



NEWSLETTER



AUGUST 2026 ISSUE #2

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and NHG Translational Research
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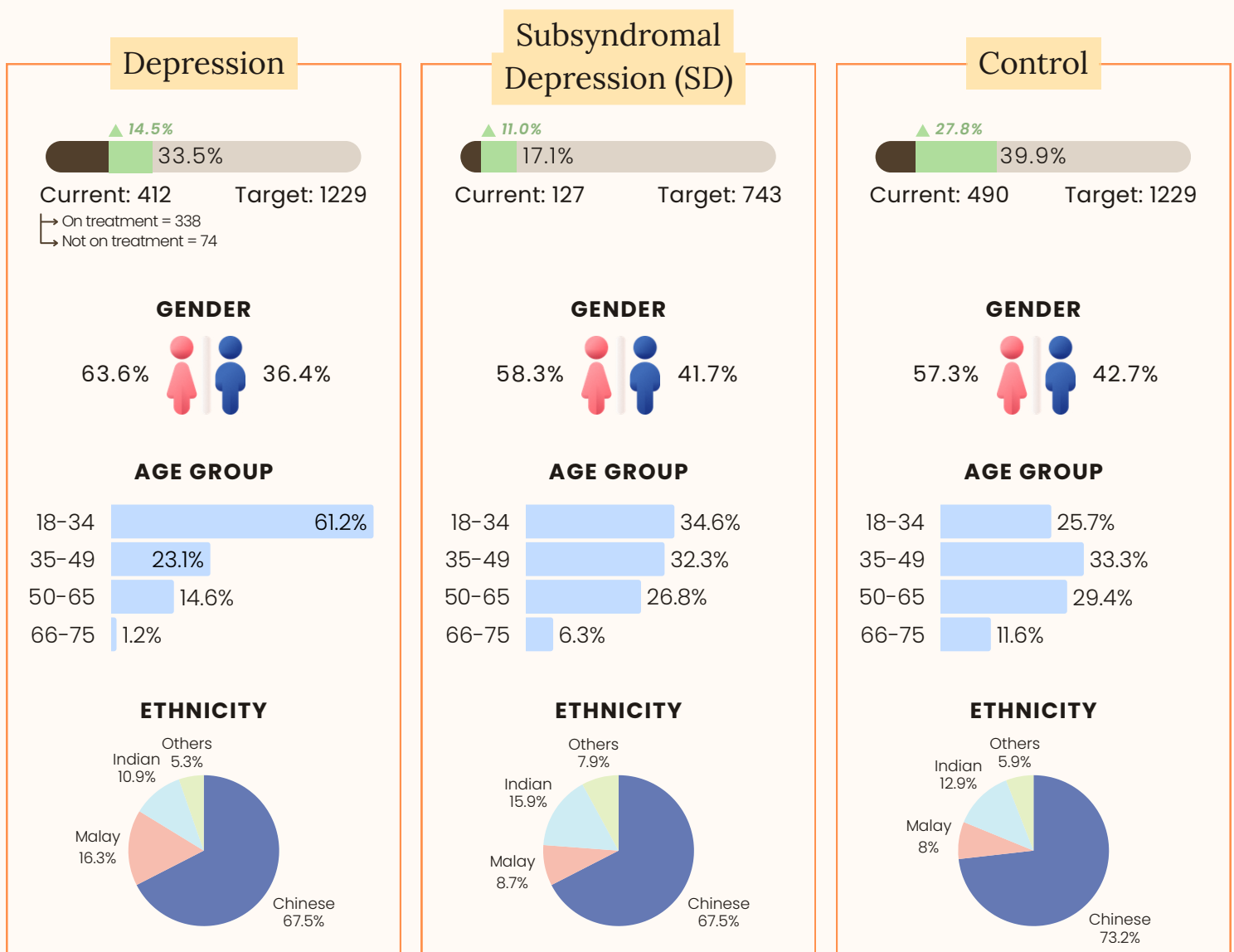
PREDICT Cohort Study

Recruitment Status

As of 30 June 2026, a total of **1029** participants have been enrolled in the main study.

Public interest in the study remains strong as the official website continues to receive a high number of new sign-ups every month. Response rates are also favourable among participants from earlier epidemiological studies who consented to be recontacted. Recruitment of patient populations has extended beyond IMH outpatient clinic and Hougang Polyclinic to include IMH satellite clinic at Geylang. The study team has stepped up recruitment efforts to increase outreach among both the general public and patient populations.

We are grateful to our participants and to the public for their continued interest and support of the PREDICT study.



What do the blood test results show? Snapshot of blood marker abnormalities

As part of the PREDICT study, we examined markers of abnormal cholesterol and blood sugar levels among participants. Depression is closely linked to metabolic and lipid disorder through shared pathways involving insulin resistance, hormonal dysregulation, and lifestyle factors. Looking at blood sugar and cholesterol together with mental health can give us a more completed picture of a person's overall health and wellbeing.

Among 599 participants with available results, **nearly 4 in 10 (39.9%)** had elevated total cholesterol, while **about 1 in 4 (26.4%)** had high LDL ("bad") cholesterol. **About 1 in 8 (13.2%)** had an unfavourable total cholesterol-to-HDL ratio. High triglycerides and low HDL ("good") cholesterol were less common, affecting 7.7% and 7.0% of participants, respectively. For blood sugar, **about 1 in 8 (11.9%)** had an elevated HbA1c level, while **about 1 in 17 (5.9%)** had raised fasting glucose levels.

Beyond contributing to research, these blood tests also provided participants with useful information about their physical health. For some, the results may have highlighted previously unrecognised conditions that could be followed up with their healthcare providers. For others with known conditions such as high cholesterol or diabetes, the results may have offered an opportunity to review whether these conditions were being adequately managed.

As PREDICT study participants continue to be followed over time, combining physical health measures with mental health assessments may help researchers better understand how physical and mental health are interconnected. These findings may ultimately inform more holistic approaches to reducing disease burden, preventing and managing comorbid physical and mental health conditions.

	Blood Markers	N (%)
LIPID PROFILE	Total Cholesterol	239 (39.9%)
	HDL Cholesterol	42 (7.0%)
	LDL Cholesterol*	121 (26.4%)
	Cholesterol/HDL Ratio	79 (13.2%)
	Triglycerides	46 (7.68%)
DIABETES MELLITUS PROFILE	Fasting Glucose	35 (5.9%)
	HBA1C	72 (11.94%)

*Missing value, n = 149

Research Spotlight

34th European Congress of Psychiatry

The 34th European Congress of Psychiatry, organised by the European Psychiatric Association, was held earlier this year from 28 to 31 March 2026 in Prague, Czech Republic. The motto for the 2026 Congress was *"Mental Health: Improving Care and Expanding Horizons"*. The Congress brought together mental healthcare leaders, clinician scientists, researchers and allied professionals from different parts of the world.

Two abstracts from the PREDICT study were selected for ePoster presentation at the Congress. The Principle Investigator and two co-investigators of the PREDICT study attended in person, where they participated in the scientific sessions covering emerging research evidence, best practices in mental health research, and the latest developments in psychiatric care.

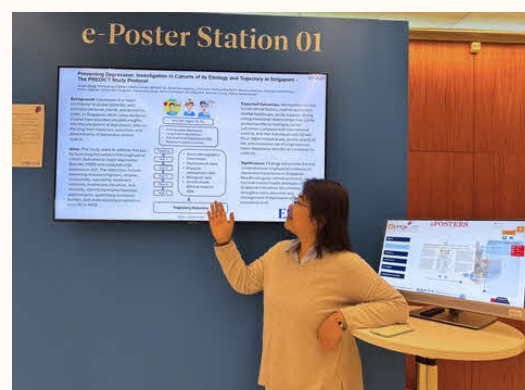
In addition, the team members had the honour to introduce the PREDICT study to an international audience. Read about the presentations on PREDICT's research protocol and preliminary findings in the next two pages!



Dr Janhavi Vaingankar (above) and Ms Zhang Yunjue (Carol) (below) presenting their e-posters on the PREDICT study.



From left to right: A/Prof Prof. Mythily Subramaniam (Principal Investigator), Ms Zhang Yunjue (Carol), Dr Janhavi Vaingankar



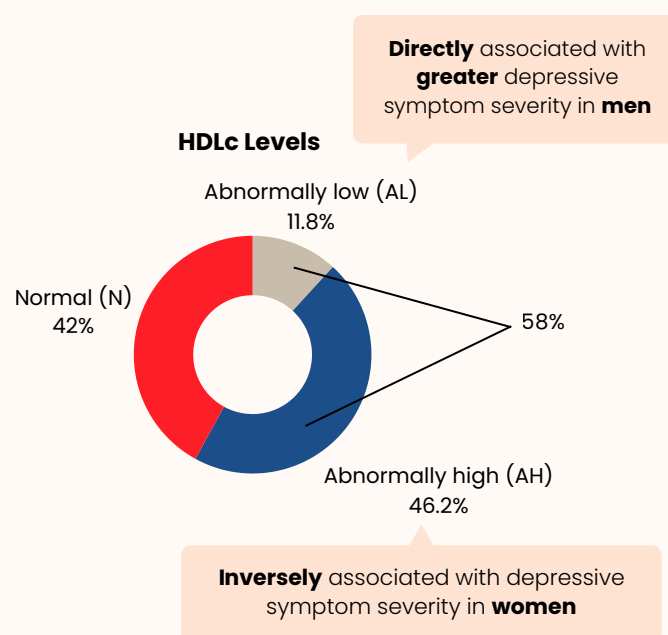
Association of abnormal high-density lipoprotein cholesterol with depressive symptoms and variations by gender: Preliminary results from Singapore's PREDICT study

Emerging research suggests that high-density lipoprotein cholesterol (HDLc) – commonly referred to as "good cholesterol" – may have implications beyond cardiovascular health, with potential links to mental health outcomes. A recent study from Singapore's PREDICT cohort examined this relationship in a sample of 212 adults aged 18 to 75 years, comprising both individuals diagnosed with major depressive disorder (MDD) and general population controls without any psychiatric diagnosis. The sample was predominantly Chinese (76.9%), with women accounting for 59.4% of participants. Depressive symptom severity was measured using the validated Patient Health Questionnaire (PHQ-9), and serum HDLc levels were categorised as abnormally low (AL), normal (N), or abnormally high (AH).

Abnormal HDLc was highly prevalent, affecting 58% of the sample – 11.8% with low and 46.2% with high levels. Two statistically significant associations were identified. Abnormally low HDLc was directly associated with greater depressive symptom severity, while high HDLc was inversely associated with symptom severity, both relative to normal HDLc levels. The association between low HDLc and greater symptom severity remained significant after adjustment for age, ethnicity, body mass index, mental health treatment, and history of chronic conditions.

Stratified analyses further revealed meaningful gender differences. The direct association between abnormally low HDLc and greater symptom severity was observed predominantly in men, while the inverse association between abnormally high HDLc and fewer symptoms was more pronounced in women.

These preliminary findings suggest that **HDLc levels may be a clinically relevant biological marker in depressive disorders**, with both abnormally low and abnormally high levels associated with distinct symptom profiles. The gender-specific nature of these associations warrants further investigation in larger, more diverse cohorts. In the interim, the results highlight the importance of monitoring HDLc levels as part of a holistic approach to managing depression.



Abstract presented at EPA26 by:



Dr Janhavi Vaingankar

Director
Research Division
IMH, NHG Health

Preventing Depression: Investigation in Cohorts of its Etiology and Trajectory in Singapore - The PREDICT Study Protocol

Depression is a major contributor to global disability, with profound personal, social, and economic costs. In Singapore, while cross-sectional studies have provided valuable insights into the prevalence of depression, data on the long-term trajectory, outcomes, and determinants of depression remain scarce.

Study Design

N = 3201 (Aged 18-75)

- First-episode depression
- Long-history depression
- Subsyndromal Depression (SD)
- Matched healthy controls

Baseline

Year 1

Year 2

Year 3

Year 4

Year 5

- Socio-demographic information
- Psychosocial data
- Physical assessment data
- Biological data
- Sociocultural & social support data

Trajectory Outcome

This study seeks to address this gap by launching the nation's first longitudinal cohort dedicated to major depressive disorder (MDD) and subsyndromal depression (SD). **The objectives include examining disease prognosis, relapse, comorbidity, suicidality, treatment response, healthcare utilization, and mortality, identifying biopsychosocial determinants, quantifying economic burden, and understanding progression from SD to MDD.**

The study hypothesizes that sociocultural factors, such as accessible mental healthcare, social support, strong intergenerational relationships may confer protective effects leading to better outcomes compared with international cohorts, and that individuals with SD will incur higher resource use, poorer quality of life, and increased risk of progression to major depressive disorder as compared to controls.

Findings will provide the first comprehensive longitudinal evidence on depression trajectories in Singapore. Results will guide clinical protocols, inform national mental health strategies (including Singapore's Healthier SG initiative), and strengthen early detection and management of depression at the population level.

Abstract presented at EPA26 by:



Zhang Yunjue (Carol)

Senior Manager
Research Division
IMH, NHG Health

i-STAIR Study

Internet-delivered Skills Training in Affective and Interpersonal Regulation

The first group of participants has successfully completed the i-STAIR and psychoeducation interventions and all participants received their Certificates of Completion. Hearty congratulations to all our participants!

The i-STAIR intervention involves 8 weeks of emotion regulation and interpersonal skills training. Participants role-play the skills learned during session and practice them at home and in social interactions as part of their weekly homework activities. The psychoeducation intervention involves 8 weeks of guided and self-guided sessions covering adverse childhood experiences, subsyndromal depression, and healthy lifestyle strategies.



The study team underwent weekly group supervision with A/Prof. Clare Henn-Haase, our licensed STAIR supervisor and co-investigator of the study. Through these supervision sessions, the study team has received valuable advice and developed meaningful insights to navigate challenges and deliver the interventions competently and effectively. Moving forward, the study team is enrolling the next group of participants for the i-STAIR and psychoeducation interventions.



From left to right, top to bottom: Ms. Shazana Shahwan, A/Prof. Clare Henn-Haase, Dr Liu Jianlin, Ms. Arunika Pillay

We are excited to meet our new participants and we look forward to working and journeying with them on their individual learning journey.

Mobile Intervention

A key milestone reached!

PREDICT Sub-study 3 is moving into an important new phase, following key progress on both governance approvals and digital platform development.

A major milestone was reached with the finalisation of RCA Schedule 1 with project partner QUILT. The document has now been submitted to NHG for legal review, bringing the collaboration one step closer to formalisation. This is an important foundation for the sub-study, as it ensures the necessary institutional safeguards are in place before the main study activities begin.

Alongside this, QUILT has completed a significant upgrade of its digital platform. The upgrade included a comprehensive redevelopment of the video generation system and the participant-facing mobile application. While this resulted in a slight adjustment to the study timeline, the enhanced platform is expected to strengthen the quality, reliability, and user experience of the digital intervention.



With the upgraded system now in place, the study team is preparing to begin Phase 1 co-development since mid-June. This next phase will involve working closely with end users to refine the platform and ensure that the intervention is practical, acceptable, and relevant to participants' needs.

Both IMH and QUILT are currently aligning resources to support a smooth launch of the co-development phase, marking an important step forward for the digital intervention component of the PREDICT programme.

Testimonials

Hear from our participants!

“The staff were friendly and patient, making the entire process and the experience seamless and pleasant, it's a worthwhile effort contributing to something meaningful.”

“I am glad to have participated in the study as it gave me a meaningful opportunity to contribute to research that benefits the wider community. It feels rewarding to know that my involvement can help support better understanding and improvements in healthcare for others in the future.”

“From the beginning, YBT was patient, kind, and attentive. She took the time to explain the study procedures clearly and listened thoughtfully when I shared my concerns about a previous unpleasant blood-drawing experience in another study. What I appreciated most was her honesty and empathy. Rather than dismissing my fears, she acknowledged them and reassured me.

This morning, MY completely exceeded my expectations. The process was swift, smooth, and virtually painless. Her professionalism and gentle approach turned what I had anticipated with worry into an unexpectedly pleasant experience.

Together, the researchers demonstrated the importance of communication, empathy, and technical excellence in research. Their care and dedication have not only eased my fears but also strengthened my confidence in participating in the study.

Wishing the entire team continued success and thank you for the meaningful work that you do.”

75th Lindau Nobel Laureate Meeting

The Lindau Nobel Laureate Meetings are among the most prestigious scientific gatherings in the world. Established in 1951, the annual meetings bring together Nobel Laureates and outstanding early-career researchers for a week of lectures, panel discussions, and networking sessions, designed to foster inspiration and cross-disciplinary collaboration.

Dr Liu Jianlin, Senior Research Fellow from IMH's Research Division and co-Investigator of the PREDICT study, was among the 600 young scientists worldwide to attend the 75th Lindau Nobel Laureate Meeting held in Germany from 28 June to 3 July 2026.

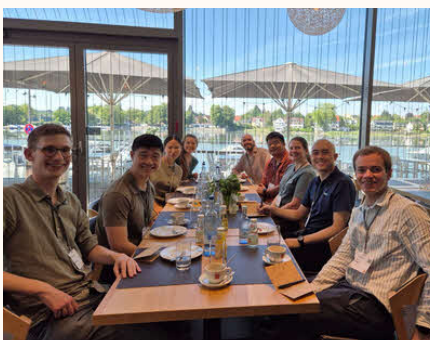
Dr Liu had the opportunity to attend lectures by Nobel Laureates and engage directly with some of the world's leading scientific minds. Beyond the conference, he will join the Lindau Alumni network – a global community of scientists committed to advancing scientific dialogue across cultural and national boundaries. The PREDICT study team would like to convey our heartiest congratulations to Dr Liu.

A short message from Dr Liu:

"It is truly an honour to be selected for this prestigious event. I am grateful to the National Healthcare Group (NHG) Health, National Research Foundation (NRF), and the Council for the Lindau Nobel Laureate Meetings for their trust and support. I was deeply encouraged by the presentations and conversations, which convinced me that mental health research has its value and significance even in a meeting that is predominantly focused on the physical sciences. I am keen to pursue novel research topics and explore new methodologies and new approaches to tackling pressing issues in mental health. As part of the Lindau Alumni Network, I am inspired and motivated to strive for excellence in advancing mental health research through active collaborations with like-minded and passionate individuals across the globe."



Dr. Jasbir Singh (Director NRF) and Young Scientists in cultural outfits for Bavarian evening



Afternoon tea with some of the International Young Scientists



Evening sunset with Mr Heng Swee Keat (Chairman NRF) and Young Scientists from Singapore

NMRC Research Training Fellowship

The National Medical Research Council (NMRC) Research Training Fellowship (RTF) is a highly competitive programme and is awarded to outstanding and talented clinicians and health science/healthcare professionals for research training to have qualifications and skills to become clinician scientists/innovators. The NMRC Awards Ceremony was held on 22 May 2026.



Mr. Poh Zhi Qian Brian (2nd Row, 3rd from left; Dr Ying Jiangbo John (2nd Row, 4th from the left)

The PREDICT study is proud to share that **Dr Ying Jiangbo John** and **Mr Poh Zhi Qian Brian** have received the **NMRC Research Training Fellowship** and will be conducting their research under the PREDICT study umbrella.

Their upcoming projects expand the scientific scope of PREDICT by exploring important and emerging areas in depression research. One project will investigate the relationship between depression and the gut microbiome, contributing to a growing body of evidence on the biological pathways that may be associated with mental health. The other project will focus on person-centred biopsychosocial subtyping and the use of explainable machine learning to better understand patterns of depression across biological, psychological, and social domains.

Together, these projects will leverage the rich data and research platform established by PREDICT, while generating new insights that may support more precise identification of depression subgroups and inform future approaches to prevention, assessment and intervention.

This is an exciting milestone for the team and reflects the growing research capacity, innovation, and collaborative potential within the PREDICT platform. Read on to learn more about their upcoming research!

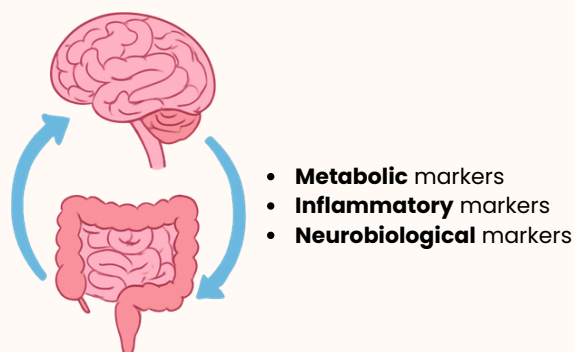
Microbiome in Depression (MIND) Project

The National Medical Research Council (NMRC) Research Training Fellowship supports the Microbiome in Depression (MIND) project, a key initiative that builds directly on the strengths and longitudinal depth of the PREDICT study cohort.

By leveraging PREDICT's rich clinical, behavioural, and biological data, the MIND project seeks to **advance understanding of how oral and gut microbiota contribute to depressive symptoms and their underlying neurobiological mechanisms.**

The MIND Project is structured around two main components: a large-scale observational study and a randomized dietary intervention trial. Together, these sub-studies are designed to **systematically characterize microbiome profiles across a spectrum of depression severity**, from mild symptoms to clinically significant disorders. In parallel, they **evaluate targeted, microbiome-modulating strategies**—particularly dietary interventions—that may offer therapeutic benefit.

A key strength of the MIND project lies in its integrative, multidimensional approach. By combining microbial sequencing data with metabolic, inflammatory, and neurobiological markers, the study aims to elucidate the complex interactions that define the gut-brain axis. These insights are expected to advance understanding of how microbiota influence mood regulation, and emotional resilience, thereby uncovering biologically grounded mechanisms linking physical and mental health.



Importantly, the dietary intervention arm provides an opportunity to assess causality and therapeutic potential. By modulating the microbiome through carefully designed nutritional strategies, the study evaluates whether such interventions can lead to measurable improvements in depressive symptoms and related biological signatures.

Ultimately, the MIND project aims to bridge the gap between clinical psychiatry and microbial science. Its findings have the potential to inform innovative, non-pharmacological interventions that complement existing treatments for depression. By identifying modifiable biological pathways and lifestyle factors, this research supports the development of more holistic, personalised, and evidence-based approaches to mental healthcare, with the goal of improving patient outcomes and expanding the range of effective treatment options. This research is supervised by A/Prof Mythily Subramaniam (IMH), A/Prof Sunny Wong (LKCMedicine, NTU), and Asst Prof Bridgette Wilson (SIT).

Project led by:



Dr Ying Jiangbo John

Consultant,
East Region
IMH, NHG Health

Person-Centred Biopsychosocial Subtyping and Explainable Machine Learning for Depression Risk in a Multi-Ethnic Asian Cohort

Depression is one of the most common mental health conditions in Singapore, with a lifetime prevalence of 6.3%. Yet despite decades of research, we still have a limited understanding of why some people develop depression and others do not, particularly in a multi-ethnic society where psychological, social, family, and cultural influences are deeply intertwined.

This project will be working to address this through an extension of the PREDICT Study. His research, supported by the NMRC Research Training Fellowship, focuses on **identifying distinct biopsychosocial risk profiles for depression in Singapore's multi-ethnic population using a combination of latent profile analysis and explainable machine learning.**

While building on the rich PREDICT battery, the study introduces three new measures that target areas not currently covered in the main study. The Parental Bonding Instrument and the Family Emotional Involvement and Criticism Scale examine **how parenting quality and family emotional dynamics contribute to depression risk**, an important consideration in Asian contexts where family relationships play a central role in mental wellbeing. The Cultural Values Scale goes a step further by **measuring individual-level cultural values such as collectivism, power distance, and uncertainty avoidance**, moving beyond ethnicity as a simple demographic category to explore the psychological mechanisms that may differ across Chinese, Malay, and Indian communities.



With a target of 500 participants across depressed and healthy control groups, the study will use latent profile analysis to uncover naturally occurring subgroups of risk. These subgroups will be examined for clinical and cultural differences across ethnic groups. The study will then apply explainable machine learning methods, including SHAP values and decision trees, to develop a risk classification tool that is not only accurate but transparent enough to be useful in everyday clinical practice.

The research is supervised by A/Prof Mythily Subramaniam (IMH) and A/Prof Konstadina Griva (LKCMedicine, NTU). Building directly on the infrastructure and expertise of the PREDICT Study, the findings are expected to contribute to more personalised and culturally sensitive approaches to depression screening and care in Singapore and beyond.

Project led by:



Mr Poh Zhi Qian Brian

Principal Clinical Psychologist,
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