ACADEMIA

Focus on Commentary

CAMARADERIE, OR SUBORDINATION?

Dr. Agnieszka Kloch

University of Warsaw



Agnieszka Kloch, PhD

works at the Faculty of Biology of the University of Warsaw. Her research focuses on the evolution of the relationship between hosts and parasites under natural conditions. She is also involved in conservation projects studies of genetic diversity in wolves and ground squirrels. In 2010 she was awarded a START grant by the Foundation for Polish Science. She is editor of the biological sciences section of Academia magazine.

akloch@biol.uw.edu.pl

he scientific world likes to boast of its egalitarianism: anyone can be a scientist regardless of their gender, ethnicity or class. However, this image is highly idealized and far removed from reality, as revealed by a cycle of articles published in the weekly *Nature*.

The scientific community is based on a strict hierarchy, which especially affects people at the threshold of their careers. Supervisors can be mentors helping their PhD students enter the world of science, but they can also turn out to be tyrants treating them as a source of cheap or even free labor. Long hours spent in the lab, extreme pressure to deliver results, a race to publish articles in prestigious journals and tremendous competition for postdoc positions all take their toll on young scientists' mental health. Nature brought this problem out into the open by reporting findings published by the team of Teresa Evans from the University of Texas, tweeting: "PhD and master's students worldwide report rates of depression and anxiety that are six times higher than those in the general public." The post was retweeted over 2000 times, and the editors received over 150 replies, with people sharing their personal stories revealing the extent of the problem. This helped Nature break the taboo of just how many PhD students have been suffering in silence for fear of not being understood, or even of losing their post. As a result, the journal launched a service offering mental health support (www.nature.com/collections/gnlwffigtr/support), and published subsequent editions analyzing the problem and seeking solutions to it. The main source of stress and poor mental health in young scientists is a toxic atmosphere at their workplace. This is compounded by the belief of some supervisors that the key to scientific success is strict control of research activities and forcing young scientists to devote themselves fully to their career.

But not everyone can work like that. Upon his retirement, Mats Björklund, manager of the Department of Ecology and Genetics at Uppsala University, posted a Twitter thread on 19 September 2018 reflecting upon his 38 years in academia. He wrote, "If you are head of a unit, people don't work for you, you work for them. A certain amount of altruism is necessary." His sentiments were echoed by dozens of heads of laboratories interviewed by Alison Antes, specialist in organizational psychology. However, many also admitted that in spite of their best intentions they lack human resources skills and tend to avoid difficult conversations with their staff. The problem has been noted by the Higher Education Funding Council for England, which has set aside £1.5 million to support mental health and wellbeing for postgraduate research students at 17 universities, which also includes training supervisors to become better mentors.



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Experts are in agreement in that maintaining a life-work balance is key for good mental health. However, this is not easy despite extensive resources available online. Women are especially affected if they combine a scientific career with raising children. Things are easier if they can count on their partner's support, but it's still far from ideal. Unfortunately there is no regulated support from universities, and in Poland it is effectively non-existent. For example, even though most institutions extend the deadline for funding applications by a year for people under a certain age, the time taken off to have a baby is realistically significantly longer. It takes an average of two years between giving birth and stopping breastfeeding, and if the mother takes a career break for the duration, the gap between publication dates or trips abroad can be even longer. This is not covered by any regulation, which puts women at a disadvantage in situations such as applying for higher academic positions where the number and ranking of publications is essential. As a result women are underrepresented at higher levels of academia, even though research shows that a greater contribution from them could significantly affect the direction of research. When the number of women working in biomedical science rose in the US between 1980 and 1990, it resulted in increased focus on medical disorders which disproportionately affect women and which had previously been underfunded, such as osteoporosis.

In November, *Nature* directed attention to another problem highlighted by a survey conducted in 2016 and 2017 among postdocs in the US. As well as familiar problems such as difficulties in securing tenure, some respondents complained of a highly worrying phenomenon. Certain bosses take advantage of the fact that their postdocs need their support in order to obtain work permits in the US, forcing them into working under almost slave-like conditions. Although this has only been reported sporadically thus far, the problem could become more far-reaching since around a half of all postdocs in the US arrive from abroad. This means that the scientific community is once again at risk of becoming controlled by a particular privileged group. \blacksquare

Further reading:

Antes A. (2018) First law of leadership: be human first, scientist second. *Nature 563*, 601.

Time to talk about why so many postgrads have poor mental health. *Nature 556*, 5 (2018).

What to do to improve postgraduate mental health *Nature 557*, 140 (2018).

Stop exploitation of foreign postdocs in the United States. *Nature* 563, 444 (2018).

Gewin, V. (2018) Why diversity helps to produce stronger research. *Nature Careers*, 13.11.2018, doi: 10.1038/ d41586-018-07415-9.

