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## MENTAL HEALTH

# Stressed students reach out for help

*Graduate students struggling with the stresses of their work and lives can tap into multiple avenues of support.*

BY JULIE GOULD

Sarah Gossan got mostly 'A's during her undergraduate astrophysics programme at Cardiff University, UK, and graduated at the top of her class in 2012. In her third year, she started to study for the Graduate Record Examination (GRE), a standard test

for admission to US graduate programmes, in the hope of starting a PhD in gravitational waves at the California Institute of Technology (Caltech) in Pasadena after she graduated.

What her undergraduate peers and supervisors did not know was that she was struggling to deal with severe bulimia and depression. "The stress from research towards the end of

my third year and the grad-school application process led to a relapse for about 8 months," Gossan says. "I almost took a sick sense of pride in performing well academically while mentally ill."

Gossan did not reach out for help. "I was too embarrassed to ask for help for the bulimia, and it continued to get worse," she says. Then, once she was accepted at Caltech, the transition to the new environment caused her yet more stress. But she kept quiet because she did not want to appear weak, particularly as a woman in science. "I was afraid of being painted as 'just another emotional woman,'" she says. The consequences were dismal: she failed the PhD qualifying exams twice in addition to an exam on classical physics, went on strong medication and did not attend classes for almost five months.

Gossan's experience is not unique. Maintaining mental health as a researcher-in-training can be a contradiction in terms. Many doctoral students are free to pursue a scientific field of their choice and, at least in theory, get an opportunity to become a leading researcher in that field. But the need to publish often, conduct research independently, constantly apply for funding and meet the needs of supervisors can create substantial emotional and mental strain, anxiety and pressure. These hurdles can adversely affect a PhD student's emotional well-being, especially if they are not expecting them — or do not know how to surmount them.

There is a high risk of developing a major psychiatric illness, such as depression, schizophrenia, and bipolar or anxiety disorder, between the ages of 18 and 24 — just when students are pursuing degrees, says Victor Schwartz, who is medical director at the Jed Foundation, a charitable organization in New York that aims to reduce suicide rates and improve mental health for university students. "This is a time of transition from adolescence into adulthood, and often from undergraduate to graduate studies," he explains. "Students experience many firsts, including new lifestyles, friends, roommates, cultures and ways of thinking." Graduate students move off campus and become further removed from support networks, conduct more independent research and face uncertain career prospects, thanks to an unsteady regional and global job market, he says. Combine academic stresses with this transition, and it is not surprising that many doctoral students struggle to maintain mental health.

Nearly one-fifth of the general US populace over the age of 18 — and 13% of master's ►

► or PhD students — suffer from anxiety or depression (D. Eisenberg *et al. Am. J. Orthopsychiatry* 77, 534–542; 2007). Those in doctoral programmes are especially susceptible, says Catherine McAteer, head of student services at University College London (UCL). “PhD students tend to spend a lot of time by themselves doing their research in a lab or writing their theses, and isolation is often an instant pathway to depression and anxiety.” To combat the procrastination that goes hand-in-hand with isolation, UCL offers classes for PhD students to help them to focus attention on the present (see ‘Mind tricks’).

In a 2013 US poll of 41,847 undergraduate and graduate students, almost one-third said that they had “felt so depressed that it was difficult to function” in the past year. And nearly half said that their academic programme — their studies, research, lab colleagues and supervisors — had been “very difficult to handle” in the past year.

Schwartz’s advice to people who are struggling with depression, anxiety and other disorders is to reach out to others — whether they are friends, loved ones or counselling services. Schwartz and McAteer both advocate taking

## MIND TRICKS

### How mindfulness works

Mindfulness is a therapeutic practice that helps to increase awareness of the present, which can improve thinking habits and mental health. Imagine, for instance, that your experiment has gone wrong: the data are not coming together and your deadline is tomorrow. Your usual response is to panic. Instead, you can:

- Take three deep breaths. This stimulates the vagus nerve, which releases a chemical called acetylcholine that will calm you down.
- Concentrate on the here and now in a non-judgemental way. Rather than blaming yourself, take a step back. By objectively acknowledging your frustrations, you will be able to see the problems more clearly and focus on how to solve them.
- Keep your focus on a single object, idea or sensation rather than letting your mind wander off.
- Stay aware of your body and its response to internal and external stimuli.
- Reframe your emotions in a positive way. In the wake of negative thoughts or experiences, this can help you to react less emotionally and to be more resilient.
- Try to be as objective as possible in terms of the way you think about yourself. **J.G.**



MIKE MCGREGOR/ACTIVE MINDS INC.

Active Minds runs groups, like this one in Pennsylvania, that encourage students to discuss depression.

advantage of on-campus mental-health services, which offer options such as group counselling, one-on-one sessions and peer support, in which students form a network that aims to promote mental health and provide confidential help. Campus peer groups are becoming more common: examples include Active Minds, which is based in Washington DC but has groups around the world, Peer Ears at the Massachusetts Institute of Technology in Cambridge and Cause for Concern at UCL.

To reduce the likelihood of developing mental-health problems, doctoral researchers should try to build a solid and trustworthy peer group in the early days of their programme, says Charlotte Vaughan, the disability adviser for mental health at UCL. This can be accomplished by joining discipline-based societies and clubs, or networks set up by the university mental-health services. “Most of all, we want to make sure that students are aware of the possible mental-health conditions they may face,” she says, “and know where they need to go if they think they’re running into trouble.”

It was not until earlier this year that Gossan started looking for serious help, after her partner asked her to do so. She began by speaking to Christian Ott, her supervisor at Caltech, who reassured her that “many, if not most people, cope with a whole range of mental issues”. Ott had dealt with his own problems in the past, and he values being open about the topic of mental health. “I made it clear that it is a common thing to run into such problems and that getting help and looking ahead is the important thing to do,” he says.

Once she knew how Ott felt, Gossan spoke to him whenever she found she was falling back into old, unhealthy habits. “I work very actively to prevent a relapse,” says Ott. “This sometimes involves telling her specifically what to do or not to do.”

If left untreated, mental-health problems can lead to suicide, says Charles Reynolds, a

behavioural and community-health scientist at the Graduate School of Public Health of the University of Pittsburgh in Pennsylvania. A US survey in 2009 found that 4% of graduate students had “seriously considered attempting suicide” in the past 12 months (D. J. Drum *et al. Prof. Psychiatry Res. Prac.* 40, 213–222; 2009), and in 2011, the American College Health Association reported that suicides were the leading cause of death in undergraduate and graduate students. “We need to remove this stigma attached to mental-health problems and find a way to get students to talk,” Reynolds says.

Active Minds and Peer Ears are helpful in terms of intervention and treatment, say those involved in the networks. Talking discreetly with peer-support-group representatives can help to ease the fear that opening up about mental-health woes will have academic and other ramifications. Indeed, Gossan was warned by a fellow doctoral student against telling a supervisor about her depression. The colleague, who had suffered from mental-health disorders, told her that people would view her as unreliable and would not want to work with her, illustrating that advice from untrained peers may not be always reliable.

Charles Reynolds

Ultimately, experts say, many mental-health issues, including depression, can be resolved only by talking to others — whether a counselor, supervisor or peer representative. Gossan is grateful that Ott has been there for her. “He helped me through many anxiety attacks,” she says, “and without his support I think I probably would have dropped out by now.” ■

Julie Gould is editor of *Naturejobs* online.