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## Things that I wish I knew before starting graduate school

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I recently served on a Columbia University panel for prospective grad students. One of the students asked me and the other panelists what we wished we had known before starting graduate school. I summarized some of the main takeaways from the discussion here. Note that this advice is mostly directed at students entering US PhD programs in astronomy.

1. **Advisor.** If it's up to you, pick an advisor that you feel comfortable around and that you communicate well with. You'll spend countless hours with this person, and if you feel uncomfortable asking them questions, grad school will be a very long journey. I chose my PhD advisors based on personalities over subject matter, and I found that all topics were extremely interesting, once I dove deep into them. Older grad students are also an incredible resource if you want insight into what it's like to work with a specific professor. Don't hesitate to ask them.
2. **Travel grants.** Keep an eye out for conference travel grants. If you present your advisor with your own travel grant, it might be more likely that they'd fund e.g., the hotel for your trip. I found grants through AAS, my university (Columbia), but also random journals sometimes have travel grants. Ask peers and google this.
3. **Outreach.** If you do outreach, ask your school to help promote your work. My YouTube channel got a ton of views because the Graduate School of Arts and Sciences (GSAS) helped spread my

new videos with short descriptions in their newsletter and on various platforms. People like to help, especially if you make it easy for them. For each new video release, I sent GSAS links and a descriptive text that they could use for their various posts.

4. **Peer mentoring:** Find peers that you feel safe sharing struggles with, but also your goals and ambitions without any judgment or competition. Having friends in your cohort also makes homework sets much more fun to do.
5. **Outside hobbies:** Take up hobbies and take real breaks. Leave the laptop at home on those breaks. You will likely crash and burn if you solely work all the time. I speak from experience. Outside interests will help you gain perspective and make you realize that the PhD isn't your entire life, even though it feels like it at times.
6. **Avoid comparisons.** Some students might be in the office until 11pm each day. Some might make their work seem effortless. But the truth is that you don't know what goes through their minds, or how much or how little they actually work. Try to solely stay focused on your own progress and how much you have learnt and grown instead.
7. **Grad school is hard.** I had a very positive experience in graduate school over all, but it was definitely very tough at times. It can get frustrating and lonely once you narrow your expertise and work on the same project for years on end. The uncertainty of whether your research will succeed, is a very different feeling than any you might have experienced in undergrad, where you had exams, homework etc. Prioritize building a support system of friends, family, exercise, and hobbies. I also highly recommend looking into mental health support offered by your school. And sleep - prioritize sleep!