu, L., Worhunsky, P. D., Lichenstein, S., Ma, S. S., Yang, S., Zhang, J. T., & Yip, S. W. (2020). Is monetary reward processing altered in drug-naïve youth with a behavioral addiction? Findings from internet gaming disorder. NeuroImage: Clinical, 26, 102202.

Machine-Augmented Cognition Laboratory

Principal Investigator: Professor Jianqiao ZHU

Our Lab

The MAC lab aims to develop novel theories and tools that can predict, explain, and ultimately shape the behavior of both humans and AI systems.

Research Interests

- AI for Cognitive Science
- Bayesian Models of Cognition
- Deep Learning
- Large Language Models
- Judgment and Decision Making
- Large-scale Automated Behavioral Experiments

Current Research Projects

- Using LLMs to capture and understand human cognition
- Bridging Bayesian and neural network models
- Using LLM to automate the discovery of scientific models
- Using AI agents to simulate human behavior

More Information

Please scan this QR code to seek more information

Recent Publications

- Zhu, J. Q., Yan, H., & Griffiths, T. L. (2026). Recovering Event Probabilities from Large Language Model Embeddings via Axiomatic Constraints. *Proceedings of the 48th Annual Conference of the Cognitive Science Society*.
- Yan, S., Zhu, L., & Zhu, J. Q. (2026). Eliciting Trustworthiness Priors of Large Language Models via Economic Games. *Proceedings of the 48th Annual Conference of the Cognitive Science Society*.
- *Zhu, J. Q., *Xie, H., Arumugam, D., *Wilson, R. C., & *Griffiths, T. L. (2026). Using Reinforcement Learning to Train Large Language Models to Explain Human Decisions. *Proceedings of the 14th International Conference on Learning Representations*.
- Zhu, J. Q., Peterson, J. C., Enke, B., & Griffiths, T. L. (2025). Capturing the Complexity of Human Strategic Decision-Making with Machine Learning. *Nature Human Behaviour*.
- Zhu, J. Q., & Griffiths, T. L. (2025). Computation-Limited Bayesian Updating: A Resource-Rational Analysis of Approximate Bayesian Inference. *Psychological Review*.

Research Opportunities / Recruitment

We are looking for PhD and Postdoc with strong technical background in deep learning and AI agents.





Laboratory of COMPASS
(Creating Optimal and Meaningful Pathways for Adolescents' Social-emotional Success)

Principal Investigator: Professor Saetbyul (Clara) KIM

Our Lab and Interests

The COMPASS Lab ("Creating Optimal and Meaningful Pathways for Adolescents' Socialemotional Success") aims to advance research on positive youth development by investigating ecological antecedents, psychological mechanisms, and developmental pathways that support desirable outcomes in adolescence. The lab is dedicated to generating translatable research that informs practical guidelines and educational initiatives to enhance youth well-being and success.

Our lab's directions mainly focus on:

- Positive youth development
- Social emotional learning and competencies
- Life purpose
- Volunteer experiencesProsocial/moral behaviors

Current Research Projects

- Systematic literature review and Meta analysis on adolescents' life purpose
- Career development and social emotional learning
- Teacher well-being in digital era in Hong Kong and South Korea
- Culturally responsive teaching for international, non-local students

More Information

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Recent Publications

- Kim, S., Lin, T-J., Glassman, M., & Anderman, E. (2026). Educating early adolescents for a sustainable future with digital civic learning: Moral self-concept as a developmental catalyst linking civic competencies and civic purpose. *Developmental Science, 29(4), https://doi.org/10.1111/desc.70203*
- Kim, S., & Lee, D. (2026). Leading with virtue and vision: A case study of the Korean leadership school through the lens of JEDI-aligned theories. In J. Welborn & M. Roberts (Eds.), *JEDI leadership: Foundational theory, research, and case studies in diverse educational settings series: Theoretical foundation* (pp. 47–60). Spring, TX: International Council for Professors of Education Leadership.
- Kim, S., Sheng, Y., Cha, W., Lin, T-J., & Glassman, M. (2025). Using immersive civic discussion to cultivate civic purpose in elementary schools during politically volatile times. Theory Into Practice, 64(2), 210-222.
- Nagpal, M., Lin, T-J., Kraatz, E., Kim, S., Glassman, M., & Ha., S. (2025). Reciprocal interactions between teachers' instructional moves and students' social reasoning during collaborative small group discussions.

Instructional Science 53:867–899.

- Kim, S., Black, A., Cha, W., & Liu, X. (2025). Educational psychology instructors' challenges and opportunities in online teaching: Applying theories-informed and evidence-based practices. In C. Roseth & P. Thompson (Eds.), Teaching in online, distance, and nontraditional contexts (pp. 205–236). Information

Age Publishing.

Research Internship

Research interns and volunteers are welcome to apply for the lab. Contact Dr. Kim via email at saetbyul@hku.hk.

Child and School Psychology Laboratory

Principal Investigator: Professor Kathy Kar-man SHUM

Our Lab

The Child and School Psychology Laboratory is dedicated to studying language and socioemotional development, as well as developing early interventions to promote children's well-being. Our goal is to support schools and parents in creating nurturing environments that foster the growth and development of children and adolescents. We invite motivated students interested in our research to join our team!

Research Interests

- Autism spectrum disorder
- Attention-deficit/hyperactivity disorder
- Socioemotional development
- Early childhood intervention
- Reading acquisition
- Biliteracy development

Current Research Projects

- Jockey Club Keen and Active Kids Project
- Neurodiversity in Primary Schools
- Social coping strategies across autistic and non-autistic people
- Effects of near-infrared spectroscopy neurofeedback training coupled with virtual reality technology in children with ADHD

Research Opportunities / Recruitment

We are looking for highly motivated interns who love to work with children and teenagers to join our projects. Interns will be involved in a school-based intervention project for students with ADHD and other projects in the lab.

Recent Publications

- Li, J., & Shum, K. K. M. (2026). Social motivation in

autism spectrum disorder: A mixed-methods exploration using eye-tracking, behavioral tasks, self- and parent-reports, and qualitative insights. *Autism*. https://doi.org/10.1177/13623613261445631

- Kwan, D. H. W., Lam, S. F., & Shum, K. K. M. (2026). Randomized controlled trial evaluating the effectiveness of mindful parenting and parent management training. *Behaviour Research and Therapy, 203*, 105073. https://doi.org/10.1016/j.brat.2026.105073
- Li, J., Hui, B. K. H., Zheng, Q., & Shum, K. K. M.

(2026). Emotional and social impairments in primary school students with different ADHD presentations: A latent profile analysis. *Journal of Educational Psychology, 118*(1),83-98. https://doi.org/10.1037/edu0000991

- Tang, W. Y., Hau, C. C. F., Tong, W. M., Watt, R. M., Yiu, C. K. Y., & Shum, K. K. M. (2025). Alterations of oral microbiota in young children with autism: Unraveling potential biomarkers for early detection. *Journal of Dentistry, 152,* 105486. https://doi.org/10.1016/j.jdent.2024.105486
- Chan, W. W. Y., Shum, K. K. M., Downs, J., & Sonuga-Barke, E. (2025). Are ADHD trajectories shaped by the social environment? A longitudinal study of maternal influences on the preschool origins of delay aversion. *Journal of Child Psychology and Psychiatry. 66*(6), 892-905. https://doi.org/10.1111/jcpp.14103

More Information

Please scan this QR code to seek more information

Cognitive Development Laboratory

Principal Investigator: Professor Terry Tin-Yau WONG

Our Lab

The work in our lab focuses on children's and adolescents' cognitive development. We examine how various cognitive skills develop, and how they are related to academic achievement in mathematics and science domains. We also develop interventions that aim to improve children's and adolescents' cognitive skills.

Research Interests

The research interests in our lab includes:

- The relationship between various cognitive skills (e.g., spatial skills, reasoning skills) and mathematics and science achievement
- The cognitive profiles of children with mathematics learning difficulties
- The development of game-based interventions that target children's and adolescents' cognitive skills

Current Research Projects

- Pilot programme on STEM talent development for secondary school students Cardinality versus ordinality: exploring their relations and their unique contributions to arithmetic through a randomized controlled trial
- Developmental changes in the relations between cognitive skills and mathematical competence
- Extending the integrated theory of numerical development to include negative numbers
- Integrating Machine Learning, Behavioral Analysis and Multimodal Neuroimaging Techniques to Investigate the Comorbidity of Specific Learning Disabilities in Hong Kong

Research Opportunities

Our lab is currently working on multiple projects related to mathematics and science learning. Interested parties may visit our website (see below) and leave your contact there for further details.

Recent Publications

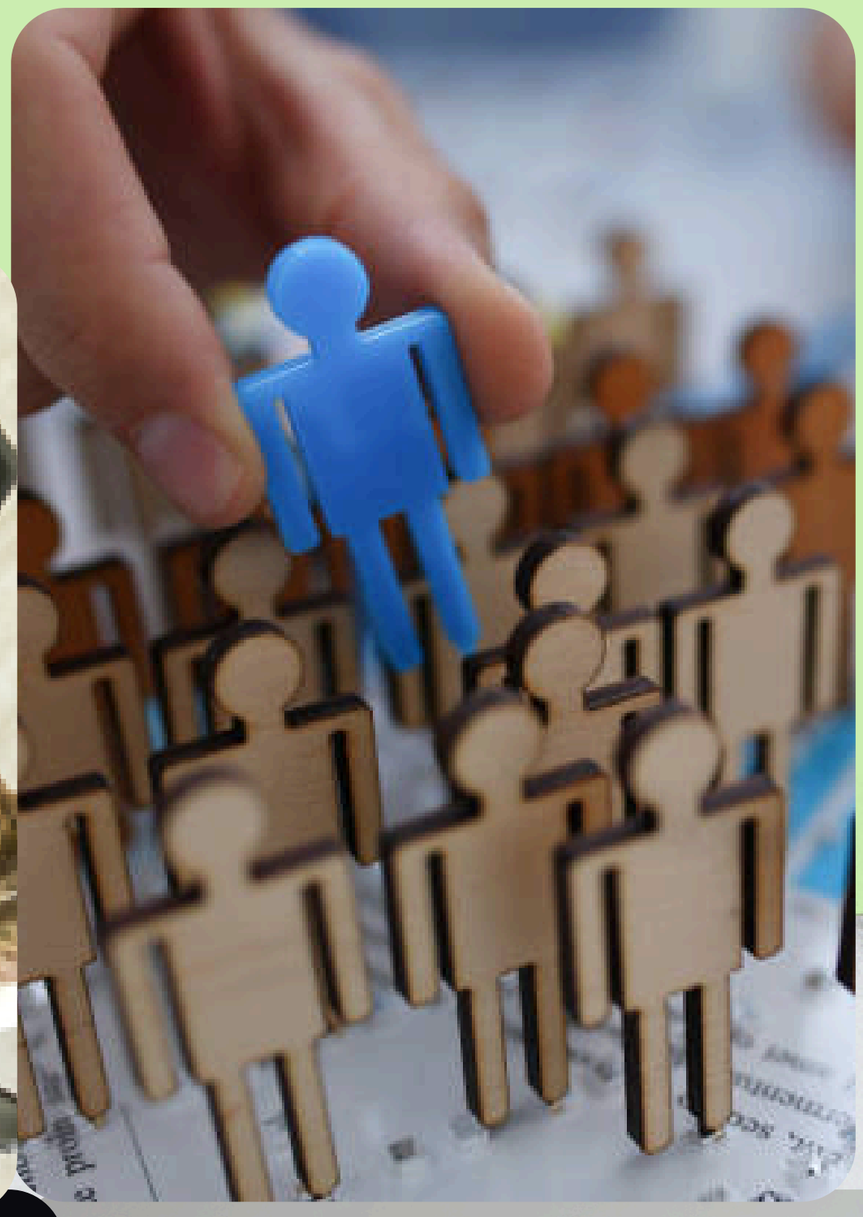
- Morsanyi, K., **Wong, T. T.-Y.**, Szucs, D., Zhang, X., & Jansen, B. (2026). More than a continuum: Distinct pathways to mathematics learning difficulties and mathematical giftedness. *Learning and Individual Differences, 130,* 102966. (Impact factor = 9.7; Q1 in Psychology, Educational, ranked 3/73).
- Yip, E. S.-K.#, & **Wong, T. T.-Y.** (2026). Longitudinal Association between Relational Reasoning and Mathematics Achievement: Mediating Roles of Arithmetic Principle Understanding and Word Problem Reasoning. *Child Development, 97*(1), 182-199. (Impact factor = 3.6; Q2 in Psychology, Educational, ranked 20/73; Q1 in Psychology, Development, ranked 18/95).
- Yip, C. C.-H.#, Ouyang, X.#, Yip, E. S.-K.#, Tong, C. K.-Y.#, & **Wong, T. T.-Y.*** (2025). Distinct Roles of Cognitive and Mathematics Skills in Different Levels of Mathematics Development. *Learning and Individual Differences, 119,* 102645. (Impact factor = 9.7; Q1 in Psychology, Educational, ranked 3/73).
- **Wong, T. T.-Y.**, & Yip, E. S.-K.# (2025). All real numbers are important: The significance of negative number understanding for mathematics achievement. *Journal of Educational Psychology, 117*(2), 246-256. (Impact factor = 6.4 Q1 in Psychology, Educational, ranked 4/73).
- Yip, E. S.-K.#, & **Wong, T. T.-Y.*** (2025). The Association Between Relational Reasoning in Nonverbal and Verbal Representations and Mathematics Achievement. *Journal of Educational Psychology, 117*(2), 228-245. (Impact factor = 6.4 Q1 in Psychology, Educational, ranked 4/73).

More Information

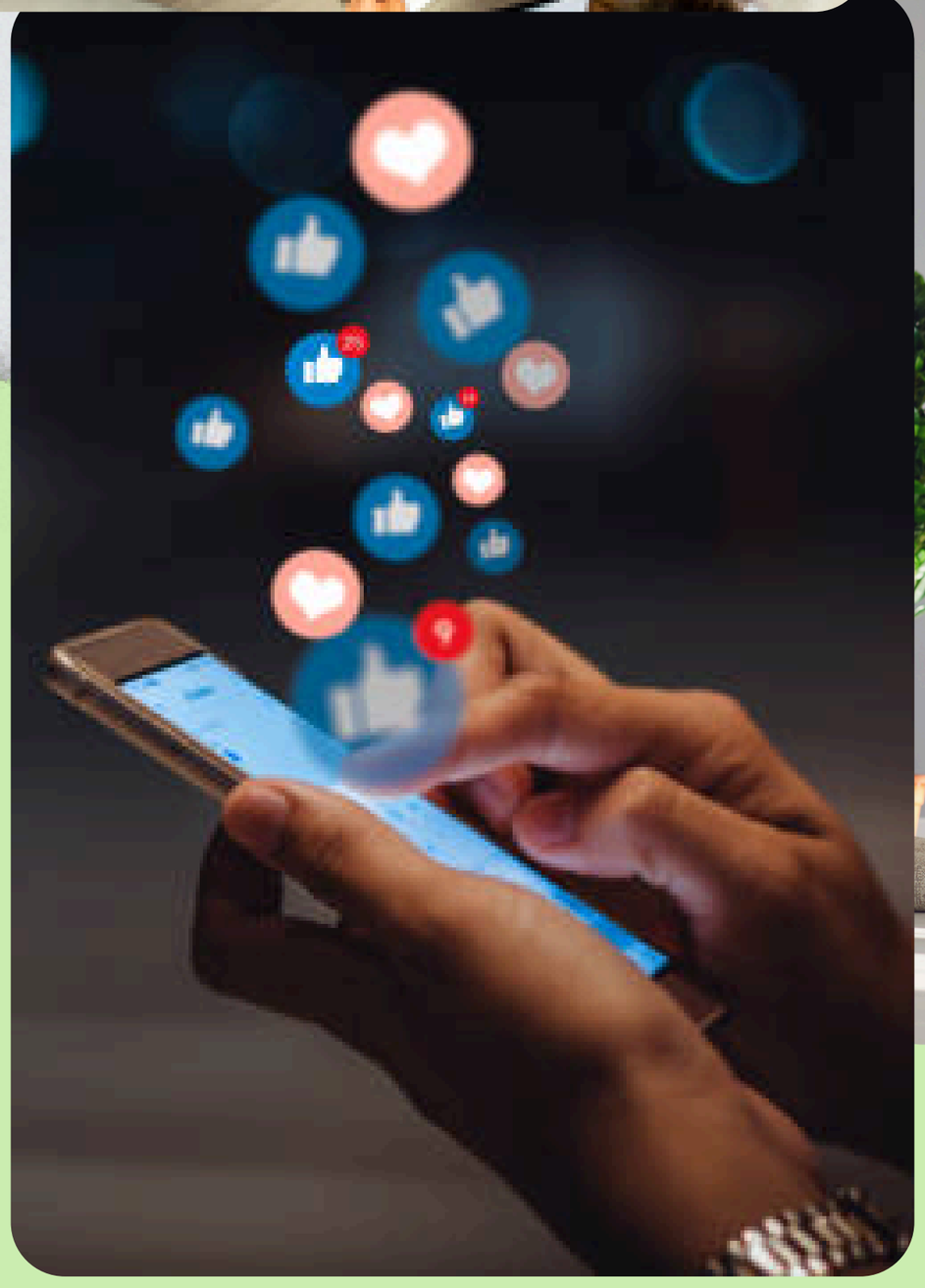
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Research Opportunities

Our lab is currently working on multiple projects related to mathematics and science learning. Interested parties may visit our website (see below) and leave your contact there for further details.









Multiple Ms (i.e., Motherhood, Marriage, Maltreatment, Media & Minority)
(M&Ms) Laboratory

Principal Investigator: Professor Hongjian CAO

Our Lab and Interests

Broadly, our interdisciplinary research lies at the intersection of family science, developmental psychopathology, social work, and educational psychology, with a focus on bridging these areas of scholarship to obtain a fundamental and systematic scientific understanding of the origins and evolution of human well-being as well as the etiology of psychopathology in various forms over the life course, particularly in the contexts of diverse family systems, along with its intersections with other proximal micro-ecosystems (e.g., peers and schools) and especially among young children, early adolescents, and emerging adults who are navigating critical (family) life transitions.

Current Research Projects

Over the recent years, our research projects span a broad spectrum of intriguing topics, including: (a) the profound socio-emotional consequences of early adversity exposure, (b) parental emotion socialization and child socio-emotional adaptations, (c) youth social media use and mental health, (d) human development in the context of family life transitions, as well as (e) the experiences of stress, resilience, and well-being for marginalized minority groups (e.g., LGBTQ+).

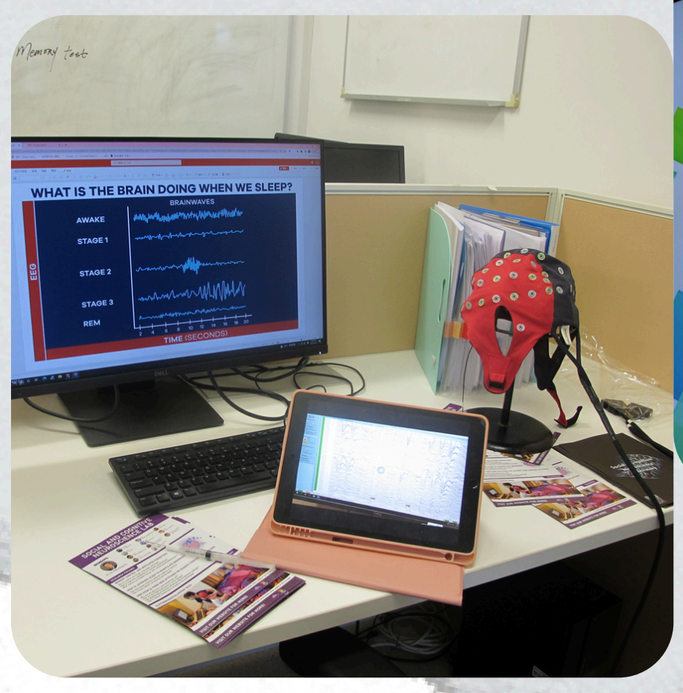
Research Opportunities / Recruitment

We are always looking for highly self-motivated students with aspirations for future academic careers. Feel free to contact Dr. Cao via email (hjcao@hku.hk).

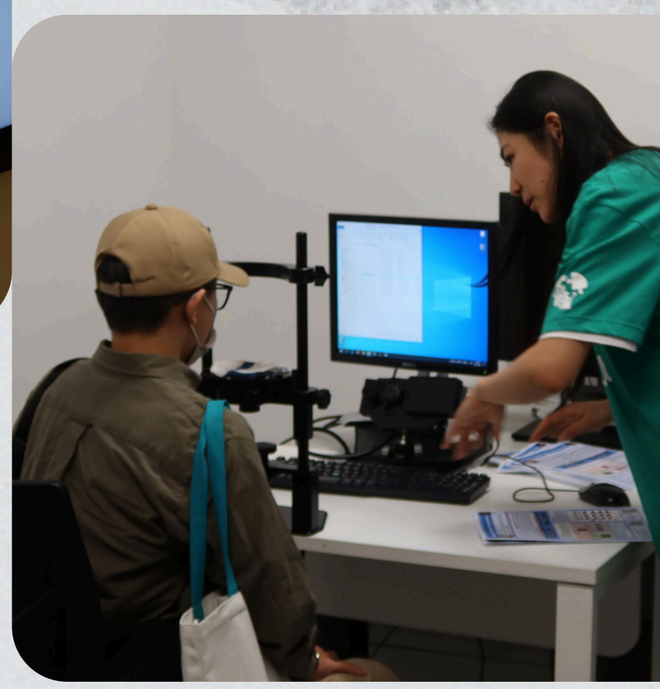
Recent Publications

- **Cao, H.,** Song, K., Zheng, Y., Liang, Y., Yao, Y., & Zhou, N. (2026). A daily diary study of reciprocal associations between young adults' loneliness and problematic social media use through psychological distress symptoms: The buffering roles of mindfulness and self-compassion. *Developmental Psychology*. https://doi.org/10.1037/dev0002276
- **Cao, H.,** Eisenberg, N., Zhou, N., Wang, S., & Qiao, J. (2025). Parental responses to children's positive emotions: An integrative, heuristic framework and literature review. *Developmental Review*. https://doi.org/10.1016/j.dr.2025.101233
- **Cao, H.,** Zhou, N., Wang, Y., & Liu, Y. (2025). Parental social comparison shaming hinders Chinese adolescents' presence of life meaning through thwarting satisfaction of need for competence, especially for those endorsing reciprocal filial piety. *Child Development*. https://doi.org/10.1111/cdev.70000
- Wang, S., Zhou, N., **Cao, H.,** & Lin, X. (2025). Linking deprivation in early childhood with academic performance in middle adolescence through cognitive ability in middle childhood: Nuance by specific cognitive component and heterogeneity by child negative emotionality. *Development and Psychopathology*. https://doi.org/10.1017/S0954579425100813
- **Cao, H.,** Zhou, N., Qiao, J., Wang, L., Liang, Y., Li, Y., Wu, S., Jiang, Z., & He, J. (2024). Gender minority stressors and psychological distress among Chinese transgender and gender diverse people: Variable-centered, person-centered, and psychological network approaches. *Archives of Sexual Behavior*. https://doi.org/10.1007/s10508-024-03003-3




WHAT IS THE BRAIN DOING WHEN WE SLEEP?
BRAINWAVES
AWAKE
STAGE 1
STAGE 2
STAGE 3
REM
EEG
TIME (SECONDS)


Department of Psychology
The University of Hong Kong
9th Departmental Research Postgraduate Symposium
October 06, 2023 (Friday)
The Chamber, 11/F, The Jockey Club Tower




11th Departmental Research Postgraduate Symposium
November 05, 2025 (Wednesday)
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