

Neuromelanin-sensitive MRI linked to psychosis severity in schizophrenia

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Neuromelanin-sensitive magnetic resonance imaging (NM-MRI) contrast is associated with psychosis severity in antipsychotic-free patients with schizophrenia, according to a study published online Nov. 8 in *JAMA Psychiatry*.

Kenneth Wengler, Ph.D., from Columbia University in New York City,

and colleagues conducted a cross-sectional study involving 42 antipsychotic-free patients with [schizophrenia](#), 53 antipsychotic-free individuals at clinical high risk for psychosis (CHR), and 52 matched healthy controls to replicate previous findings relating NM-MRI, a proxy measure of dopamine function, to psychosis severity. Data were also included for an external validation sample of 16 antipsychotic-naive patients with schizophrenia.

The researchers found that higher Positive and Negative Syndrome Scale positive total scores correlated with higher mean NM-MRI contrast in the psychosis regions of interest (ROI) in the schizophrenia sample.

No significant association was found between a higher Structured Interview for Psychosis-Risk Syndromes positive total score and NM-MRI contrast in the psychosis ROI in the CHR sample. In held-out test [data](#), the 10-fold cross-validated prediction accuracy of psychosis severity was above chance; prediction accuracy of external validation was also above chance.

"We provided a direct replication of the in-sample association between NM-MRI [contrast](#) and psychosis severity in antipsychotic-free schizophrenia. In turn, we failed to replicate such an association with CHR," the authors write.

Wengler disclosed having filed patents for the analysis and use of NM-MRI in central nervous system disorders.

More information: Kenneth Wengler et al, Generalizability and Out-of-Sample Predictive Ability of Associations Between Neuromelanin-Sensitive Magnetic Resonance Imaging and Psychosis in Antipsychotic-Free Individuals, *JAMA Psychiatry* (2023). [DOI: 10.1001/jamapsychiatry.2023.4305](#)

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