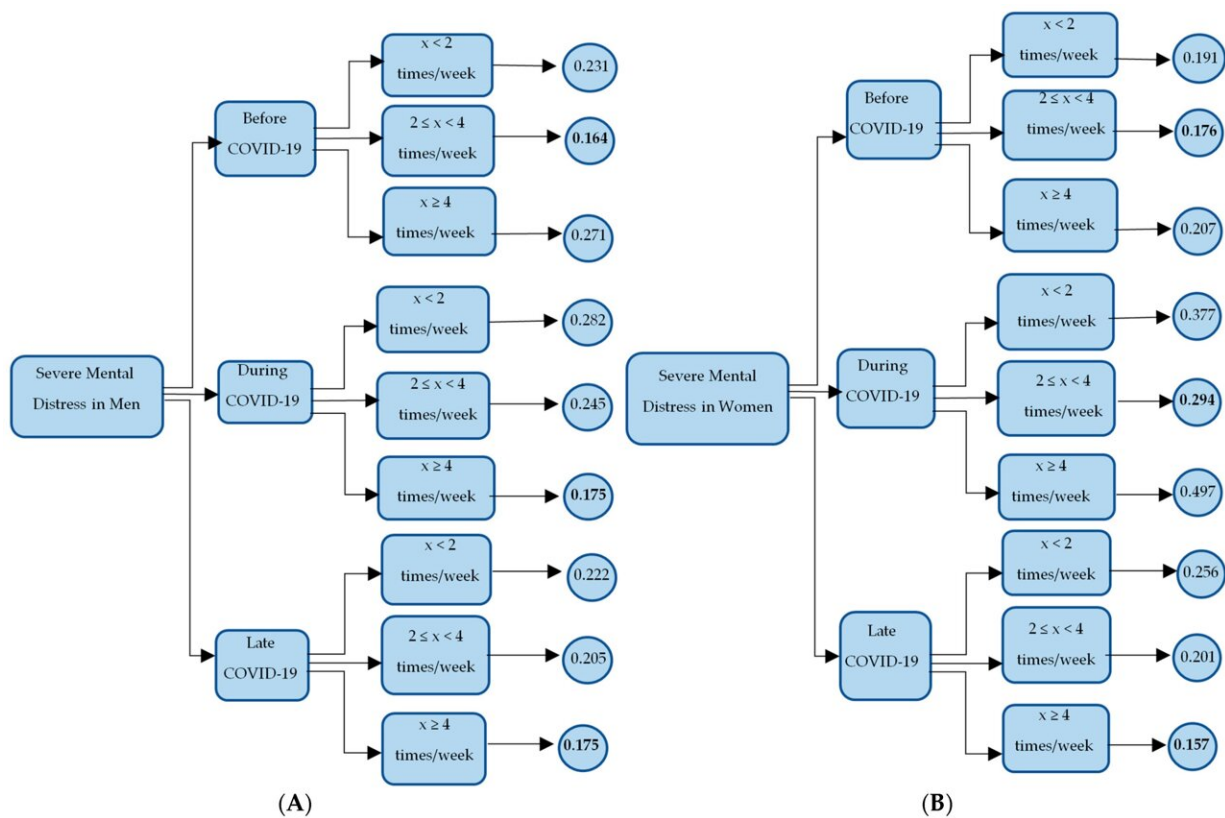


Women's mental well-being more sensitive to exercise than men's during different stages of pandemic

September 13 2022



(A)—Decision Tree of the adjusted margins (probability) for severe mental distress on men. (B)—Decision Tree of the adjusted margins (probability) for severe mental distress on women. Bolded nodes represent the lowest probability and italic nodes represent the highest probability. During COVID-19: during lockdowns; After COVID-19: After COVID-19 ease of restrictions. Credit: *Nutrients* (2022). DOI: 10.3390/nu14132572

Women's mental health was more likely to be affected by physical exercise frequency during the COVID-19 pandemic than men's, according to new research from Binghamton University, State University of New York.

Lina Begdache, assistant professor of health and wellness studies at Binghamton University, researches the impact of dietary and lifestyle factors on mental health. In a recent study, her team determined the relationship between the different stages of the pandemic, time of week and exercise frequency on mental distress, with notable differences in men and women.

Survey data completed by 2,370 individuals were analyzed. The survey consisted of 41 variables related to demographics, education, dietary behaviors, diet, sleeping, physical exercise pattern and frequency as well as mental health status. Moreover, the pandemic was categorized into three separate stages: before, during and late COVID-19, with "during" representing the lockdown period and "late" representing the easing of restrictions.

Researchers found that during the pandemic, a period with high levels of stress, women required exercise in moderation to achieve mental well-being. This contrasts with men, where frequent exercise was advantageous.

"Exercise is a form of stress on the body. However, it is considered a eustress [moderate or normal stress] because it is typically associated with positive attributes," said Begdache. "When it is overdone, the positive effect of the exercise is gone, which becomes a distress. It is known that the levels of the stress hormone (cortisol) secretion in response to high exercise intensity are different among men and

women."

Begdache's study suggests that women must adjust their exercise routines during times of unease to ensure that they maintain mental stability and remain in high spirits.

"Women are more likely to report experiencing stress than men, which suggests their lower tolerance to stress," said Begdache. "Therefore, high exercise frequency may add to their [stress](#) level and negatively impact their mental well-being."

The researchers also found that exercise frequency modulates mental health based on time of the week. Men's mental [health](#) was more likely to suffer during weekends, whereas women's [mental health](#) tended to deteriorate on weekdays. This could be attributed to the need to balance responsibilities as a mother with their childrens' homeschooling and in the workplace.

Furthermore, the study demonstrates that the total absence of exercise was correlated with mental distress in both men and women. With easing of COVID restrictions, upping exercise frequency improved mental well-being. Since [weight gain](#) was an issue during the lockdown, increasing [exercise](#) frequency fueled the desire to focus on [weight loss](#), as it provided more structure to people's lives.

Also contributing to this research were Zeynep Ertem, Binghamton University assistant professor of systems science and [industrial engineering](#), and Anseh Danesharasteh, a graduate student at Binghamton University.

The paper was published in *Nutrients*.

More information: Lina Begdache et al, The Impact of the Different

Stages of COVID-19, Time of the Week and Exercise Frequency on Mental Distress in Men and Women, *Nutrients* (2022). [DOI: 10.3390/nu14132572](https://doi.org/10.3390/nu14132572)

Provided by Binghamton University

Citation: Women's mental well-being more sensitive to exercise than men's during different stages of pandemic (2022, September 13) retrieved 17 April 2024 from <https://medicalxpress.com/news/2022-09-women-mental-well-being-sensitive-men.html>

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