

Mental Health Crisis for Grad Students

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Several studies suggest that graduate students are at greater risk for mental health issues than those in the general population. This is largely due to social isolation, the often abstract nature of the work and feelings of inadequacy -- not to mention the slim tenure-track job market. But a new study in *Nature Biotechnology* warns, in no uncertain terms, of a mental health “crisis” in graduate education.

“Our results show that graduate students are more than six times as likely to experience depression and anxiety as compared to the general population,” the study says, urging action on the part of institutions. “It is only with strong and validated interventions that academia will be able to provide help for those who are traveling through the bioscience workforce pipeline.”

The paper is based on a survey including clinically validated scales for anxiety and depression, deployed to students via email and social media. The survey’s 2,279 respondents were mostly Ph.D. candidates (90 percent), representing 26 countries and 234 institutions. Some 56 percent study humanities or social sciences, while 38 percent study the biological and physical sciences. Two percent are engineering students and 4 percent are enrolled in other fields.

Some 39 percent of respondents scored in the moderate-to-severe depression range, as compared to 6 percent of the general population measured previously with the same scale.

Consistent with other research on nonstudent populations, transgender and gender-nonconforming graduate students, along with women, were significantly more likely to experience anxiety and depression than their cisgender male counterparts: the prevalence of anxiety and depression in transgender or gender-nonconforming graduate students was

55 percent and 57 percent, respectively. Among cis students, 43 percent of women had anxiety and 41 percent were depressed. That's compared to 34 percent of cis men reporting symptoms of anxiety and 35 percent showing signs of depression.

Because work-life balance is associated with physical and mental well-being, and little is known about it in the graduate trainee population, the authors asked respondents if they agreed that their work-life balance was "good." Of the graduate students who experienced moderate to severe anxiety, 56 percent did not agree, versus 24 percent who did. Among graduate students with depression, more than half (55 percent) did not agree with the statement (21 percent agreed).

The authors take those findings to mean that good work-life balance is "significantly correlated with better mental health outcomes."

Graduate students' relationships with their advisers or principal investigators are also known to impact the quality of their experience, so the study included questions about that, too.

The authors say they were alarmed to discover that that among graduate students with anxiety or depression, half did not agree that their immediate mentors provided "real" mentorship (about one-third of both groups agreed with that statement). Responses were roughly similar to questions about whether advisers and PIs provided ample support and whether they positively impacted students' emotional mental well-being.

More than half of those who experienced anxiety or depression did not agree that their advisers or PIs were assets to their careers or that they felt valued by their mentor.

"These data indicate that strong, supportive and positive mentoring relationships between graduate students and their PI/advisors correlate significantly with less anxiety and depression," the authors say.

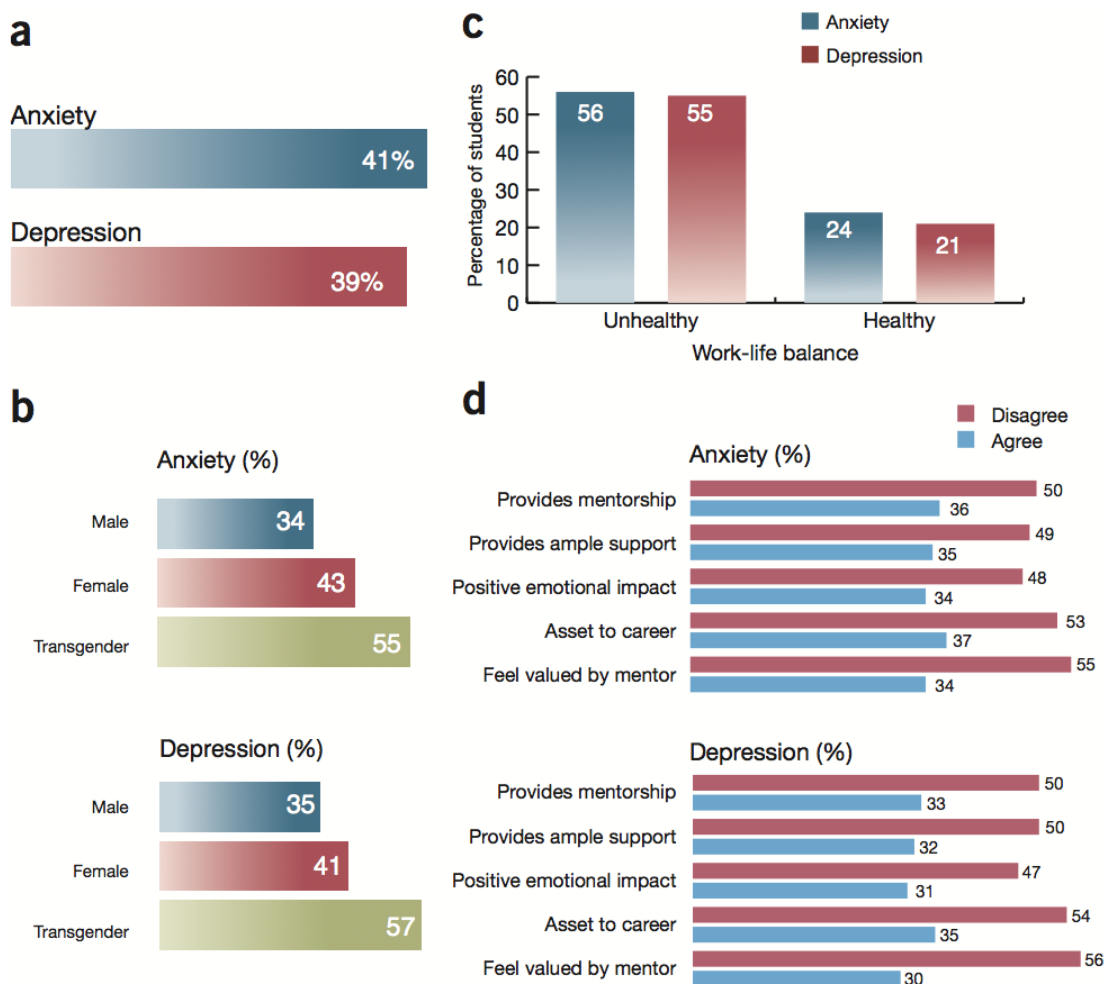


Figure 1 The prevalence of anxiety and depression within the population of graduate students studied. (a) Overall prevalence. (b) Prevalence of anxiety and depression by gender. (c) Effect of perceived work-life balance. (d) Effect of relationship with mentor (see **Supplementary Data**).

Source: Nathan Vanderford

While some respondents with a history of anxiety or depression may have been more apt to respond to the survey, given the study’s design, the authors say their data should still “prompt both academia and policy makers to consider intervention strategies.”

The “strikingly high rates of anxiety and depression support a call to action to establish and/or expand mental health and career development resources for graduate students through enhanced resources within career development offices, faculty training and a change in the academic culture,” the study reads.

The authors suggest that institutions follow a successful National Institutes of Health program “train the trainer” model, in which faculty members and administrators are trained by mental health professionals to recognize and respond to students’ needs, providing referrals as needed. The same model could be used by career development professionals to train faculty members to help today’s Ph.D.s compete in the “vast and ever-changing job market,” they added.

Perhaps less simple, the study advocates a “shift in the culture within academia to eliminate the stigma [surrounding mental health issues] and ensure that students are not reluctant to communicate openly with their faculty advisors.” The authors do note that many in academe have spoken out about their own struggles. Yet, they say, fears of not gaining tenure or otherwise being judged by colleagues remain.

The paper also pushes for work-life balance, which it acknowledges is “hard to attain in a culture where it is frowned upon to leave the laboratory before the sun goes down,” especially in an ever-competitive funding environment. Faculty and administrators must nevertheless “set a tone of self-care as well as an efficient and mindful work ethic” to move the dial, they say.

Nathan Vanderford, assistant professor of toxicology and cancer biology at the University of Kentucky and assistant dean for academic development at its College of Medicine, co-wrote the study with colleagues across several campuses and disciplines. Noting that graduate students’ work supports much of what faculty members do, Vanderford said Monday that the sustainability of higher education depends on a “vulnerable population.”

So “we must put into place mechanisms that support our students’ current and future career outcomes,” he said. And as a foundation for that, he added, “we should be providing much better mental health care resources -- including interventions that can help those who may not otherwise seek help.”

Over all, Vanderford said, his and his colleagues’ work points to a “fragility in higher education,” in that underlying high rates of mental health issues among graduate students also likely extend to faculty and other campus groups, based on previous research.

And so the question becomes, “At what cost do we allow this to occur?”

Frederik Anseel, a professor of organizational behavior and a vice dean for research at King’s College London who studied graduate student health in Belgium, said whether there is a “crisis” in graduate student mental health is a “very important question.”

Social media is “flooded” with stories and testimonials, and Anseel’s own related study in *Research Policy* made it to No. 2 on the Altimetric Top 100 of 2017, he said. So “clearly something is going on.” Yet Anseel said academics should resist the urge to divide themselves into “believers” and “nonbelievers” in any crisis and seek out the “the most compelling and robust data and evidence for the problem,” if there is one.

We’re not there yet, he said, noting that his own study of Belgian graduate students suffered from the same possible selection bias among respondents as Vanderford’s. (He also faulted the new study for asking students to directly comment on their PIs’ impact on their mental health, but praised it for its diverse pool of respondents from different countries, institutions and disciplines.) At the same time, Anseel said, “I’m not sure if we can wait to take action. Studies and especially intervention studies take years to conduct and to evaluate. In the meanwhile, people are suffering and are dropping out.”

Anseel said his reply to skeptics thus far has been, “Given that there are at least strong indications that a substantial group of people are suffering, wouldn’t it be worthwhile to at least examine in your own organization what the problem is, and make sure that you have policies in place to deal with problems if they arise?”

Skeptics aside, Anseel said he’s noticed a “change” and increased “openness” in recent months, evidenced by a constant stream of invitations to talk on campuses about his findings and to assist in developing monitoring and prevention practices.

“In all honesty, there’s no way we can keep this up,” Anseel said of meeting the demand. “We’re now looking for more external funding to set up a team to try to deal with all these requests in a more structural and systematic way.”