

Eye temperature link to mental illness

By [Alfred Health](#) on Monday, June 6

A new, innovative study will investigate whether there is a link between clinical depression and eye temperature.

Chief investigator Dr Jerome Maller, an NHMRC research fellow with Monash Alfred Psychiatry Research Centre (MAPrc), says his interest was sparked in the link between core body temperature and psychiatric disorders, following other studies that revealed people with schizophrenia had higher temperatures than those with no mental illness.

“We want to take those findings one step further and see if it isn’t just schizophrenia that is affected but if core temperature is altered in other psychiatry illness, such as clinical depression,” Jerome explained.

“A substantial percentage of the people we treat in MAPrc have treatment-resistant major clinical depression.

“There are certain neuro-psychological similarities between psychiatric disorders – schizophrenia and depression have different symptoms but in both the brain activity is altered. Perhaps the similarities are reflected in core body temperature.”

The idea is that if a person is hotter, their brain activity is affected.

“There may be a relationship between temperature and degree of symptoms. We would expect the hotter the core temperature, the more severe the depression,” Jerome added.

Instead of using the more common and invasive ways of monitoring body temperature via the ear or rectum, this study will use cutting edge technology - a highly sensitive thermographic camera.

“With the camera focused on the person’s eyeballs, it can detect the temperature, which is then analysed via a computer program. As we know, just a degree or two difference in body temperature is significant,” Jerome said.

Environmental controls will be in place to ensure temperature and humidity remains constant, as the camera is very sensitive to subtle fluctuations.

If, as expected, those with depression have consistently higher temperatures than the healthy control group, the next step will be looking at whether a reduced body temperature affects behaviour in those with depression.

The study is being done in conjunction with LaTrobe University, with visiting research fellow Paul Junor and research student Shefin George involved from a biomedical engineering perspective. MAPrc deputy director Professor Paul Fitzgerald is also a study investigator

Recruitment is currently underway, with 30 participants, half of them with clinical depression. Results from the study are expected in six months.



Research fellow Dr Jerome Maller has his eyeballs photographed with a special heat sensitive camera.