

The “*Ten Commandments*” to staying sane during a PhD

Maya Schuldiner, the Weizmann Institute of Science

In many aspects of life our expectations do not match reality... For example, if you thought that having children is pure and constant fun, you will be shocked once the actual ones come along. Similarly, many students start their PhD expecting it to be fun, make them happy, give them a constant feeling of success and achievement etc... But in reality, doing a PhD is **HARD!!!** A PhD is physically exhausting, emotionally trialing, forces you to deal with failure on a daily basis as well as to constantly test the limits of your abilities (see my other piece on “The mid PhD crisis”). Hence, it is not surprising that with such unrealistic expectations, many PhD students are shocked by how they actually feel. Often, even the best and most accomplished students feel like they are failures during their PhD studies. Interestingly, just like parenting, in retrospect it is easy to see how the experience was rewarding, important, helped build character, was satisfying, fulfilling and much more.... But retrospect doesn’t help when you are in the “right now” of it all – so, how can you stay sane during your PhD? Here are my “10 commandments” to surviving and thriving in academia:

1st commandment: Start your PhD with realistic expectations of what you can achieve.

The PhD is the first step in the long, long road to becoming a scientist. Before starting it remember what the goals of your PhD are. Be realistic – you will not cure cancer or get a Nobel prize for your PhD but you could get great training and discover what you want to do in life – two extremely important things. If you set realistic expectations you will be happy when you achieve them so think of what your goals are and what you need to do to get to them. It is hard to give an “objective” criteria for a good PhD, and of course it depends on what you want to do next, but for example, in my eyes a great PhD is one where you:

- Finish the time in the lab happy with your achievements, proud of yourself and having the tools and credentials to move forward in the career path that you choose.
- Learn how to think about scientific problems and how to plan and complete a project.
- Travel to international conferences to be exposed to the international community and see how science is communicated.
- Learn how to give good scientific presentations.
- Learn how to critically read scientific work
- Learn new scientific tools and methods
- Learn how to write scientific writing and write at least one manuscripts where you are lead author on. Being lead author on at least one manuscript, will probably allow you to move forward in the direction that you want. The manuscript from your PhD does not have to be in the top-ranking journals but it should show that you could start a project, lead it and finalize it for publication. Knowing how to wrap up a story is part of doing science.

Notice that a lot of what I wrote above is about learning and not about any specific output. Remember that a PhD is a training time and take advantage of it.

2nd commandment: Work with people that enable you to grow

Choose your mentors well – they will be a part of your scientific journey for many years to come. Don't confuse a successful lab with a lab that will enable you to succeed! You should go to a lab where you will be happy to spend your entire day (so get a sense of the other lab members and the environment) and you should be able to communicate freely and efficiently with your PI so that they can optimally support your training.

Your mentor does not have to be your PI. It can be a senior PhD or postdoc in the lab or someone in your department. Look around and find people to mentor you in various aspects of your academic life. Share your data with lab members, talking to people and communicating your ideas helps to understand better what are the strength and weaknesses of the project.

3rd commandment: Remember that science is not a 100-meter race

What I love most about science is that it's NOT a competitive sport. In a competitive sport, like a 100meter race, you either come in the top 3 places or your work was for nothing. Its either winning or losing. Luckily, doing a PhD is actually much more like a marathon – the achievement of participation and ending the course is the goal. Every PhD work, if done well and published, will contribute something to human knowledge making it important. Each student has his own tricks to finish the marathon. Some run at the same slow constant pace through the entire track while other start slow and raise their pace through the end. What is most important is to find your style and use it so that you can continue to participate.

4th commandment: Learn how to make pit-stops or you will break down

Science requires love, passion, dedication and creativity. It is a long-term process so make sure you can go the whole way... Sometimes we think that in order to succeed we need to work super long days, but often that cannot be maintained. It is better to work on a sane schedule but be healthy and persevere than to work in a crazy overloaded schedule and then fall very ill or quit science because you cannot stand the pressure. Know that you have to give your body and mind a rest. Most labs and classrooms are closed areas with artificial lighting and a lot of the work you perform does not involve physical activity. So, getting outside when it is still light and moving your body is extremely important both physically and mentally. Taking pit stops is important on many levels: On a daily basis find time to eat/ drink/ sleep enough hours. On a weekly basis, carve out time to do something for your own well-being (such as sport, hobbies, culture, friends, family). On a yearly basis learn to take vacations at given intervals – short, weekend vacations every couple of weeks and one or two longer vacations during the year. To really be successful in the long term you have to find a good balance between your work and your private life

5th commandment: Create a solid support platform

Since the PhD is a taxing time, make sure you have people that you can lean on in times of trouble. For example, it really helps if your partner is onboard and supportive of your life decisions. Make sure to spend time with your family and friends. For me personally it has always helped to also have professional support – if it's a psychologist or a coacher – having one protected hour a week to think of my life decisions, hardships and successes has been a

great help for me. You can also consider joining a support group. Nowadays most universities and research institutes have some form of guidance services for their students (such as coaches, psychologists, support groups etc...) and often you may not even realize they exist until you look for them.

6th commandment: Learn a time management approach and utilize it

Being a scientist is not a 9-5 job! There will be times when you need to work nights and weekends or go to long meetings abroad. But this does not mean that during most of the times you cannot accomplish a lot between 9-5. Staying longer in the lab is not always the most productive use of your time, especially if you wear yourself out. It used to be that people that were not “married” to their science were considered less devoted or dedicated to their work and hence less serious or suitable to be scientists. Having three children and juggling my family life and my work on a daily basis – I often work 9-5 and know that this does not make me any less dedicated to my science, just also devoted to my family.

In my eyes what is important is to be productive and efficient during the times that you can work and leave time for excitement and curiosity so that you will enjoy the scientific path. To do that it is important, in my eyes, to learn how to manage your time effectively so that you carve out a place also for relaxation and outside activities. You can do this by reading recommended time-managements books, hear some of the great lectures online or join a time management course. Remember that productivity is a curve, you cannot be super productive all the time, however utilize your time in a way that will maximize your productivity. Most importantly, remember that it is OK not to be at work all of the time, so when you are not at work do not think of work, do not be worried about work and do not feel guilty about not being at work! But when you are at work be focused on your work and make things happen.

7th commandment: Do not compare yourself to others

The life style of an academic means that every couple of years, as we progress in the academic track, we become part of a smaller group of peers that have been “selected” for very specific talents. Our “reference” group is therefore becoming more and more accomplished and comparing yourself to others stops being effective – everyone is good around you *including you*.

Comparing yourself to people around is a sure road to misery. This is because, as humans, we have a tendency to compare ourselves to the single best person in every aspect – We will always find the one person that has a better paper, the one person that went to more conferences, the one person that gives better talks etc....and compare ourselves to them. But you must remember that what makes a good scientist is not any single trait. Who YOU are as a scientist is much more complex – it is about the entire repertoire of your abilities and achievements and not about any single aspect of them. Accept the type of person that you are. There are many ways to do science. There are many personality traits that can help you succeed. Focus on the ones that you DO have and build on them. Spend time developing the positive aspects of your personality and make them a bigger part of who you are as a scientist

Stop trying to be what you are not. The great part of doing science is that you can always collaborate with people that complement your skills or abilities.

In this respect it also helps to learn to create internal vs external standards for success. When you have internal standards, you can be happy once you achieve them.

8th commandment: Learn to be kind to yourself and rejoice success

When there are so many balls in the air – some are going to fall. Science is inherently an occupation where you are wrong most of the time and most experiments don't work.

Forgive yourself when you mess up and use each failure to learn.

We are all really good at beating ourselves up when we fail but phenomenally bad about being happy when we succeed! Find time to be happy when things go well. Celebrate major milestones (major experiment working, having a great idea, paper being submitted, fellowship being accepted, etc...). Don't forget to share success with your partner, family and friends so as to let them be part of the process. You want them to be around for you when you are down so make them a partner also when things go well.

9th commandment: Stop to collect your thoughts

Although the PhD takes a long time, it is also over before you know it. It is important to stop once every two weeks, for an hour, to collect your data and thoughts and plan what the next weeks will look like and what you want to achieve. Use external deadlines (seminars, group meetings) to organize your project and plans and to evaluate your own progress. Do not be afraid of changes. Sometimes you know for a long time that something simply does not work for you (the field of study, the experimental system, even the lab). If that is the case than make a change. It could be something "small" like reading and thinking about another experimental system that can enable you to ask the same question, or "huge" like changing your research project. Whatever it is – be proactive and make a change so that you don't see your PhD going by frustrated and powerless to alter course.

One extremely stressful aspect of the PhD is that in the most complicated phase of it, while you are trying to wrap things up and make it happen, you usually have to also make the biggest decision since deciding to start a science bachelors. You need to decide what you want to do with your life and execute many things in order to reach your goals. So, make sure you do not find yourself in the last year of your PhD having no clue what you want to do with it. Take time once in a while to stop and think what you want to do once you have finished your training. Remember that a PhD is about learning who you are and what you want to do.

10th commandment: Don't forget to enjoy the way

Doing a PhD is hard. If you don't love it then it's not worth it! Breath, laugh, cry – it is all OK. This is part of being passionate about what you do. Remind yourself everyday what a privilege it is to be doing this (having a choice, being creative, working with great minds...). A career in science is like a roller coaster – it is going to have its ups and downs but it may very well turn out to be the ride of your life....

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