

A 'brain wave' test for schizophrenia risk?

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There is a significant need for objective tests that could improve clinical prediction of future psychosis.

One strategy has been to determine whether physiologic measures that are abnormal in people diagnosed with [schizophrenia](#) might also be useful in estimating the risk for developing this illness. This is the strategy taken by German and Swiss researchers in the current issue of *Biological Psychiatry*.

They used [electroencephalography \(EEG\)](#), which measures the brain's [electrical activity](#) or "[brain waves](#)", to study the brain's response to commonly and rarely presented tones that differed in length.

When these rare "deviant" tones are presented to healthy people, the brain automatically generates a particular electrical wave called mismatch negativity, or MMN. People diagnosed with schizophrenia have reduced MMN.

In this new study, the researchers followed a group of people clinically at high risk for developing psychosis. They found that the individuals who went on to develop schizophrenia had smaller MMN than the subgroup who did not. This finding suggests that MMN might be useful in predicting the later development of schizophrenia.

"With this type of study, the devil is always in the details. How sensitive is MMN as a risk predictor? How reliable is it? How many people are mistakenly classified? How long of a follow-up period is necessary to

make this test useful? Are there subgroups of individuals for whom this test is or is not reliable?" mused Dr. John Krystal, Editor of [Biological Psychiatry](#). "If we hope to use this type of measure to guide research and even clinical interventions, then it has to be an extremely robust measure with respect to the issues that I just mentioned, among others. Yet, this is exactly the type of initial step that we need to move toward clinically meaningful biological tests."

First author Dr. Mitja Bodatsch agreed, adding that "integration of both biological and clinical measures into multidimensional models might be the crucial next step forward to improve risk staging in psychiatry."

More information: The article is "Prediction of Psychosis by Mismatch Negativity" by Mitja Bodatsch, et al. The article appears in *Biological Psychiatry*, Volume 69, Number 10 (May 15, 2011).

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