Study suggests inflammation drives social media use

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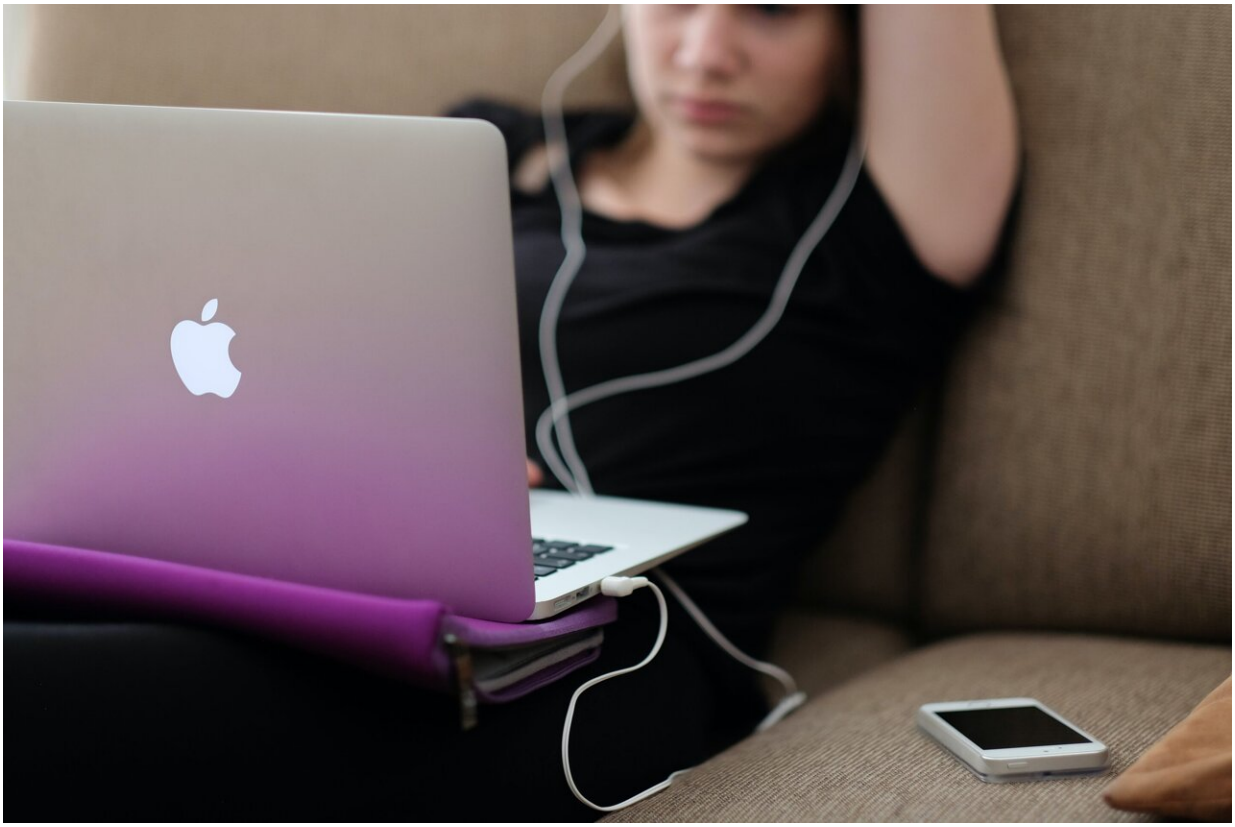

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Inflammation is the body's response to injury and infection, but it is also a factor that can lead people to use social media, according to new research by a University at Buffalo communication researcher.

Across three studies involving more than 1,800 participants, the findings—published in the journal *Brain, Behavior and Immunity*—indicate that increased levels of C-reactive protein (CRP), which the liver makes in response to inflammation in the body, can promote social media use among middle-aged adults and college students.

"It seems that inflammation not only increases social media use, but our results show preliminary evidence that it's also associated with using social media to specifically interact with other users, like direct messaging and posting to people's pages. Interestingly, inflammation did not lead people to use social media for other purposes—for example, entertainment purposes like watching funny videos," says David Lee, Ph.D., an assistant professor of communication in the UB College of Arts and Sciences, and the study's first author.

"To our knowledge, this is the first evidence showing the role of the immune system as a potential antecedent to social media use."

Social media platforms attract billions of users worldwide, which has led to questions about possible effects on physical and mental health. Lee and his co-authors, however, ask a more fundamental question: What draws people to use social media in the first place?

But inflammation as possible contributor? The association is not as unlikely as it might initially sound.

Although people generally think of psychological reasons, like boredom and loneliness, as drivers of social media use, a growing amount of research suggests that experimentally elevating inflammation promotes social engagement behavior. So Lee wondered to what extent normal circulating levels of a downstream biomarker for systemic inflammation, like CRP, might have on social media use.

If inflammation does indeed increase social affiliative motivation, it should also lead people to turn to social media, under such circumstances, as a means to fulfill social needs.

The current paper used an existing data set of middle-aged adults for the first study, who completed survey questionnaires and provided blood samples the researchers analyzed for CRP. The authors collected their own data for the second and third studies using similar methods for college students.

"Inflammation is typically followed by behaviors and symptoms associated with sickness that can help the body heal," says Lee, an expert in the effects of social media use. "Humans are social beings, and when we're sick or injured, it may be adaptive for us to approach others who can provide social support and care."

Understanding and identifying when and why people use social media can inform intervention strategies that teach people when to seek connections, social support, or strengthen their offline relationships.

"If social media use is driven by the motivation to connect with others, we can teach people to use social media for that purpose," he says.

The findings also shed light on how to effectively manage social media use.

"For some people the relationship between social media use and inflammation may be a positive feedback loop, a cycle where more social media use leads to more inflammation, and more inflammation then leads to more social media use," he says.

Lee plans to continue working with his collaborators to gain more insight into how inflammation influences social behaviors online and offline, as

well as whether the inflammation-social media use link may be different for specific populations, such as teenaged girls or individuals with low self-esteem.

"Following this line of research can further inform our understanding about the potential links between the body and daily social behavior," he says.

More information: David S. Lee et al, Can inflammation predict social media use? Linking a biological marker of systemic inflammation with social media use among college students and middle-aged adults, *Brain, Behavior, and Immunity* (2023). DOI: 10.1016/j.bbi.2023.05.010

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