Promoting Wellbeing among Computer Architecture Graduate Students

A proposal to keep our students happy and productive

Elba Garza
Texas A&M University
elba@tamu.edu

Raghavendra Pradyumna Pothukuchi
University of Illinois at Urbana-Champaign
pothuku2@illinois.edu

Graduate students are an important part of our community, and they are fighting an unprecedented level of mental health challenges. Unfortunately, we do not have quantitative data about mental wellbeing in our community. However, studies spanning several disciplines and universities find many graduate students (30-60%) to be on the threshold of clinical depression [1-4]. It would be safe to speculate that the situation is similarly serious in our domain.

In addition to individual-specific factors, there are many systemic contributors to student stress [5]. Students (are expected to) put in intense efforts to navigate through the complex academic ecosystem. Students are often isolated by academic work and by the financial constraints of student-hood. Many students sleep and exercise little, have diminished social life and struggle to find meaning in their work. Very few students report having a healthy work-life balance [4]. Other crucial factors that adversely impact wellbeing are unhealthy competition, unethical practices, and unfair publication and rewards systems.

Both the student's life and research quality take a blow due to lack of wellbeing. It is not easy to talk about and manage mental wellbeing as a student. We present four major reasons based on the authors' knowledge.

Foremost, the student has a fragile position relative to other members of the academic system. The student's advisor, for example, controls the student's finances, work policies and expectations. However, there is little institutional oversight on advising and practices. This situation makes it difficult for students to speak up when necessary because students may fear retributive action, or fear losing the opportunity to do the research they like. Indeed, it may be that students like their research but cannot cope with their advisor.

Students may also feel that their issues are less likely to be believed by the community. This is particularly the case when the advisor is a senior member who is known to have graduated many students "without a problem". In actuality, problems may not have been talked about, or the sentiment could extend from survivorship bias.

Second, students facing mental wellbeing issues must fight stigma, disbelief and apathy. It could be that students are facing stress because of certain policies in the academic system, or people they interact with. However, people consider such students to be falling behind, unable to meet the rigor of academic life. As a result, students are inclined to blame themselves and do not seek help in dealing with the situation. This approach can worsen the situation for the student.

Entrenched notions have also contributed to normalizing unhealthy behavior about graduate students. For example, we have normalized the graduate student who is nearly always in the lab, sleeps little, is called by the advisor to work at odd hours, survives on pizza and has little social life. Though perhaps rooted in isolated cases, this stereotype has become an expectation (or worse, a rite of passage) to many students.

Even when advisors are supportive, the student may be hesitant to talk about personal or sensitive information with their advisors.

Many times, advice like "everyone is stressed", or "welcome to life" is meted out to students without considering the fragile position that students are in, or without considering the causes of their stress. Such apathy can be devastating to someone struggling to overcome their environment. Special categories of students like minorities, veterans, people with disabilities, students with families, and international students can have unique stressors and higher levels of stress [6]. We cannot expect them to perform to their potential if we do not ensure their happiness and productivity in our community.

Third, students are unable to present their views when community policies that directly affect them are being decided. Examples include the peer review processes and graduation standards. Publishing research is a major task and an academic concern for any graduate student. However, when the community experiments with several kinds of review processes and conference policies, there is little opportunity for students to convey their opinions on the different systems, and how their implementations would affect their work.

Finally, we lack the tools and procedures to support and educate our community members about graduate student wellbeing. We cannot know how many of our students are having mental health issues or the stressors contributing to them. Commonly, students are unreliable in assessing their own wellbeing—26% of the students who reported having suicidal thoughts recently felt that their wellbeing was better than the average [3]. In light of this, we need a concerted effort to uncover any community-specific problems faced by our students.

Yet, we do not have a process through which students can safely communicate their concerns.

What steps can we take as a community?

We have the following ideas that can be acted on by the community. In the short term, the goal is to create opportunities for students to be heard, supported and connected with each other. In the long term, the goal is to educate and evolve our community towards high standards of mental wellbeing through training programs and workshops.

The short-term steps are:

1. Create a graduate student liaison member (or members) at the ACM SIGs and IEEE TCs on architecture and microarchitecture.

   The liaison will collect feedback from students on relevant issues, and bring them to the notice of governing bodies in our community. The liaison will closely interact with the volunteer cohort described next.

2. Create a cohort for students (and faculty/professional volunteers) to join and foster camaraderie in the community. The cohort members and the liaison member(s) described above should be approachable to students facing issues and can direct students' concerns to appropriate resource providers.

   We hope to draw students from diverse backgrounds and universities into the student cohort such that there will be a few members as volunteer representatives from the cohort at every conference in our area (similar to ACM CARES). These volunteer representatives can be approached by students facing any issues or those who may want to provide ideas on improving

student wellbeing. The volunteers will seek and compile feedback to share with the liaison(s), who will in turn present it.

For example, at the business meeting in the conference, the liaison (if present), would summarize and solicit student feedback.

The student volunteers can also proactively meet or be paired with first time attendees, who are usually somewhat inhibited in introducing themselves to other members due to lack of experience, or discomfort.

The faculty/professional volunteers can be paired with students to serve as a mentor, similar to the "Meet a senior architect program". It is another opportunity to share difficulties faced by the student, and solicit advice drawing on the experience of the senior member. However, the scope of the interaction is open and not limited to this agenda alone.

Establishing student liaisons and cohort volunteers at conference may (in the worst case) necessitate that SIGs and TCs sponsor travel and/or lodging when there is a financial need. However, since the envisioned cohort size is large, it is likely that there will be several cohort volunteers who would already be at the conference hometown or are planning to attend the conference. Having a large volunteer group is also helpful so that the initiative is not too taxing on a few students – *tackling stress should not become a stressful task!*

3. Creating official message board (e.g. Slack, GroupMe, etc.) channels for communication among graduate students, and hosting blog posts about wellbeing on SIGARCH and TCCA websites from students, faculty, and experts on physical and mental health.

4. Organizing workshops and/or townhalls at our conferences where students and faculty can share success stories of navigating through hardships, and provide encouragement and advice to those who are struggling. *The sessions would especially benefit from having experts who can educate the community about identifying stressors, methods to analyze one's wellbeing and describe strategies to overcome issues.*

   Such events already exist for subgroups within our communities, but would likely be just as useful for all students within our community.

Long term steps:

1. With help from experts in physical and mental wellbeing, we can administer routine (e.g. yearly) surveys to analyze/determine the status of wellbeing among our students, and identify systemic stressors. This will tell us clearly where we, as a community, should act.

2. Educate faculty on how they can include student wellbeing in shaping their advising styles and work ethic. We need to increase awareness of unique challenges faced by special student groups and present some approaches that advisors can use to help their students be most productive.

3. Similarly, we must attempt to train students to identify problems they are having and communicate them clearly. We could use workshops at our conferences for this effort.

4. It is necessary for the community to provide avenues where students feel safe in reporting harmful behavior, and develop a set of policies on what is to be done about a complaint. For example, if a student is being stressed because he/she is expected to work for 60 hours a week, or work without pay for months, having a community resource where they can lodge this complaint would be very helpful.

   The community must also have guidelines on what is to be done on a complaint since there are many stakeholders—is the complaint forwarded to the student's university? Or, should the liaisons or cohort representatives simply tell the student to approach another resource? Finally, what can the student expect in terms of advice and support from the community or the liaisons?

5. Evolve community-wide policies that promote happiness and productivity for all stakeholders. If advisors themselves are stressed, it is difficult to expect their students to be stress free.

   For example, policies about publication and the peer review process have been a source of stress for students. Given the increasing trend of publish-or-perish attitude and the decreasing quality of reviews, there is increased pressure on students, making it difficult for them to find meaning in their work.

We hope that we, as a community, can act to create a happier and more productive atmosphere for our students, and help set a standard for our peer communities.

References

[1] http://ga.berkeley.edu/wellbeingreport/ Accessed: Fall 2019

[2] Evans, Teresa & Bira, Lindsay & Gastelum, Jazmin & Weiss, L & Vanderford, Nathan. (2018). Evidence for a mental health crisis in graduate education. Nature Biotechnology. 36. 282-284. 10.1038/nbt.4089.

[3] https://scholar.harvard.edu/bolotnyy/publications/graduate-student-mental-health-lessons-american-economics-departments Accessed: Fall 2019

[4] https://www.gograd.org/resources/grad-student-mental-health/ Accessed: Fall 2019

[5] https://www.theatlantic.com/education/archive/2018/11/anxiety-depression-mental-health-graduate-school/576769/ Accessed: Fall 2019

[6] https://heri.ucla.edu/nih/downloads/ASHE2013-URM-Grad-Students-in-STEM.pdf Accessed: Fall 2019