

# College students in declining mental, physical health one year into COVID-19, study shows

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Following research about college students from before COVID-19 with a survey at the pandemic's Year I mark, an international team of scientists detected no improvement in the students' mental well-being even after

the introduction of vaccines and the easing of social distancing methods, let alone a return to campuses in many instances.

In fact, the researchers in [spring](#) 2021 found marked declines in both physical and [emotional health](#)—students sustained a 35% decline in their number of daily steps and a 36% increase in the number at risk of clinical depression, or roughly half of the total students surveyed.

The scientists, including one each from the University of Pittsburgh and Carnegie Mellon University as well as the University of California San Diego and the University of Gothenburg, Sweden, combined biometric and [survey data](#) from several groups of [college students](#) (totaling 1,179) from spring 2019 to spring 2021 in a study published online Dec. 2 in *Scientific Reports*.

“We were surprised when the data showed us that some of the initial disruptions to lifestyle and mental health that occurred in the spring of 2020 persisted through spring 2021 while restrictions were being lifted,” said Osea Giuntella, an expert in labor and [health economics](#) and an assistant professor in the Department of Economics in the Kenneth P. Dietrich School of Arts & Sciences.

The researchers, in a paper published earlier this year in the [Proceedings of the National Academy of Sciences \(PNAS\)](#), used data from prior to the pandemic's spring 2020 international onset to document sizeable disruptions in sleep, physical activity, social interactions and even screen time among college students. The *Scientific Reports* paper examines a continuation of "lifestyle and mental health disruptions one year" into these times of COVID. While the new study contributes to a larger focus on habit formation and adaptation to environmental changes, it offers a data-distilled look at how this subset suffered physical and mental well-being alterations, which could influence policies and protocols in the short- and long-term.

"These long-lasting effects of the pandemic are worrisome. Since lifestyle and mental health did not rebound as the pandemic started to ease, it will be important to develop interventions to reduce sedentary habits and improve well-being" said Silvia Saccardo, assistant professor in the department of Social and Decision Sciences in the Dietrich College of Humanities and Social Sciences at Carnegie Mellon University.

The study involved five cohorts of University of Pittsburgh students between spring 2019 and spring 2021: median age 19, with 95% of the respondents under the age of 23. Data was collected via wearable devices that the students used for one semester. The first two "waves" came in the spring and fall semesters of 2019, before COVID-19 took hold. The spring 2020 cohort began in February 2020, barely a month before the pandemic sent Americans home to work or study, and continued through April 2020—some lingering into July 2020. The final two cohorts were the September-November 2020 fall semester and the February-May 2021 spring semester. April 2021 marked the start when COVID-19 vaccinations were available in Pennsylvania, and by May's end 95% of the surveyed students received a first dose at least and 85% received both doses.

Their [physical activity](#) waxed and waned, from 4,600 steps per day from March-April 2020 to 6,300 in May-July 2020 to 6,900 in September-November 2020... then dipping again this past spring, February-May 2021, to 6,400. Still and all, it hadn't returned to the pre-pandemic levels of 9,800 steps per day. The same happened to their active or non-sedentary time each day, ranging from 4.3 hours pre-pandemic to 2.9 hours at pandemic's start to roughly 3.6 hours both this past fall (2020) and spring (2021) semesters.

Screen time remained "significantly" higher than pre-pandemic levels, the researchers wrote, though time spent in social interactions fairly

doubled back to normal levels over that first year, from 40 minutes to 1.5 hours.

Using the Center for Epidemiological Depression scale, the primary measure for [mental health](#), the researchers found large increases in symptoms of depression from spring 2020 through spring 2021. While students' scores increased 50% at the onset of the pandemic in 2020, they were still overall 24% higher than pre-pandemic levels when recorded in spring 2021.

In the end, the researchers estimated that 42-56% of their participants by spring 2021 were at risk for clinical depression.

"Our results show how it is crucial for universities to take precautions and find ways to improve mental and physical wellbeing," Giuntella and Saccardo said.

**More information:** Lifestyle and mental health one year into COVID-19, *Scientific Reports* (2021). [DOI: 10.1038/s41598-021-02702-4](#), [www.nature.com/articles/s41598-021-02702-4](http://www.nature.com/articles/s41598-021-02702-4)

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