

Google searches about mental illness follow seasonal patterns

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A new study published in the May issue of the *American Journal of Preventive Medicine* finds that Google searches for information across all major mental illnesses and problems followed seasonal patterns, suggesting mental illness may be more strongly linked with seasonal patterns than previously thought.

Monitoring population [mental illness](#) trends has been an historic challenge for scientists and clinicians alike. Typically, telephone surveys are used to try to glimpse inside the minds of respondents, but this approach is limited because respondents may be reluctant to honestly discuss their [mental health](#). This approach also has high material costs. As a result, investigators have not had the data they need.

"The Internet is a game changer," said lead investigator John W. Ayers, PhD, MA, of the Graduate School of Public Health at San Diego State University. "By passively monitoring how individuals search online we can figuratively look inside the heads of searchers to understand population mental health patterns."

Using [Google's public database](#) of queries, the study team identified and monitored mental health queries in the United States and Australia for 2006 through 2010. All queries relating to mental health were captured and then grouped by type of mental illness, including ADHD ([attention deficit-hyperactivity disorder](#)), anxiety, bipolar, depression, eating disorders (including anorexia or bulimia), OCD ([obsessive compulsive disorder](#)), schizophrenia, and suicide. Using advanced mathematical

methods to identify trends, the authors found all mental health queries in both countries were consistently higher in winter than summer.

The research showed eating disorder searches were down 37 percent in summers versus winters in the U.S., and 42 percent in summers in Australia. Schizophrenia searches decreased 37 percent during U.S. summers and by 36 percent in Australia.

Bipolar searches were down 16 percent during U.S. summers and 17 percent during Australian summers; ADHD searches decreased by 28 percent in the U.S. and 31 percent in Australia during summertime. OCD searches were down 18 percent and 15 percent, and bipolar searches decreased by 18 percent and 16 percent, in the U.S. and Australia respectively.

Searches for suicide declined 24 and 29 percent during U.S. and Australian summers and anxiety searches had the smallest seasonal change – down 7 percent during U.S. summers and 15 percent during Australian summers.

While some conditions, such as seasonal affective disorder, are known to be associated with seasonal weather patterns, the connections between seasons and a number of major disorders were surprising. "We didn't expect to find similar winter peaks and summer troughs for queries involving every specific mental illness or problem we studied, however, the results consistently showed seasonal effects across all conditions – even after adjusting for media trends," said James Niels Rosenquist, MD, PhD, a psychiatrist at Massachusetts General Hospital.

"It is very exciting to ponder the potential for a universal mental health emollient, like Vitamin D (a metabolite of sun exposure). But it will be years before our findings are linked to serious mental illness and then linked to mechanisms that may be included in treatment and prevention

programs," said Ayers. "Is it biologic, environmental, or social mechanisms explaining universal patterns in mental health information seeking? We don't know."

"Our findings can help researchers across the field of mental health generate additional new hypotheses while exploring other trends inexpensively in real-time," said Benjamin Althouse, a doctoral candidate at Johns Hopkins Bloomberg School of Public Health and researcher on the study. "For instance, moving forward, we can explore daily patterns in mental health information seeking ... maybe even finding a 'Monday effect.' The potential is limitless."

More information: "Seasonality in Seeking Mental Health Information on Google," by John W. Ayers, PhD, MA; Benjamin Althouse, ScM; Jon-Patrick Allem, MA; J. Niels Rosenquist, MD, PhD; and Daniel E. Ford, MD, MPH (DOI: [dx.doi.org/10.1016/j.amepre.2013.01.012](https://doi.org/10.1016/j.amepre.2013.01.012)). It appears in the *American Journal of Preventive Medicine*, Volume 44, Issue 5 (May 2013)

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