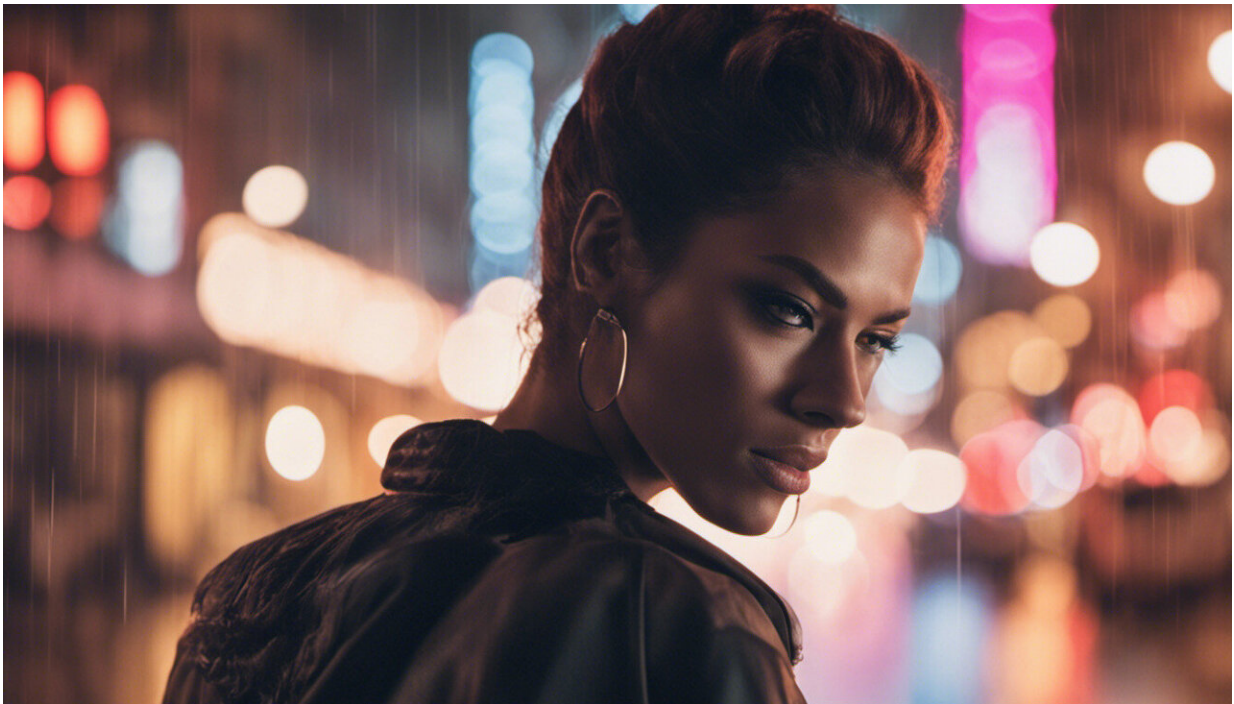


Teen girls' texts reveal clues to mental health, study finds

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Credit: AI-generated image ([disclaimer](#))

The language that adolescent girls use in texts and on social media reflects day-to-day changes in their moods, new University of Oregon research shows.

Those linguistic clues could be used to build [digital tools](#) that can

identify when someone is struggling and connect them with timely support. A team of adolescent mental health researchers reported their findings in a paper published in *Clinical Psychological Science* in January 2023.

Many [mental health problems](#) first emerge during the [teen years](#), said Nick Allen, professor of psychology and director of the UO's Center for Digital Mental Health. Allen collaborated on the study with a team of adolescent mental health researchers, including lead author Elizabeth McNeilly, a UO doctoral student in clinical psychology.

"It's a really important period of life for prevention," Allen said. "We want to understand if there are ways we might reach out to teens and support them, in a way that works for them."

But figuring out when someone is having a difficult time can be hard. As kids turn into teenagers, [peer support](#) becomes increasingly important. So the way teens interact informally with friends via their smartphones might more closely reflect their [emotional state](#) than what they share with a parent at the dinner table, Allen said.

The UO team worked for a month with 30 [adolescent girls](#), ages 11 to 15, who are participants in a larger, long-term study of teen girls in the Eugene area. Researchers analyzed more than 22,000 messages the teens sent across a variety of platforms, including text messaging and social apps like TikTok and Snapchat. Participants rated their own moods every day and were screened for depression and anxiety.

From that data, researchers identified certain linguistic features that reflected fluctuations in the teens' mental health. In particular, increased use of self-focused language—statements including first-person pronouns such as "I," "me," "my"—correlated to days when the message-sender's [mood](#) was lower than usual.

Girls who reported lower moods than their peers also were more likely to use language focused on the present and the future, rather than the past. For teens reporting higher overall moods, language oriented to the past indicated a better day.

The sheer amount of text, regardless of content, also yielded clues to the blues: In teens who reported lower moods overall throughout the course of the study, a particularly rough day correlated with a greater number of words sent.

"The ultimate goal is to have some way to proactively reach out and provide support when kids need it most," said Allen, who is part of the Department of Psychology in the College of Arts and Sciences. "If we can do that in a way that's ethical, the possibilities are quite exciting, in terms of what we can do to support people."

For example, someone could feel fine during their weekly therapy appointment but might be struggling a few days later. A [smartphone app](#) attuned to their language patterns could detect a downward mood shift and send a well-timed reminder to go for a walk, make plans with a friend, or stop scrolling mindlessly through [social media](#). That won't cure depression, Allen said, but it could give someone enough of a nudge to put the brakes on a negative spiral and help them get back to their baseline.

"It's hard to think of what you need to do when you're in distress," Allen said. "This is a way of taking therapy out of the office and into people's daily lives."

More information: Elizabeth A. McNeilly et al, Adolescent Social Communication Through Smartphones: Linguistic Features of Internalizing Symptoms and Daily Mood, *Clinical Psychological Science* (2023). [DOI: 10.1177/21677026221125180](https://doi.org/10.1177/21677026221125180)

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