

Mental Health Panel in Math and Computer Science

SGI 2022

Time and place

The panel was part of the [Summer Geometry Initiative 2022](#), which was conducted completely virtual.

- **Day:** August 10th, 2022
- **Time:** 4:00pm EST

Panelists

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Questions to start with

How do you keep a work-life balance?

- AB: I have never been good at it, but you get better with time. Instead of working all the time, now I only work most of the time. However, as important and enjoyable work might be, I have created black-out days in my calendar where I go completely off the grid. These could be any day, like a weekday in the middle of the semester.
- JC: We are obsessive problem solvers, which might make the balance difficult. Learning to make friends outside work is crucial. Yoga and gym. Talk therapy. I need to be forced to stop working. Be wary of the “constant work” culture: it is not natural.
- LD: “This activity or mindset keeps me balanced”, but my balance constantly changes. Adjust and adapt. Ask yourself constantly how comfortable you feel.
- EG: Focus ebbs and flows. Ensure to have balance. Easier said than done.
- AH: Family first and foremost: they help me to take breaks. Work is like a marathon: you do not want to burn out all your energy at the initial sprint. Give yourself permission to recharge.
- MP: Be mindful of yourself, as you are ultimately the main responsible to look out for you. The office is the office, but once at home you do whatever you want to do, like yoga and watch anime. Ideas can come at midnight, but that is another mindset. Set boundaries for yourself.
- LP: “Who am I outside work if all I do is work?” is what I wondered after graduate school. We are much more than our research. Find a second passion outside work, easier said than done, but worth the effort. Friends, family.
- MVJ: It is a long-term process. Learn to forgive yourself. We often want to be ambitious. We often tend to be a lot more ambitious than we need to be. There is actually a considerable gap between what other people expect from me vs what I expect from myself.

How do you convince yourself to take breaks, hobbies, and vacations? How do you deal with not feeling guilty of not doing school work or research?

- LD: Practice. As any skill, it requires constant practice despite temporary setbacks.

- MVJ: Therapy. A good therapist can rebuild your brain. Be an example for others, so the community knows it is ok to not feel guilty. By taking a break you can also be a good influence to the people around you.
- AH: You can be more influential than you think. By simply blocking out time slots, you set an example on the importance of taking breaks.
- AB: Through therapy, I have managed to reframe taking breaks as taking care of yourself to later be able to do the work you are supposed to do.
- JC: Have conversations. What is an intrusive thought? Be able to have the vocabulary to describe and voice what you feel.

How did your transition from undergrad to grad school affect your mental health? Do you have any tips for that change and possible culture/environment shock?

- JC: I thought I was tough, and I wanted to go to the toughest place possible. But then I realized that being beaten down to the point you are unable to read a book is pointless.
- EG: The grad school I went to for masters felt like a cutthroat competition. It was awful, especially as a minority. Having a supportive advisor and a supportive department is crucial. Find ways to create a community instead of competition. Create a bond with your cohort and other fellow grad students. Create or be part of student groups.

Regarding tips in general (not just for grad school): watch out your attitude regarding emails

- AH: Add a line to your email signature stating something to the extent of “If I have sent this message outside of regular business hours, I am not expecting a response until after regular business hours resume.”
- MP: Watch your email response. They were a big source of stress in my case. I do not need to be aware of emails 24/7. I do not need to check emails in my phone. I do not need a sound notification every time an email drops. Think really about what counts as an emergency for you. Do I really need to turn on my computer at midnight and resend an email I had already sent a week ago? Most things can wait.

Did any of you have to go against people’s opinions for pursuing your PhD, especially as a first-generation student?

- EG: As long as you have supportive people, not necessarily academic people, you can persevere. Despite my parents not understanding what grad school is about, they have been extremely supportive.
- MVJ: PhD will slow your salary ladder, so you need to be convinced that you want a PhD. Keep in mind that academia is a very small market.
- JC: If you happen to be crazy enough to do math or CS, you at least gain marketable skills for later.

We can get really nervous about productivity metrics. Best GPA, high exam scores, publish in high impact factor journals, etc. Should we use the term “productivity” in the first place when it comes to school and research? If not, then how do we motivate students to perform well?

- MP: Students should be encouraged to always learn, regardless of how many mistakes that they make along the way. Ironically, not worrying about productivity has made me more productive by simply being passionate without regarding work-related metrics.

- AB: Service is not numerically evaluated, but it is important, much more important than other metrics. Productivity should mean whatever you want it to mean. If people are positively influenced by you, then that is all that matters.
- AH: I pushed myself to produce a couple of papers early in my career. I didn't really like the project, and the papers produced never stirred much interest across the community. However, by later doing work I really enjoy, I gained reputation and awards. But those awards and reputation came as a side product, as I never really aimed for them.
- MVJ: If your passion is your work, then you are never not working. "You only count in academia if you pour your 110%" is a truly damaging attitude in academia, and sometimes you will need to be vocal against such an attitude.
- JC: You need to realize what you are good at. Either hard skills as coding, or soft skills as being able to organize events. Know and play your strengths to convince yourself you belong. Have collaborators that force you to go out of your daily zone. Redefine productivity as joy: if my work gives me joy, then that's all that matters. Take a step back, and realize exactly how much impact your work and joy has. You could get hit by a bus any day soon, so why worry about productivity?
- MP: Simple things are more crucial than they appear to be. Keep track of the small bits you do, as small bits eventually add up. "I learnt this small thing today" that is always a goal to be satisfied about.

Impostor syndrome: how do I deal with not feeling good enough for the institution I am at, or I aspire to be at?

- MVJ: The thought of not feeling I'm good enough is still around, so it is a long-term process to deal with it. In my case, as part of a postdoc project in a premier math department, I found myself coding a lot while doing very little theoretical math development. I felt I did not belong there, I felt like a glorified code monkey that very well could be working in industry, with the caveat that I was earning significantly less than industry. I grew depressed, as I couldn't justify myself belonging to a math department without doing hardcore math. What turned it around was listening to influential people's assessments of me and forcing myself to believe in what they were telling me. Later on, the paper that stemmed from this coding work has been quite important for many more research projects pursued by many more groups. Opening up a field and providing novel tools has a massive impact compared to answering a very specific question.
- AH: Impostor syndrome is super common in academia. Keep in mind who you see as a role models, as these models can go either way. Usually our "role model" is in fact an idealized combination of 5 different people. Then we end up comparing ourselves to an idealized, nonexistent super role model, to which we always feel inferior to.
- JC: Piggybacking on AH's idealized super role models, see your work from the POV of people outside your speciality. You will realize that very few people, if any, have the exact combination of skills you have.

The academic system was already frail when covid hit. Do you think that the past two years will make people more receptive about the importance of mental health? Or am I being too optimistic?

- LP: "You don't need to be worried about mental health in CS, that's a job for psychologists." I had to push against people, show them that I was in the right lane back in 2018. But now I see after covid, people are more receptive to talk about mental health. However, there is still a long way to go in terms of getting more people involved and being proactive about these topics. Computer Science cannot exist without people: we need to take care of people within CS to make CS better. Mental health is a community effort. It involves students, faculties, and whole families.

- MVJ: “We need to care about undergrad mental health” is not a controversial statement anymore. There is still a lot of discussion when it comes to resources and methods, but at least there is a start. However, these worries and resources diminish considerably up the academic ladder. There is still limited support for grad mental health, and even less resources for postdocs and so on. It was not obvious how to access the few resources available as I moved on the academic ladder.

Current research reveals that mental health issues are commonplace in academia. More than 75% of grad students worldwide work more than 40 hours a week, and more than 40% of grad students are unsatisfied with their work-life balance. If mental health issues are so commonplace, why is it hard to discuss them openly?

- MP: There is a stigma around mental weakness. We have to realize that students cannot properly learn if they are super stressed.

The cynic inside me thinks that it is easier to discuss work-life balance when you already have a job and a few papers under your CV. Should I then just put 60-hour long weeks for the next few years, so then I can relax?

- MVJ: There is never a real slowing down time. Pressure will not stop on its own. You need to stop it and pace yourself. 60h weeks are never reasonable at any point in your career. As stated by AH, work is a marathon, not a sprint.
- AH: Overwork is the enemy of creativity. By being well rested, you can do more in less time.
- MVJ: If you want to work long hours, at least make it varied. Don’t drive for a single topic: have side topics. I grind to a halt if I’m focused on a single track. Save time for exploration, inside and outside university. Build a career following shiny objects.
- MP: Creativity operates in mysterious ways. Sometimes answers come during the least expected times, and they very well only happen if you are rested and distracted. Interesting research problems can also arise while enjoying non-math activities.
- JC: Math is made by people. Math is deeply human. Human are resilient. We can cure IF we have the proper treatment and rest. Taking time off can make you much better than just keeping grinding. The idea of 60h week comes usually from desperation, which is a dangerous spot to be at. If you are in such spot, take 2 weeks off the grid and you’ll amaze yourself on how resilient your body really is.

Additional resources provided by panelists

- **Living Proof Blog**: A wonderful collection of bite-sized blog entries around Resilience in Math. Talented people can stem from any possible background. These blog entries were collected and curated by MP, AH, and others.
- A beautiful opinion piece written by MVJ, JC, and Julie Corrigan (2019) *Mental Health in the Mathematics Community*
- An **insightful checklist** by AB on how to ask for help, starting with taking a deep breath and calming down.
- **Reflections on lessons drawn from COVID** on how to improve the math teaching environment in college. Thoughts by AH and others. These are part of the **NExT project**, New Experiences in Teaching mathematical sciences.

A look into more numeric research

- On fostering student networks, groups, and mentorship, by EG and collaborators (2021) *Mentoring Opportunities in Computer Architecture: Analyzing the Past to Develop the Future*

- An article by LP and collaborators on anxiety and depression suffered by CS students in Brazil (2020) *The Prevalence of Anxiety and Depression Symptoms among Brazilian Computer Science Students*
- And a very recent article by LP and collaborators when looking anxiety and depression during the pandemic (2022) *Association of Positive and Negative Feelings with Anxiety and Depression Symptoms among Computer Science Students during the COVID-19 Pandemic*