

# Depression does 'make your brown eyes blue'

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This is Dr. Uri Polat of the Goldschleger Eye Institute at Tel Aviv University.  
Credit: AFTAU

It's more than just feeling bad. Clinical depression affects the way we process information in the brain, negatively affecting memory, attention span, and the brain's ability to learn new things. Now Tel Aviv University research has provided scientific proof that depression changes our visual perception as well.

A research team headed by Dr. Uri Polat of the Goldschleger Eye Institute at Tel Aviv University compared the visual perception of healthy people to those hospitalized for [depression](#). The clinically depressed, they assessed, lacked the ability to fill in parts of a picture when those parts were missing or faint.

"Vision is processed in the [brain](#), and we already know that depression affects [cognitive functioning](#)," says Dr. Polat, whose team pioneered a study on visual perception in people with depression. The new results linking depression to eyesight could result in a breakthrough tool to accurately diagnose depression.

## **Not Seeing the Whole Picture**

To investigate the effects of depression on visual perception, Dr. Polat developed a computerized test that let him assess "the filling-in process" that a healthy mind undertakes when looking at objects. The researchers asked 27 control subjects and 32 patients hospitalized for major depression to look at identical images and report what they saw. The control subjects were able to successfully fill in and "see" missing parts, while the depressive ones were not.

"We see with our brain, not with our eyes. The eye is only the tool," says Dr. Polat, who is studying the brainwave activity of patients during the experiment. He found very unusual patterns emerging: the [brain activity](#) of depressed people looked different from that of the control group.

## **New Diagnosis and Treatment Options**

"We are now taking our results and looking at ways we can take the signals in the brain and turn them into an objective tool, both in diagnostics and for monitoring the course of treatment," says Dr. Polat.

With such a tool, visual perception tests might give psychiatrists a better way to diagnose depression. Currently there is no non-biased test to assess whether someone is clinically depressed. Because of the biases inherent in self-administered tests, diagnostic questionnaires can produce inaccurate results, denying patients medication or hospitalization.

Dr. Polat's work might also assist physicians in monitoring the effects of anti-depressants such as Prozac within days. Currently, it can take up to six weeks after the start of treatment to know if the prescription is right for the patient.

## Seeing a Fuller Picture of Depression

Dr. Polat and his Tel Aviv University team are now taking the next step and developing an EEG test that could be administered in any clinic or hospital in America to scan brain activity for the signature signs that depression creates.

"A standardized tool for depression could save the healthcare system millions of dollars in costs resulting from misdiagnosis, and would give depressed people peace of mind," says Dr. Polat. "Knowing the severity of one's condition could help a depressed patient decide when to medicate, and then to know whether or not the medication is working. It could also help psychiatrists better understand depression in children, and in people who have multiple dysfunctions that prevent them from communicating their feelings to a psychiatrist."

Source: Tel Aviv University ([news](#) : [web](#))

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