

## A little support from their online friends calms test-anxious students

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Supportive social media messages from online friends decreased the state anxiety of students with high test anxiety by 21 percent, University of Illinois computer science graduate student Robert Deloatch found in a new study. The paper, which is being published in the proceedings of the Conference on Human Factors in Computing Systems, was co-written by computer science professors Brian P. Bailey, Alex Kirlik and Craig Zilles. Credit: L. Brian Stauffer

Reading supportive comments, "likes" and private messages from social media friends prior to taking a test may help college students who have high levels of test-anxiety significantly reduce their nervousness and improve their scores, a new study suggests.

Undergraduate students with high levels of [test anxiety](#) who sought [social support](#) from their online friends and read the messages prior to a simulated exam reduced their [anxiety levels](#) by 21 percent, researchers at the University of Illinois found.

These students, and peers who performed a seven-minute expressive-writing exercise, were able to perform as well on a set of computer programming exercises as students who had low levels of test anxiety, said lead author Robert Deloatch, a graduate [student](#) in computer science at the university.

Up to 41 percent of students are estimated to suffer from test anxiety, which is a combination of physiological and emotional responses that occur while preparing for and taking tests.

Test anxiety is associated with lower test scores and grade-point averages, as well as poorer performance on memory and problem-solving tasks. Test anxiety can be particularly acute when students face exams involving open-ended problems, such as those commonly used on computer science exams that require students to write and run code, the researchers wrote.

When students' test anxiety is reduced, their test scores, GPAs and task performance improve accordingly, researchers have found.

Students with high test anxiety strongly fear negative evaluation, have lower self-esteem and tend to experience increased numbers of distracting and irrelevant thoughts in testing situations, according to the

study.

For the simulated exam in the current study, students had to solve two programming problems by writing and running code. Most of the participants were computer science majors or computer engineering students who passed a pretest that ensured they had basic programming knowledge.

The researchers measured participants' levels of test anxiety using the Cognitive Test Anxiety scale, which assesses the cognitive problems associated with test-taking such as task-irrelevant thinking and attention lapses.

Participants also completed two other questionnaires that measured their levels of state anxiety - or "state-of-the-moment" unease - and their [trait anxiety](#), which is anxiety that is considered to be a longstanding characteristic or personality trait.

The day before the experiment, students in the [social support group](#) posted messages on their personal social media pages requesting encouragement - in the form of likes, comments or [private messages](#) - about an upcoming computer programming challenge they planned to participate in.

For seven minutes immediately prior to taking the simulated test, students in the social support group read the responses associated with their online request, while students in the expressive-writing group wrote about their thoughts and feelings, and students in the control group crammed for the exam by reading information on computer programming data structures and answering questions about the text.

Prior to taking the exam, participants completed a questionnaire to assess their levels of state anxiety. Students were then given 40 minutes

to solve two programming problems that had many viable solutions.

"We found that only the students who received supportive messages from their Facebook network showed a significant decrease in anxiety and an increase in their performance on our simulated exam," Deloatch said.

While prior researchers have found expressive writing to be helpful to some students with [test anxiety](#), Deloatch and his co-authors were surprised to find that the expressive-writing exercise increased the pretest jitters of low test-anxious students by 61 percent, instead.

"We hypothesized that might have occurred because focusing on their anxiety as they wrote caused their apprehensiveness to increase rather than decrease," Deloatch said.

Using social support to alleviate state-of-the-moment anxiety may have implications beyond education, such as helping job applicants quell their nervousness prior to interviews with potential employers, Deloatch said.

While the students who sought social support online felt that reading the supportive messages was helpful, "all of them were uncomfortable with soliciting support from their online friends, perceiving such posts as 'attention seeking' and 'out of place,'" Deloatch said. "As the majority of the participants in our study were [computer](#) science students, the competitive environment of the curriculum may have led to concerns about how others would perceive them. They may have felt that such statuses could harm their relations in group project settings."

The study is being published in the Proceedings of CHI 2017, the Conference on Human Factors in Computing Systems, held May 6-11 in Denver.

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