GET TO KNOW US
AND
OUR WORK

DEPARTMENT OF PSYCHOLOGY
The Department of Psychology at HKU is a key unit of research and teaching within the Faculty of Social Sciences. We are the most comprehensive psychology department in Hong Kong, comprising psychological sciences and neuroscience as well as professional disciplines including both clinical psychology and educational psychology. We are proud of our commitment to integrating empirical research into our research impact. Our research is structured around four thematic research clusters that represent our core areas of research excellence, each with focal research labs. The areas are:

1. Developmental and Educational Psychology. This cluster is focused on psychological changes across the early and adolescent years, particularly related to educational attainment.

2. Neuropsychology, Cognition, and Human Neuroscience. Research in this cluster is focused on using behavioural and brain responses to understand fundamental psychological phenomena.

3. Sleep, Affective Neuroscience and Stress-Related Affective Disorders. This cluster focuses on research on understanding the neurobehavioral basis of affective regulation and how it is implicated in psychological resilience and stress-related mood disorders.

4. Social/Health Psychology. Research in this cluster focuses on human thoughts, social behaviours and health-related outcomes such as internet usage and addiction, biases, morality and motivational goals.

Cutting across these four research clusters, we are currently home to the prestigious national State Key Laboratory of Brain and Cognitive Sciences (the State Key Lab), in which both applied and basic research is conducted on an internationally distinguished level. We are the only psychology department in Hong Kong that has been recognized for its research excellence by the Ministry of Science and Technology of China to operate a State Key Lab.

This booklet provide 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.
Our Lab

The Community Action Research Lab operates at the dynamic intersection of community, clinical, and political psychology. Our mission centers on advancing the wellbeing of our city’s residents, adopting a broad lens that encompasses physical, mental, and social dimensions. We are dedicated to devising innovative, resource-efficient solutions aimed at enhancing the quality of life for a diverse population.

Our journey often navigates us through both uncharted geographical spaces and intellectual frontiers, reflecting our commitment to addressing complex, real-world challenges. To this end, we leverage an expansive toolkit of research methodologies, ensuring a robust and comprehensive approach to inquiry. This includes:

- Conducting both online and in-lab experiments to test hypotheses in controlled settings and gather empirical data.
- Executing randomized trials to evaluate the effectiveness of interventions, ensuring our strategies are evidence-based and impactful.
- Employing qualitative interviews to delve deeper into individual and community experiences, enriching our understanding with nuanced, personal perspectives.

By integrating these diverse methods, we aim to contribute to the academic discourse and also to translate our findings into actionable strategies that make a significant, positive difference in our community.

Current Research Projects

- Political difference among family members (GRF)
- Stepped-care intervention for teachers with sleep and mood disturbances (HMRF)
- Nature exposure and psychological well-being (Japan Society for the Promotion of Science)
- Facilitators and barriers for the adoption of a spatial exposure system (CRF).

Research Interests

- Boredom
- Lifestyle medicine
- Intergroup relations

Recent Publications

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.

Recent Publications

*co-first authors.

Current Research Projects

- Perceptual awareness and modulation of fear
- The Eye Movement project
- Disrupting fear reconsolidation transcranial magnetic stimulation (TMS)
- The neuropsychological mechanisms of parental distress in mothers with substance abuse

Research Recruitments

Participate in our research studies:
- Implicit Fear Conditioning
- EEG Fear Conditioning study
- Eye Movement & Fear Reconsolidation
- Trauma & Memory
- Personality, Cognitive Bias & Emotion

More information

Please scan this QR code to seek more information
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 neuro-affective 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

- Utilizing transcranial direct current stimulation (tDCS) to boost social pleasure and participation in older lonely individuals
- Reduce high-risk behaviours under chronic stress via tDCS-induced neural plasticity

Recent Publications


More information

Please scan this QR code to seek more information
Our Lab

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).

To this end, a primary research theme of our team has focused on a fundamental aspect of affective science, namely the processing of emotional information.

Research Interests

Specifically, we investigate
- how emotional information is encoded in the human brain,
- how we make emotion-related perceptual decisions, and finally, how alterations to computational and neural systems relevant to emotion processing contribute to the development of psychopathology.

Current Research Projects

- Understanding Perceptual Decision-Making Processes about emotional stimuli
- Computational Modeling of Mental Disorders
- Identify Computational and Neural Correlates and Risk Factors of Depression and Anxiety

Recent Publications


Research Recruitments

- Partial Sleep Deprivation and Eating Behavior
- Exposure therapy for disordered eating and binge eating

More information

Please scan this QR code to seek more information
Our Lab

The SLASH lab aims to enhance the understanding of the processes underlying health behaviour changes and translating this knowledge into effective and scalable interventions. Our current research aims to unravel the mechanisms underlying the link between sleep and eating behaviors. Specifically, our current research projects examine the effects of sleep deprivation on food-related conditioning and the efficacy of exposure therapy for disordered eating behaviors.

Recent Publications

- Chan, W.S. (Revised and resubmitted). Effects of Sleep Deprivation on Food-Related Pavlovian-Instrumental Transfer: A Randomized Crossover Experiment. Scientific Reports.

Research Interests

- The mechanisms underlying the relationship among sleep, self-regulation, and psychopathology
- Efficacy and implementation of digital health interventions
- Treatment for disordered eating and binge eating

Research Recruitments

- Partial Sleep Deprivation and Eating Behavior
- Exposure therapy for disordered eating and binge eating

More information

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

Current Research Projects
- Treat study for Depression in Youths with Delayed Sleep Phase (DELAY Trial)
- Treatment Study for Insomnia in Pregnant Women with Comorbid Insomnia and Depression
- Efficacy of group cognitive behavioural therapy for youth anxiety and insomnia
- Treatment Study for Insomnia in Adolescents with ADHD
- Longitudinal follow-up study of adolescents with eveningness
- Sleep in children with special educational needs (SEN)

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

Recent Publications
Our Lab
The lab is interested in using psychophysical and visual-motor experiments to study visual perception and visual control of actions, especially perception of 3D structure and motion. Our theoretical approach is to model sensory processing as Bayesian statistical estimation.

Lab’s Research Interests
- Visual perception
- Perception and action
- Computational modeling

Current Research Projects
- Visual control of walking to a target
- Perception of 3D surface slant
- Role of symmetry in perception of 3D shape
- Perception of 3D shape from monocular cues
- Visual processing of 3D shape for grasping objects

Facilities in the Lab
- HTC VIVE
- Oculus Rift
- Leap Motion
- nVisor SX111 Heas-mounted Display & InterSense IS-1200 InertiaCam
- 3D Printing
- 3D Glasses
- 3d Guidance Trakstar
- 3D Projector

Selected Publications

More Information
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Our Lab
Our team aims to investigate the cognitive and neural mechanisms underlying decision-making and how these processes go awry in individuals with internet gaming disorder and problematic social media use. Due to the interdisciplinary nature of these research topics, we use a combination of multimodal methods, including behavioral experiments, computational modeling, and neuroimaging techniques.

Research Interests
- Addiction: Decision-making and other cognitive alterations in individuals with addictions. Our lab focuses on internet gaming disorder and problematic social media use.
- Decision-making: Cognitive and neural processes related to various decision situations (e.g., monetary and social).
- Internet Psychology: How does internet use influence our decision-making, learning, and social cognition?

Research Opportunities
We are looking for research interns. Please get in touch with Dr. Yao at ywyao@hku.hk if you are interested in joining us.

Current Research Projects
- Effort-based decision-making
- Reinforcement learning
- Internet gaming disorder
- Problematic social media use

Recent Publications
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

Recent Publications

More Information
Please scan this QR code to seek more information
Our Lab

Emotional experiences and motivational processes accompany our most significant personal experiences and are evolutionary vital for survival. Dysregulations in these processes represent hallmarks of the most prevalent mental disorders, including depression and stress-related disorders. The Neuroscience of Cognition, Affect and Motivation (N-CAM) and the Affect Motivation (BAM) laboratories led by Prof. Benjamin Becker aim at determining how the brain regulates emotional and motivational experiences and how these processes can be improved using novel brain-inspired interventions with the aim to develop innovate and better treatments for mental disorders. To this end the team capitalizes on an entire array of cognitive-affective and computational neuroscience methods, particularly advanced neuroimaging in combination with AI-inspired neural decoding, meta-analytic and transdiagnostic patient studies and precision neuromodulation, including real-time fMRI neurofeedback and neuropeptides. The team is inherently multidisciplinary and truly international with members from Hong Kong, Mainland China, Germany, Italy, Ghana and Kenya and established collaborations that cut across traditional borders and disciplines.

Research Interests

- How does the brain regulate the subjective experience of emotions, including fear, disgust, anxiety, unfairness and love?
- Can we use AI-inspired decoding to precisely read these emotions from brain activity in humans?
- Can we target these brain processes to enhance emotion regulation and motivation?
- Which role do neuropeptides such as oxytocin, vasopressin and angiotensin play in these processes?
- Can neuropeptides or brain computer interface (BCI) based trainings help to treat depression and stress-related disorders

Recent Publications


Research Opportunities

For research opportunities, please contact bbecker@hku.hk
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?

Current Research Projects

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

Recent Publications


More Information

Please scan this QR code to seek more information
Research Interests
Our research interests include reading development and disorders, second language learning, as well as behavioural intervention in individuals with ASD. We study these research questions as a way to understand neural plasticity. We are interested in the neural mechanisms underlying these developmental and learning disorders, as well as how brain structure and function change following behavioural intervention.

Current Research Projects
- Neural responsiveness to intervention in Chinese children and adults with reading disability
- Prognosis and brain developmental changes in Chinese developmental dyslexia
- Critical period in foreign speech imitation
- Figurative language comprehension in adolescents with high functioning ASD

Recent Publications

Research Methods
- fMRI
- fnirs
- EEG
- tDCS+Fnirs

More Information
For research opportunities please contact fancao@hku.hk
The State Key Laboratory of Brain and Cognitive Sciences
Director: Professor Tatia Mei-chun LEE

Our Lab
In 2005 October, with the approval of the Ministry of Science and Technology of China, The University of Hong Kong established the State Key Laboratory of Brain and Cognitive Sciences (SKLBCS), a strategic platform for cutting-edge research on human neuroscience. The SKLBCS focuses on understanding and unravelling the neuroplastic underpinnings of the neurocognitive and affective functions regulating and promoting the human brain and psychological health.

The SKLBCS adopts an interdisciplinary and multilayer research approach to integrate animal and human research findings to understand the neural underpinnings of human cognition and emotion, and, furthermore, the influence of the biopsychosocial environments on these neurocognitive and affective processes regulating the brain and psychological health.

Recent Publications

Research Platforms

InnoCentre of Clinical Neuropsychology
- The Innocentre of Clinical Neuropsychology is the translational arm of the SKLBCS. The goal is to develop and validate potential diagnostic and intervention protocols for patients suffering from neurodegenerative changes and/or neurocognitive/affective deficits.

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

Neuroimaging Unit
- The Neuroimaging Unit is equipped with a 3T MRI scanner for neuroimaging research.

Wet Lab
- The Wet Lab is equipped with commonly used equipment for cellular, biochemical and molecular experiments including: Biological Safety Cabinet II (BSC II), MiniAMP Plus Thermal Cycler, ID3 Microplate Reader, Low Temperature Centrifuge, and Fluorescent Microscopic, etc.

More information
Please scan this QR code to seek more information
Our Lab
The Children's Language and Learning (ChiLL) Lab investigates how children develop language skills and learn through play. We are interested in understanding children's language and social development through behavioural and educational neuroscience. Our research aims at developing effective interventions that support the learning and welling of children with special needs in early childhood.

Current Research Projects
- ASD Children's Language & Social Development in Free Play
- Children's Reading Fluency and Prosody
- Executive Functions & Early Fluency Skills in Preschool Children
- Assistant Reading Pen Program

Recent Publication

Research Interests
My research team is interested in understanding reading, thinking and learning in children and teenagers. We are actively engaged in developing educational interventions to enhance children’s learning and reading, especially for children with autism spectrum disorder (ASD) and attention-deficit/ hyperactivity disorder (ADHD). We work closely with teachers and parents in providing a nurturing environment for the growth and development of children and adolescents.

More Information
Please scan this QR code to seek more information
The Child and School Psychology Laboratory is dedicated to exploring language and socioemotional development and 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 welcome motivated students interested in our projects to join our team!

Current Research Projects
- Jockey Club Keen and Active Kids Project
- Effects of near-infrared spectroscopy neurofeedback training coupled with virtual reality technology in children with ADHD
- Social coping strategies across autistic and non-autistic people
- Development of emotion regulation among school-aged children with ADHD

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

Recent Publications
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
- Development of a locally standardized assessment tool for identifying children with mathematics learning disabilities
- Development of a game-based electronic learning platform for support children’s mathematics learning
- Improving arithmetic principle knowledge through structurally aligned arithmetic exercises.
- Exploring the causal relation between spatial skills and math competence through a game-based spatial skills training: A randomized controlled trial
- A longitudinal investigation on the relation between logical reasoning and mathematical competence

Recent Publications
- Wong, T. T.-Y. & Yip, E. S.-K.# (2023). What is the unknown? The ability to identify the semantic role of the unknown from word problems longitudinally predicts mathematical problem solving performance. Contemporary Educational Psychology, 73, 102183.

Research Opportunities
Our lab is currently running several electronic learning platforms that aim to improve the mathematics learning of junior primary school students. Interested parties may visit our website (see below) and leave your contact there for further details.

More Information
![Lab’s Website](image1)
![Electronic learning platforms](image2)
Multiple Ms (i.e., Mothermood, Marriage, Maltreatment, & Minority) (M&M) Laboratory

Principal Investigator: Professor Hongjian CAO

Our Lab and Interests

Broadly, this lab primarily focuses on research concerning: (a) maternal adaptation (e.g., perinatal psychopathology) during the transition to parenthood and its implications for child and parental development over the lifespan; (b) early parental emotion socialization (especially their responses to child distress such as crying) and child development from infancy through early adolescence; (c) early childhood adversities (especially psychological maltreatment and extreme [economic] deprivation) and subsequent adjustment over the life course from developmental cascades perspective; (d) (newlywed) couples’ relationship well-being and its key predictors, especially in historically underrepresented, non-Western family systems; and (e) parent-child and couple relationships within socially disadvantaged/marginalized minority family systems, particularly LGBTQ+ families.

In addition, we also conduct some research on: media use and child development (e.g., child and adolescent screen time, problematic cell phone use, Internet gaming disorder); the implications of family transitions for child development (especially parental divorce/separation); the implications of parental navigation of work-family issues for their psychological well-being and parental functioning; career development guidance (e.g., career-related parenting) during adolescence et al.

Current Research Projects

- Some of the ongoing research projects in this lab include:
- Early Exposure to Life Adversities (e.g., Child Maltreatment, Peer Victimization, Deprivation) and Subsequent Development over the Life Course from a Developmental Cascades Perspective;
- Media Use, Media-Related Parenting, Daily Affects, Physiological Activities (e.g., autonomic regulation and sleep quality), and Mental Health among Young Children, Adolescents, and Emerging Adults;
- Minority Stress and Personal/Relational/Familial Well-Being among Sexual and Gender Minority (LGBTQ+) People;
- Parental Socialization of Child Positive Emotions
- (Chinese) Couple Relationship Well-being and its Key Determinants.

Research Opportunities

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

Our Lab
The lab is focused on social psychology and judgement and decision-making, implementing and promoting open-science. Broadly, we aim to understand why people make decisions and choices in the way that they do. We explore topics such as biases and heuristics, folk psychology, and lay-beliefs (e.g., agency and choice). We support the open-science movement and recent advances in psychological science to conduct pre-registered replications and pre-registered meta-analyses. Since 2018, we've been running a massive student-led open-science pre-registered replications and extensions project.

Research Interests
- Judgment and decision making, heuristics and biases
- Choice, agency, and related lay-beliefs
- Morality and folk psychology
- Personal values
- Helping, giving, & addressing urgent challenges (doing more good and doing good better)

Methodology
- Supporting and implementing open-science
- Mass pre-registered replications and pre-registered meta-analyses:

More Information
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Recent Publications
- Chan, C., & ^Feldman, G. (2024). The impact of Empathy on Forgiveness: Replication and extensions Registered Report of McCullough et al. (1997)'s Study 1. Endorsed by Peer Community in Registered Reports. DOI: 10.24072/pcrirr.100444
Research Interests

Our lab's directions mainly focus on:

- Ostracism/social exclusion
- Objectification and sexual objectification
- Aggression and prosocial behavior
- Positive psychology (e.g., humility, compassion, and self-compassion)

Current Research Projects

- The Psychology Of The Chinese People: A Large-scale Survey: We are currently working on a very exciting large-scale survey examining regional differences in China on a series of psychology outcomes.
- “Objectification Decreases Prosocial Behavior: Mediating Roles Of Self-objectification And Relative Deprivation” (funded By General Research Fund): We have two projects testing how various factors influence prosocial behavior.

Recent Publications


More Information

Please scan this QR to seek more information
Social and Health Psychology Laboratory
Principal Investigator: Professor Cecilia CHENG

Research Interests

My research team is interested in understanding reading, thinking and learning in children and teenagers. We are actively engaged in developing educational interventions to enhance children’s learning and reading, especially for children with autism spectrum disorder (ASD) and attention-deficit/ hyperactivity disorder (ADHD). We work closely with teachers and parents in providing a nurturing environment for the growth and development of children and adolescents.

Recent Publications


Current Research Project

- Game Over Program

Research Internship

The success of our lab depends on the involvement of dedicated undergraduate students. Getting involved with research as an undergraduate is a great way to learn more about psychology and get hands-on experience. Research experience is also valuable for students considering going on to graduate school.

Students interested in applying should send a CV via email (ceci-cheng@hku.hk).

More Information

Please scan this QR code to seek more information
9th Departmental Research Postgraduate Symposium
October 06, 2023 (Friday)
The Lecture, L9, The Rutton Club Yuen
Department of Psychology
General Office
Room 627, The Jockey Club Tower,
Centennial Campus,
The University of Hong Kong,
Pokfulam Road, Hong Kong

Tel: (852) 3917-7122
Email: dpsychol@hku.hk
Website
https://psychology.hku.hk/