

Large Scale Genetics Study Reveals Biological Insights for Cognitive Abilities

Researchers from the Institute of Mental Health, Singapore and the Feinstein Institute for Medical Research, New York, have jointly discovered dozens of new genetic variations associated with an individual's general cognitive ability. Dr. Max Lam, a research fellow from the Institute of Mental Health, Singapore, is the lead author of the findings published in Cell Reports. The results of the consortium based research have the potential to help researchers develop more targeted treatments for cognitive and memory disorders.



For the first time, researchers are able to use genetic information that may aid specific drug development for cognitive disorders of the brain, including Alzheimer's disease, Schizophrenia, and Attention Deficit Hyperactivity disorders. In the largest peer-reviewed study of its kind, an international team of scientists studied genes associated with cognitive ability by examining the human genomes of more than 100,000 individuals who had their cognitive ability measured by standardized cognitive tests. These data were then combined with genomes from 300,000 people measured for the highest level of education achieved, a proxy for cognitive ability.

While profiling cognitive ability, researchers also discovered a genetic overlap with longevity, whereby higher cognitive ability was associated with longer lifespan. A new genetic overlap between cognitive ability and risk for autoimmune disease was also identified. This study appears less than a year after the same team of scientists published a similar smaller study in Molecular Psychiatry that was only able to identify a few key genes associated with cognitive ability.

The field of cognitive and psychiatry genomics is growing by leaps and bounds, because the number of genes we can discover is a direct

function of the sample size available. Further research with additional samples is likely to provide even more insight into how our genes play a role in cognitive ability. Dr. Lam is currently the lead analyst for international consortium such as the Cognitive Genomics Consortium and the Psychiatric Genomics Consortium which is currently investigating data from over 100,000 individuals on how the human genome might implicate Schizophrenia in Asian populations.

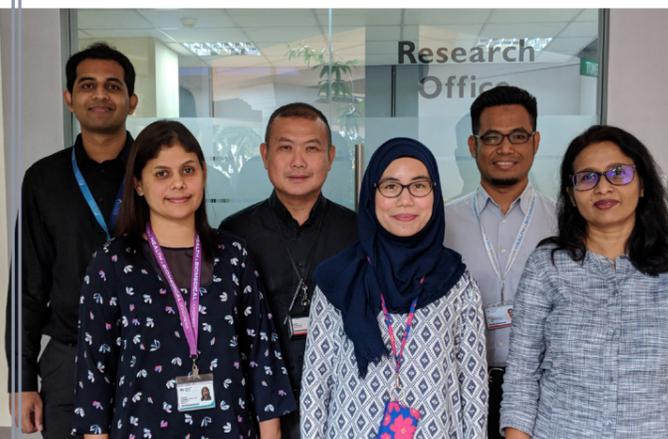
Lam, M., Trampush, J. W., Yu, J., Knowles, E., Davies, G., Liewald, D. C., ... Lencz, T. (2017). Large-Scale cognitive GWAS Meta-analysis Reveals Tissue-Specific Neural Expression and Potential Nootropic Drug Targets. *Cell Reports*, 21(9), 2597-2613.

Trampush, J. W.*, (Lam, M) Yang, M. L. Z.*, Yu, J., Knowles, E., Davies, G., Liewald, D. C., ... Lencz, T. (2017). GWAS meta-analysis reveals novel loci and genetic correlates for general cognitive function: a report from the COGENT consortium. *Molecular Psychiatry*, 22(3), 336-345. <https://doi.org/10.1038/mp.2016.244>

*Joint First Authorship.

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Case Management in Early Psychosis Intervention Programme: Perspectives of Clients and Caregivers.



EPIP case managers collaborated with researchers from the Research Division to complete this qualitative study which explored the perspectives of EPIP clients and caregivers on case management with the intent to understand the salient aspects of case management from their perspective.

Clients and their caregivers were recruited from the EPIP outpatient clinics. Focus group discussions (FGDs) were conducted at a community centre outside the hospital with 47 clients and 19 caregivers. Facilitators were experienced researchers who were not involved in the care of the clients and trained in qualitative research methodologies. All FGDs were audio recorded and transcribed verbatim with all participants' identifiers omitted to protect confidentiality. Qualitative data analysis was conducted using thematic analysis.

Common Themes from Client (C) and Caregiver (CG) Focus Group Discussions

1	Therapeutic alliance
2	Holistic monitoring
3	Collaborative role with other care providers
4	Counselling and guidance
5	Crisis management
6	Bridging role
7	Client-centered care
8	Client empowerment and strength building
9	Psychoeducation / educate on illness
10	Support
11	Problem solving

*'Problem solving' surfaced only from the client FGDs; the remaining themes were common to both groups.

Holistic Monitoring

C7: "When you see doctor, they all want to know do you have any problem regarding your illness. But the case manager is to understand more on your life problem, any problem"

CG9: "she do check on my sisters, my another sister and my wellbeing also at the same time on the patient"

Collaborative role with other care providers

C7: "Even though they are not there, they always discuss with the... psychologist.. and then with doctor to see how am I doing lah"

CG13: "... he will also consult the doctor when i say ok ah this medicine ...gives some side effects so i just feedback to the case manager.. who will discuss with the doctor... next time when i visit the doctor ah usually is either the dosage is adjusted or a new medicine is introduced"

The voices of clients and caregivers are important to EPIP case management service. This study has provided insights into their perspectives, understandings and lived experiences of case management and its impact on clients and caregivers.

More information about the study can be found at <http://onlinelibrary.wiley.com/doi/10.1111/eip.12534/full>

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