

Stressed grad students tend to reach out to those who are similarly overwhelmed, shows longitudinal study

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Stress is ubiquitous in today's world and affects people's lives significantly. Past research has focused on how stress is transmitted

between pairs of individuals and in small groups. In a new longitudinal study, researchers adopted a network perspective to examine how the distribution of stress in an individuals' social environment influences their appraisal of stress.

The study of U.S. graduate students found that perceiving stress in a [social context](#) predicts how individuals experience stress—but certain personality traits can mitigate this apparent transmission of stress. The study, by researchers at Carnegie Mellon University (CMU), appears in the *Journal of Personality and Social Psychology*.

"Our findings have practical implications for stress management, especially for ameliorating [harmful effects](#) and the transmission of stress in communities," notes David Krackhardt, professor of organizations at CMU's Heinz College, who co-authored the study.

In [social systems](#), such as organizations and communities, people's interactions are not just a collection of independent and isolated pairs. Instead, these interactions coalesce into a network, an intricate pattern of opportunities that can mutually influence and transmit stress in complex ways. In this study, researchers proposed a network model of social influence in which stress spreads through a system of channels.

In addition, personality traits can buffer how someone responds to stress-inducing stimuli, yet no studies have examined the possible tempering effects of these traits on the interpersonal aspects of the process. In this study, researchers analyzed the role of neuroticism, conscientiousness, and locus of control (i.e., the extent to which people think their actions influence outcomes) on the extent to which an individual's stress is influenced by network-based social information.

Researchers studied more than 300 [full-time](#) early- to mid-career adults (ages 23 to 45) in professional master's programs in the United States

over six months as they dealt with the stress of academia. Participants were 54% female, and 29% White and 54% Asian. Forty percent were U.S. citizens, 30% were from India, and 20% were from China.

Students filled out surveys to gauge the dynamics of their social networks and their concomitant stress at four points during the six months. This time period ran from September 2018 to March 2019 and coincided with the students' first half year in their programs.

The students' perceptions of stress in their social contacts led to their own experiences of stress, the study found. Social influence on stress was moderated by peer consensus: Individuals were more likely to follow their peers' stress if their peers showed a high level of consensus with respect to their stress levels. Put another way, consciously or unconsciously, stressed individuals tended to reach out to those who were similarly overwhelmed and interacting with high-stress peers appeared to further exacerbate feelings of stress.

"The effect of social influence on individuals' stress levels is not simply a function of the average of stress levels of those to whom they are connected," explains Shihann Li, a Ph.D. candidate in [organizational behavior](#) and public policy at CMU'S Heinz College, the lead author in the study. "Rather, stress contagion depends on the local consensus of one's peers in the network."

While some scholars have argued that one element for coping with stress is having many sources of social support, the study's authors suggest that having more friendship ties sometimes leads to more stress. Intervention programs that aim to boost the number of social ties as a way to enhance well-being could backfire, they suggest.

Moreover, students with certain personality traits tended to be influenced differently by peers. Individuals with high-consensus peers (i.e., social

contacts with similar levels of stress), high levels of neuroticism, and low levels of conscientiousness, as well as those with external control orientation, were more likely to adjust their [stress levels](#) to that of their social contacts. In contrast, low levels of neuroticism and high levels of conscientiousness, as well as having internal control orientation, helped buffer the transmission of stress among students.

"By investigating [personality traits](#) as buffers of the [social influence](#) of stress, we show how an individuals' resources can help them resist the spread of stress in social interactions," adds Nynke M. D. Niezink, assistant professor of statistics and [data science](#) at CMU, another co-author in the study, "This has practical implications for stress-reduction programs."

Among the study's limitations, the authors point to its inability to investigate the exact mechanism underlying [stress](#) transmission in networks. In addition, it is unclear whether the study's results are generalizable to other populations.

More information: Shihan Li et al, Do your friends stress you out? A field study of the spread of stress through a community network., *Journal of Personality and Social Psychology* (2023). [DOI: 10.1037/pspi0000415](#)

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