

Tips for Surviving Graduate & Professional School

By David H. Nguyen, Ph.D.

Self-Published/Kindle Direct Publishing

5th Edition. 2025.

1st Edition. 2013.

Principal Investigator – Tissue Spatial Geometrics Lab

www.TSG-Lab.org

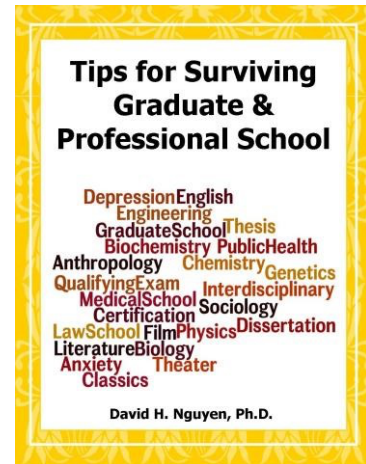
Email: david.hh.n@berkeley.edu

About The Author

David (Dave) H. Nguyen obtained his B.A. in Molecular & Cell Biology, and Ph.D. in Endocrinology from the University of California, Berkeley. He went through four years of depression during his doctoral program. He has advised many graduate students and medical students ever since on matters of depression and disappointment. Having struggled with depression has given him a new perspective on success. He hopes that the advice in this book will make the inevitable frustrations of graduate and professional school more manageable.

Dave is a self-funded, independent scholar writing algorithms to crack the multi-dimensional codes that govern biology but that are not stored in DNA. He invented the Linearized Compressed Polar Coordinates (LCPC) Transform that can capture spatial context in ways that traditional methods – such as area, surface area, volume, etc. – cannot. The code is open source and on GitHub (Google “GitHub David Nguyen LCPC Transform Radial Parallel”). In concert with his work on spatial statistics algorithms, he coined and is developing the concept of Hereditary Non-genetic Information (HNI, pronounced “honey”) to formally describe the non-linear codes, not stored in DNA, that govern the shape of molecules, tissues, organs, and tumors. Information about his work can be found at www.TSG-Lab.org.

Copyright 2025



Disclaimer

This book is not intended to be or to replace professional medical and/or mental health treatment.

Endorsements

"For too many students, graduate school looks like a game whose rulebook they're not allowed to see: it's different from college, but nobody tells you how. The practical advice in David Nguyen's little book not only will help graduate students avoid some of the common pitfalls, but will help undergraduates prepare themselves for what their advanced studies will bring them."

Steven Justice, Ph.D.
Professor of English, University of Mississippi
Professor of English, University of California, Berkeley

"Most of us who've been a graduate student know how difficult it can be, for reasons we can't foresee. These challenges strike at the heart of our identity and feelings of self-worth. In this handy survival guide, David Nguyen helps the reader navigate these graduate school pressures. The advice he dispenses is timely and relevant and worth re-reading at various junctures in graduate school."

Francis Su, Ph.D.
Professor of Mathematics
Harvey Mudd College

"If it wasn't hard, everyone would do it," a quote from the movie *League of their Own*. David Nguyen has the courage to unmask the hard and complicated survival path of getting into, through and completing graduate and professional school. He gives practical advice in a friendly page-turning book of survival tips with respect to academically and emotionally charged challenges. In my 34 years in science, I have encountered many graduate students who would have benefited from this handbook. David creatively weaves his story and that of others into the book with respect to self-worth, diversity and inclusion, and striving for excellence. David is a leader, mentor, and a person I have enjoyed working with. His book shows us that there are many paths to success, and that you should not give up on yourself."

Kathleen A. Bjornstad, B.S.
Staff Research Associate
Lawrence Berkeley National Laboratory

This is an insightful and compassionate guide that speaks directly to the real challenges graduate students face. Written directly to the student, it's not stiff academic counseling from a book-educated psychologist or a psychiatrist, but from someone who has lived the experience. I was encouraged to see how strongly his advice resonated with my own experience. After more than 40 years as a professor at research universities, I can say that his insights and guidance are spot-on. This is something every graduate student should read.

Robert J. Marks II, Ph.D.

Distinguished Professor of Electrical & Computer Engineering

Baylor University

Dedication

To all those who have struggled through graduate and professional school.

To all those who have helped me through mine.

Table of Contents

Preface.....	Pg. 7
New Additions to This Edition.....	Pg. 7
Chapter 1 – The Right Mentality.....	Pg. 8
Chapter 2 – Qualifying Exams, Committee Members, and Advisers.....	Pg. 12
Chapter 3 – Healthy Self-Actualization.....	Pg. 18
Chapter 4 – Financial Planning.....	Pg. 21

Preface

Graduate and professional school is a privilege for the few who are fortunate enough to get in. It is the opportunity to study a subject at the highest level, or to receive vocational training at the highest level. I deliberately use two terms, graduate and professional, to describe the target audience of this book, because this identity is what I have gleaned from interacting with many students. Within the label of graduate school, I include the humanities and the sciences. Within the label of professional school, I include law school, medical school, masters of business administration (MBA) programs, and vocational certificate programs. The majority of my experience is that of a scientist, but I think that many of the tips that are provided will be applicable to those in other fields of study.

This book was written for those who are currently in graduate or professional school, who are about to start, or who are thinking of applying. For those who are thinking of applying to graduate or professional school, don't let this book scare you off. For those who aren't even in college yet, it's way too soon for you to be concerned about the things in this book. Go through a few years of college before letting this book influence your decisions.

Mental health problems seem to be on the rise in our society. The internet and social media have flooded every hour of our lives with information and expectations, while we still only have 24 hours in a day. Graduate school can be a very difficult time for people, causing depression and the debilitations that follow. Having advised many struggling students – and having been one myself – I hope this book will be helpful to many who will embark on furthering their post-undergraduate education.

New Additions in This Fifth Edition

Tip 6. Realize the context of what kind of detailed knowledge your program does NOT require you to know.

Tip 7. For law and medical students: The Bar Exam or Board Exam is what certifies you, not your grades.

Tip 26. Learn and practice financial literacy.

Tip 27. Understand the financial credit system in the United States for buying a home or car in the future.

Chapter 1

The Right Mentality

Tip #1. Success in graduate school is subjective.

Those who get into graduate school are used to being at the top of their class. In fact, that's how they got in. One of the most difficult aspects of graduate or professional school is adjusting to a system in which the attainment of success is based on subjective factors. During their undergrad years, grade point averages (GPA) were objective measures of success. If you had a good GPA, then it didn't matter what others thought about you, you knew that you were good. Graduate school and professional school, however, have a sneakiness known as being "accepted" by your advisers, peers, experts, etc. Your GPA during graduate school doesn't really matter (unless you are in law school). On top of that, everyone's smarter than before. Furthermore, in academic research, being "smart" doesn't really matter either, because ultimately, it's about making contributions that move a field of knowledge forward or bringing about a remedy for a societal problem. You don't have to be super smart to do that. You just have to be smart in the right way (see Tip #4) and lucky in the right way (see Tip #24). In professional degree programs, such as law and medicine, students may suddenly find that the effective test taking skills that got them into the program aren't really helping them with the people skills that are needed to interact with their faculty and colleagues. They sometimes are frustrated that fellow students who are weaker test takers seem to win the coveted brownie points among the faculty because those fellow students are better at social interactions, are more confident, are better at fielding answers when put on the spot during lectures or are just more outspoken. Being outspoken and having a lot of interactions does have its upsides, but they are no guarantee of future success.

Consider the case of James Holmes, the 2012 theater massacre shooter in Colorado. Holmes was a star student at University of California, Riverside, but failed his qualifying exam at the University of Colorado, Denver, several weeks after which he went on his shooting spree. What happened to that bright student? He had great opportunities at both institutions, but something was amiss. We don't know all the details and motives, but the frustration that seemed to have led up to that event are eerily familiar when I think about the many graduate and professional students whom I have advised, but who responded less destructively to their disappointments. Holmes may have had a mental disorder that was amplified by the stress of graduate school, but his story is a lesson for us all. (See Chapter 2 on tips regarding qualifying exams.)

I've been around the University of California, Berkeley campus for over 20 years, and almost every year I hear about a student who committed suicide. It's a tragedy for the student and his/her family. It's also a tragedy for the university; that the university failed to train-up its students in

some fundamental ways. In the midst of intellectual and technological grandeur, what is the university not teaching students about life and living?

Tip #2. The road to success is seldom straight.

People often think that success in life is a straight line from the bottom to the top. This mentality will demoralize the graduate student who is having a hard time. The reality is that the line might start straight in an upward direction, and seem straight decades later, but the middle portion is a convoluted ball of yarn. Consider how Microsoft and Apple started in garages! Understanding that setbacks and disappointments are a natural part of graduate school will help you cope with difficult times *during* your graduate program. It will also help you cope with difficult times *after* graduate school.

Tip #3. Good mentorship is what tracks with future success.

The healthiest graduate students that I know are ones who are open to different career paths. Many graduate students enter Ph.D. programs thinking that they will one day occupy some faculty position in an ivory tower of some university. The reality is that 60 years ago that was a real possibility for most graduate students. However, today the academic system has become saturated, which requires graduate students to become a new breed of thinkers, doers, movers, and shakers. However, if we were to define success as holding a faculty position at a research university or running your own laboratory, then the one feature that tracks with that type of success isn't SAT score, high school GPA, college GPA, which college you graduated from, or which graduate school you graduated from. It's about how good your mentors were, and how good they were to you (see Tip #18B). This is likely to be true in many fields of study or lines of work.

Tip #4. You don't need to be good at every subject.

The first several years of graduate school are when students take most of their courses. This is one of the reasons why the first few years can be the most difficult times of adjustment. Not only are your classmates smarter, but the course material is much harder. Furthermore, in graduate programs with large entering cohorts, everyone is trying to impress everyone else, so the stakes seem to be higher for everything: your first paper, first midterm, first presentation, etc.

The fact of the matter is that graduate school is a marathon, not a sprint. There are many more ways to show your worth in graduate school than a good performance during your first year. In fact, things like fortitude, diligence, maturity, and resilience, are the true markers for the making

of a successful academic or professional. Furthermore, creativity and unique perspectives forged over time are the engines of innovation and insight – not first year performance awards. These aspects are not mutually exclusive from shining during your first year, but shining early on is definitely NOT a prerequisite to attaining success later.

Another fact of the matter is that not all the courses that you are required to take during graduate school will actually apply to your research later on. So, it's OK that your fellow classmates seemed to be so much better at this subject or another. Success in the practice of your discipline within or beyond your program does not require straight A's, or any A's for that matter. A's might help, but the real-world problems that you will later face require very refined areas of expertise that no graduate courses can provide.

Tip #5. Forget the Nobel Prize or whatever other prizes it is that you want.

This might sound silly, but some graduate students are overly fixated on one day winning the Nobel Prize. Sorry to burst your bubble, but the Nobel Prize has more to do with “workplace” politics than scientific merit. Don't get me wrong, the Nobel Prize has always been given for great research – and there is a lot of great research out there. However, in the sciences, only three people will get the award for a topic that might be studied by tens of thousands of people over several decades. Randy Schekman, Ph.D., recipient of the 2013 Nobel Prize in Physiology & Medicine, candidly said in an interview for University of California, Berkeley that he got the credit for work that had been done by many people. Think about that and give yourself a break.

Early on in my research career, one of my mentors – Suraiya Rasheed, Ph.D., University of Southern California – gave advice about the Nobel Prize. In her younger days, she vied for the prize, since she was a tigress – a term she used to describe herself as she smiled and nodded – within HIV research. I remember her advice as if it were yesterday: “You can't want it too much. It will consume you.” It's fun to work towards awards, and ambition is important, but being sober minimizes the frustration of a difficult training program. Furthermore, wanting something too badly makes you do shady things to people. I've heard first-hand and second-hand account of crooked things that researchers do to each other and their trainees out of paranoia of not getting some award.

Tip 6. Realize the context of what kind of detailed knowledge your program does NOT require you to know.

People who go to graduate school are driven individuals who understand the value of having deeper knowledge. However, this trait can backfire if the student has the wrong mindset about

what they are expected to know. I once had a lunch with a student who was doing a Masters in Nursing, or some other field in clinical medicine. He felt sorely inadequate as a student, because he didn't have time to "fully" learn the molecular biology of behind the medical topics he was learning. The problem stemmed from the fact that he was a biochemistry major in college so he was still wearing that hat in his graduate program, which was emphasized clinical applications of medical knowledge. Some of the professors who taught his graduate courses were scientists and not clinicians, so the level of details about molecules and intracellular signaling pathways they teach are more than a clinician would need to know. I clarified that medical programs often ask scientists to teach parts of first year courses that focus more on biology knowledge than clinical knowledge. Furthermore, because these scientists' jobs are to know a level of detail that isn't practical or even applicable to clinical practice, it's important for clinical students to understand that they don't need to know that level of detail for every medical topic that they encounter. When my friend realized that he was unnecessarily wearing the hat of the biochemistry major who was trained to do research, he let out a sigh of relief. His focus then shifted towards retaining biology knowledge that is applicable to clinical practice, which is very different than the biology knowledge needed to unravel molecular pathways inside of a cell for the sake of developing a drug that will clog that pathway.

Tip 7. For law and medical students: The Bar Exam or Board Exam is what certifies you, not your grades.

A common insecurity among medical students and law students is that their self-worth as a professional is tied to the national ranking of their graduate program. It's hard enough to not compare yourself to your classmates, so it can even be further self-demoralizing in your low moments to think that you won't be successful in the future because other people got into more competitive programs than you did. My friends have shared that what got them through the tough moments of medical school or law school was the realization that no matter what school they were studying at, everyone must take the SAME licensing exams. Your ability to get a license to practice law or medicine has nothing to do with the name of your school or your rank in among your classmates. For law students, each state in the United States has its own Bar Exam. For medical students in the United States, they must pass the United States Medical Licensing Examination (USMLE). For medical students studying in Doctor of Osteopathic Medicine (D.O.) programs, they must take the Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA).

Chapter 2

Qualifying Exams, Committee Members, and Advisers

Tips on Qualifying Exams

Tip #8. Meet with your committee members ahead of time.

Your qualifying exam committee wants to help you pass the exam. Different programs or departments do qualifying exams differently, but generally you will present your research and defend it before 3-4 faculty members. My advice is for you to meet with each of them at least once before your actual test. Talk to them about your research and what subject areas they think you should know that will help you in your research. The fact of the matter is that each committee member is busy, so failing you means that they have to do this 3-hour exam again. Most would prefer not to do that, unless they just like being on power trips or something. Prepare along the way before and while meeting with them. These meetings are opportunities for you to practice briefly describing your research – expect to receive questions. These meetings are opportunities for you to “start the exam ahead of time” by showing them that you are capable of learning, thinking, and receiving feedback. During the exam they will still ask you questions, but they already have an idea that you are where you are supposed to be as a second- or third-year graduate student. You are a second- or third-year student. They don’t expect you to know everything in your field -- because they don’t know everything in their fields either, after decades of research!

Tip #9. Realize that a lot of people are smart, in addition to you.

It’s great to want to impress your committee about how smart you are, but do be careful not to be arrogant. It helps to understand that confidence is not the same thing as arrogance. It is possible to be confident in yourself, yet humbly acknowledge your limitations. Each of your committee members will have an area of expertise. They might end up asking questions that show a lack of understanding in your field of expertise. Answering their question in a way that makes them look stupid is not a good idea. You’re a grad student, meaning you’re smart. It’s important to understand that your committee members were also once graduate students, too. Your committee members got to where they are because they had the type of smarts that was needed to make the types of contributions that they did in their respective fields. If studying for the qualifying exam does not convince you that no one person knows everything, then you’ve missed one of the major points of the exam. In this highly interconnected and fast-paced world, respect and teamwork is essential for getting things done.

Tip #10. Do a chalk talk for the qualifying exam.

If you have the option of doing a “chalk talk” instead of a Powerpoint presentation, go for the chalk talk. Chalk talks have multiple advantages over Powerpoint presentations in this situation. (1) Drawing on the chalk board slows you down and makes it easier for your committee – who are not experts in your field – to follow what you’re saying. (2) Anything that is presented to them is fair game for a question, so drawing on the board allows you to control what it is they see. Your strength is your research, not tangential topics that happen to be on the screen. Your committee members are curious people. They can and will ask tangentially-related questions. Sometimes they will do this on purpose, out of curiosity or to see how fast you can think on your feet. They know that these are the hardest questions, and that you’re a second- or third year graduate student who is trying to answer them.

Tip #11. Do a practice exam before the real exam.

Make sure to do at least one mock exam before the real one. Invite graduate students and post-doctoral fellows who work in the labs of your committee members. They know how your committee member thinks. Ask them to ask questions about your research that your committee member might ask.

Practice exams are a great way to get honest feedback about where you are in the preparation process. Practice exams are often much harder than the real exam (they should be), but that’s what gets you ready for the real thing.

Tip #12. Prepare for the three types of questions that will be asked.

Three general categories of questions have emerged from discussions with graduate students about the types of questions that they get.

(1) *The factual knowledge question.* These questions are about facts regarding certain topics. They will be facts about the background information of your research, and facts about how certain experiments are done.

(2) *The tangentially related question.* These are the hardest questions to answer, since they require you to think about how your research applies to other areas of knowledge or topics. Outside of the qualifying exam, they are also the most interesting type of questions since they have the potential to lead to new discoveries or ways of thinking.

(3) *The “apply this concept” question.* These are also hard questions, since they require you to apply the concepts that you know to a question that has no answer. You will have to speculate, provide multiple possible answers, and give reasons and conditions for each answer.

Tip #13. Talk to senior graduate students about qualifying exams.

Senior graduate students within your program or department are a good source of advice on qualifying exams. However, the best sources of information on this matter are the faculty members who have served on exam committees. Stephen Justice, Ph.D., Professor of English at UC Berkeley cautions that senior students may have some good advice to give, but he once presided over a qualifying exam in which the student nearly failed. One of the reasons was because the student received advice from an older student suggesting that if he didn’t know the answer to a question, he should just keep talking.

Tips on Committees and Advisers

Tip #14. Dissertation Committee vs. Adviser

The dissertation committee is a form of “checks and balances” regarding your adviser. You should meet with them at least once a year to let them know of the progress, or lack thereof due to various reasons, that you have made. Each doctoral program has an average time in which a student finishes the program. The fact of the matter is that you are an investment that your doctoral adviser has made. Your adviser wants to get as many publications from you as possible, and sometimes they are tempted to continue holding on to you when it is clear to your committee that you are ready to graduate. Let’s be mature about this, you would probably be tempted to do the same thing if you were in his/her shoes. The purpose of the dissertation committee is to give you advice on your research from perspectives that are different than your adviser, but to also remain free of conflicts of interest, so that they can remind your adviser that it’s time to let you go. On the matter of keeping students for the purpose of publications, Stephen Justice, Ph.D., Professor of English at UC Berkeley points out that while this is true of the sciences, social sciences, and some professional programs: “In the humanities it is almost unheard of – not because the faculty are less grasping, but because publication with grad students or publication based on grad students’ research is simply not how the fields work.”

Tip #15. Advisers are human.

Advisers are human, just like you. This means that they have egos, don't like to be wrong, have insecurities, and may want all the credit in public for your work. All of this is normal, and should not be too concerning. If you're lucky, you will end up with an adviser who is secure enough to recognize and celebrate your talent and growth. If you're not lucky, then you'll have to learn to navigate this relationship for a number of years. You can respond in different ways. (1) You can let it harden you such that you become harsh against others in the future, or you can let it strengthen you by learning compassion towards others because of what you've been through. (2) You can let it defeat you such that you give up on your studies altogether, or you can talk to your dissertation committee chair, or other faculty advisers, and leave this person for another adviser with whom you'll be happier. (3) You can continue working with this adviser, while talking to other advisers who can see you in a different light because they are not your official adviser.

I've known of situations in which the adviser just didn't get along with the graduate student. There was something not right between them and I'm glad for the student that the partnership ended. Their personalities just clashed the longer they interacted with each other. It's really hard to know how a person is until you've interacted with them for a while. Everyone is really nice during the interviewing process.

Tip #16. Advisers may have their own personal problems.

Sometimes advisers are going through difficulties in their personal lives. Whether they know it or not, they take their frustrations out on their students. I've seen advisers yell and scream insults at their students for the most minor things, or things for which the student was innocent. If you hear your adviser question the university from which you graduated for having allowed you to graduate, it's time to think about finding another adviser.

Tip #17. Some advisers just don't get you or don't want to.

Advisers are busy, so they don't always invest the time in you that they should. That's normal, and is part of the forging process of graduate training. You have to learn to teach yourself alongside varying degrees of guidance from this place or that. Some advisers just aren't able to see the potential in you for one reason or another. Some just don't want to put in the time to cultivate that potential. In those cases, get to know other advisers who do. These advisers will give you the affirmation that you need to grow as a student. Since they are not your official advisers, there is less conflict of interest that might prevent them from acknowledging or affirming your talent.

Tip #18A. One adviser, but multiple mentors.

You may have one official adviser, but that doesn't prevent you from having multiple unofficial advisers. These unofficial advisers, let's call them mentors, can be very helpful throughout your graduate program. I highly recommend having multiple mentors with whom you can discuss research or just share your concerns. It doesn't hurt to have extra, independent sources of support. Every adviser has advice based on their personal experience. However, each person's experience is slightly different. Ask advice from many people and piece together the parts that will work best for you. There are people out there who think that any advice they give you should benefit them in some way, beyond just the satisfaction of having given advice. Learn to see conflicts of interest, be mature about it when you do see it, consider whether you want to participate in it, and then pave your way.

I dealt with depression for four years during my doctoral program. The combination of negative events in my personal life and the lack of progress in my research – all of which were out of my control – sent me into, and kept me in, depression. I took a semester-long break from my program just to recuperate. During that time I talked to Deborah Johnson, Ph.D., who was at that time on the faculty at University of Southern California, whom I had become acquainted with through a mutual friend. She encouraged me not to give up on my research career, and shared about how her years as an assistant professor were very difficult. She had just moved by herself to Los Angeles, she felt lonely, and her mother suddenly passed away during that time. But she said that in hindsight, that was just a blip in her career and that my slump would also be just a blip one day. I really appreciated that conversation, and as I got better through my rest I found the strength to continue pursuing a career in research.

"What kind of mentor do you want to be?" asks Kathleen A. Bjornstad, B.S., of Lawrence Berkeley National Laboratory. She continues, "You have an opportunity to teach others as you are learning, raising the bar of being helpful and passing on ways to survive on this learning curve of skill set and education. It is not easy to be asked to be a mentor when you are still in need of being mentored." On this point of thinking about what kind of mentor you want to be one day, I'd like to add a few thoughts. On the one hand, you can't make everyone happy and you are entitled to having "bad days" once in a while. But on the other hand, persistent lying, cheating, and deception, may seem to go unnoticed, but it doesn't. This will catch up to you at some point, though you may not realize it. The thing is the decisions that you make along the way are the things that turn you into what you become. The earlier you realize this, the easier it is to change course and to not blame everyone else for your situation.

Tip #18B. The three types of mentors.

There are three types of mentors. Tier 1 mentors are also known as your official “Advisor” in graduate programs. They are experts in a certain area and provide guidance on a certain subject matter. Tier 2 mentors are ones that will give you “tricks of the trade” about succeeding in your field of study or research. Tier 3 mentors are the best type of mentors. Not only can their roles encompass that of tier 1 and 2 mentors, tier 3 mentors share the same goals as you do and will help you attain those goals. Tier 3 mentors are the ones who are sometimes your therapist and sometimes your cheerleader. However, tier 3 mentors are the hardest to find. As to what recipe makes a tier 3 relationship between mentor and mentee, I don’t know. There are so many factors involved: personality, shared interests, shared goals, etc. I once heard a prominent biologist say that while she was looking for a mentor in graduate school, one of the most obvious choices in her program wouldn’t work as a mentor because that person loved cats or had some hobby (I don’t remember exactly) to a degree that she felt was weird.

Chapter 3

Healthy Self-Actualization

Tip #19. Learn to be OK with being imperfect.

The graduate students who expect themselves to be awesome and perfect are some of the ones who have the hardest times adjusting to the difficulties of graduate school. Expecting oneself to get perfect scores or the highest grades is a recipe for disaster. Yes, it felt good during your undergraduate years, and yes it still feels good in graduate school. But no, it's not necessary for success in and beyond graduate school. Don't completely ignore your grades, but learn to be OK with not having perfect scores or not impressing people as much as you wanted. That's OK.

Tip #20. It's common and "normal" to feel like an intellectual fraud.

This is one of the most common feelings during graduate school. You feel like the admissions committee made a mistake on you. You feel like they misread your name as someone else and sent you an acceptance letter. Well, you feel this way because you are being trained at the highest level. It shouldn't be easy – but it shouldn't be impossible either. Just keep trying, keep learning, and keep doing, while finding help from counselors, advisers, and friends who will support you during this process. This feeling is known as the Imposter Syndrome. This is one of the places where department heads are very important. The feeling of safety that is necessary for people to talk about their struggles of the Imposter Syndrome – and thus not be debilitated by it – needs to happen from the top down. It is helpful to find a community of fellow students or colleagues that will be open to discussing this matter. Dragonfly Mental Health (<https://dragonflymentalhealth.org/>) has done a great job unraveling the stigma of mental health challenges in graduate school. Here is a great video they made about faculty members being vulnerable about the mental health challenges they faced throughout their careers:

Breaking The Stigma: Cultivating Mental Health as an Academic

<https://www.youtube.com/watch?v=jRNPYh-8SvE&t=217s>

Tip #21. Realizing that you need help on how to do research.

Many graduate students are great test takers, which is how they got into graduate school. But some graduate programs require things like research and experimentation or require the learning

of a subject that contains a type of knowledge not testable by a written test. Some students become very demoralized when they realize that being a good experimental scientist, communicator, or writer isn't helped by great test-taking skills. Real-world problems are not like word problems in textbooks and exams. They are messier, less clear, and possibly without an answer. This is especially true in fields of study that involve experimental research. This realization is the beginning of your growth as an experimenter or nuanced thinker. Seek help and advice from a senior person. Confess to them that you need help. Resist the temptation to make up results or tamper with other people's experiments so that they don't make more progress than you do. Choose to be better than that.

Tip #22. You do not deserve to be sexually harassed.

Sexual harassment is a problem in many places, including universities. Victims of sexual harassment can end up in depression, end up quitting their programs, and worse. It is a problem that universities and departments need to take more seriously. Victims sometimes end up blaming themselves for the harassment that they face from advisers or superiors, which makes the depression even worse. They start to think that their intellectual and personal worth does not warrant respect, that they deserve to be sexually harassed. It is important to realize that just because someone is feeling stressed and overworked, it does not give them the right to sexually harass you. This may sound absurd, but I've heard this as a defense of those who sexually harass students. I know people who have been sexually harassed in the workplace and in the university. There is a reason why we have laws against sexual harassment. It ruins people's lives. There are counseling centers that specialize in confidential treatment of mental health issues due to sexual harassment. The Rape Trauma Services center has a 24-hour hotline staffed by professionals who are trained for these types of situations. www.RapeTraumaServices.org, (650) 692-7273. The following website catalogs the crisis hotline numbers in many countries around the world: <http://www.ibiblio.org/rcip/internl.html>

Tip #23. Realize that it takes time to grow intellectually.

Once you realize that you need to grow as a graduate student, don't expect that to happen overnight or even in one semester/quarter. There is a reason why graduate programs last years, because change happens over that time scale.

Tip #24. 50% Hard Work, 50% Luck, and 100% Contentment.

I was once told that the secret to happiness is humility and gratitude. I've tried to practice that and can attest to its truth. Humility and gratitude help you obtain contentment, which helps you manage difficult times and disappointments. Contentment isn't mutually exclusive from ambition and drive but makes a person more resilient in the face of setbacks. Resilience is one of the key factors of attaining success.

I've heard many scientists speak about the secret ingredient to their success. The answers generally boil down to hard work and luck. The 50% that you can control is how hard you will work and how resilient you will be. The 50% that you cannot control is luck: making a right discovery at a right time, meeting the right collaborator, having the right team, recruiting the right students, or having expertise that happens to be relevant at that time.

Tip #25. Learn to appreciate yourself and the “wild card” of your potential.

In card games, the “wild card” is a card that can take on different identities, which can suddenly change the fortune of one or more of the players. It adds unpredictability to the game, suddenly giving a losing player the upper hand or removing the advantage from a winning player. Having heard so many stories of successful people who started out as someone whom their colleagues would have voted as “least likely to succeed,” I have come to appreciate that the degree of a person's eventual success is hard to predict – on top of definition of success being subjective. Thus, even if your mentors and colleagues don't seem to pay as much attention to you as you would like, don't count yourself out. As long as you are willing to work hard, learn new things, and be open to new opportunities, you may eventually stumble upon the right opportunities. I once served on an alumni panel that gave career advice to Berkeley students. One of the co-panelists told the story of her career, which I'll never forget. She was the co-founder of a service-based tech company but said that if someone had told her at her college graduation that she would one day run a tech company, she would've said that they were crazy. Her undergraduate major was Political Economy of Industrial Societies (PEIS) and her goal was to work in office administration – computer programming was nowhere in her goals, since she didn't like “techy” subjects. Indeed, office administration was what she started doing, but in one of her jobs she had to learn a little bit of computer programming. Under the tutelage of her coworkers, she did and learned to get the hang of it to some degree. Later, her co-workers, who were the computer scientists/programmers who had worked with her, decided to start their own tech company. Because they had worked with her and understood her skillset, they invited her to manage the administrative side of the company. Thus, ten years or so after her college graduation, this PEIS major who dreaded “techy” subjects became the co-founder of a tech company.

Chapter 4

Financial Planning

Tip 26. Learn and practice financial literacy.

Every graduate program should have a mandatory workshop or course on financial literacy. Programs should provide information on where students can seek this information. Students need to learn how to budget for their monthly expenses and how to have a cushion for emergencies. Though university policies often prohibit graduate students from working part-time jobs outside of the program, it is common that students do side projects via consulting, writing, editing, tutoring, or other freelance work to make extra money. If you are working for several years before going to graduate school, it would be wise to save up 1-2 months of your projected graduate student budget as an emergency fund before starting graduate school. In general, try to keep monthly rent less than 30% of your monthly stipend. For graduate students who have spouses and children, financial literacy becomes even more important.

Tip 27. Understand the financial credit system in the United States for buying a home or car in the future.

For students who want to live and work in the United States after graduate school, it is important to understand the financial credit system in the United States. To get a loan from a bank to buy a car or a house, you will need to have good credit. The American financial system is based on “credit,” which is your ability to repay a loan. Without this credit system, you would have to pay for large expenses in cash and all at once. Students should start building their credit early and practice the discipline of maintaining their credit. For example: have credit cards, but keep their utilization low; avoid missed or late payments on credit cards and loans. Research or attend workshops on how to plan to buy a home within 2-5 years, even if you don’t plan to buy a home within 2-5 years. You will thank yourself in the future. The knowledge you gain from this planning process will change how to view your finances and what is the wisest use of your money while you’re in your training phase. Notice that I said, “training phase” and not “school.” This is because certain STEM fields require graduate school plus extra years of training afterwards (such as post-doctoral fellowships), during which you aren’t paid what you are worth.