PIE Lab Manual

The PIE lab

2020-07-08

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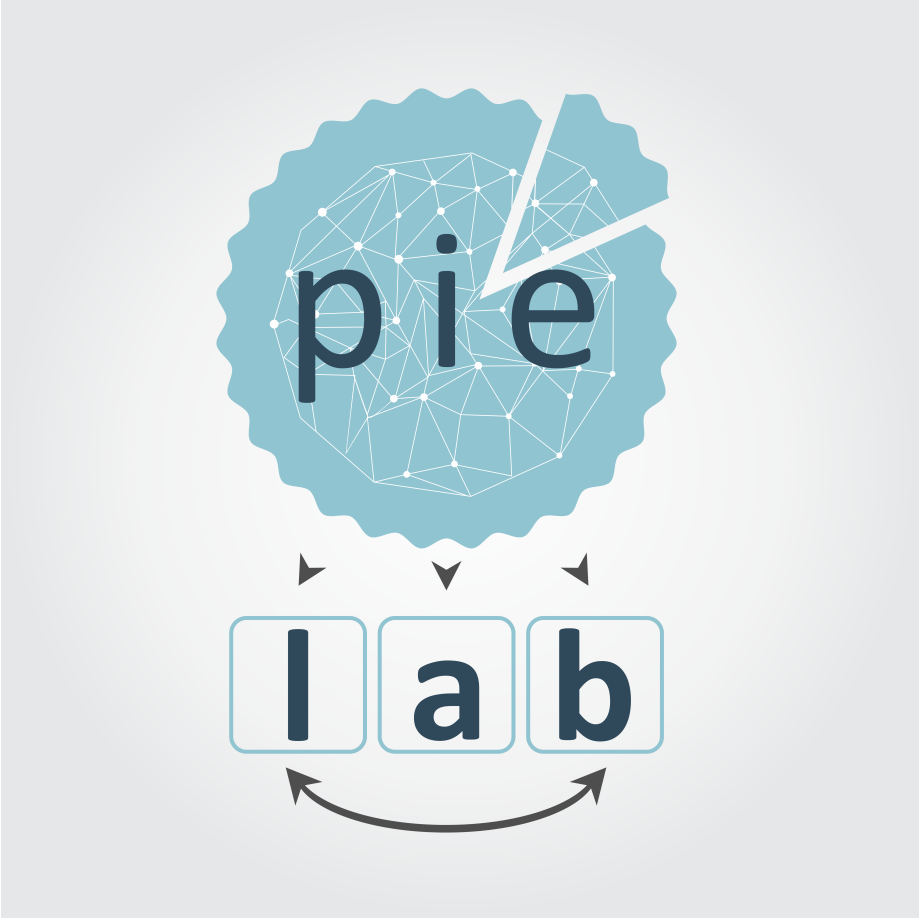
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Chapter 1

Welcome

Hello! If you're reading this, you're probably a member of the Personality Is Everywhere (PIE) lab in the University of Oregon Psychology Department. We're thrilled to have you on board, and we want you to know that we're committed to creating a lab environment and experience that fosters intellectual creativity and studies scientific questions with rigor. We hope you'll learn a lot about personality psychology and quantitative methods, that you'll build new skills, make meaningful connections (and maybe even become friends) with other scientists, and have fun throughout the process.

We started this manual for a number of reasons:

- To clearly communicate expectations and make sure everyone is on the same page
- As a central repository for information (lab policies, department policies, helpful online resources)
- To ensure that we are constantly evaluating our lab's goals and values, and whether our policies are in line with those goals and values.
- As a place to share fun pictures:

As you work in the lab, think of this manual as a how-to guide (but not all the time… sometimes, think of whatever it is you're working on). We hope you'll start here when you have a question. As we learn how to do new things, as our research methods and analyses change with the times, and as we expand our interests, this manual will change. Let us know if there are things we can or should add. (Or, if you have the appropriate authority on GitHub, go ahead and add resources yourself.)

When you join the lab, please make sure you read the following sections:

- What we do and why we do it
- Expectations (know what's expected of you and what you can expect of others)

Speaks.bb 

Figure 1.1: Speak, Po, speak.

- Onboarding
- Communication
- Logistics
- Day-to-day information
- Code of Conduct
- Recurring events

This lab manual was inspired by other lab manuals and mentorship statements, specifically Moin Syed, Samuel Mehr, and the Aly Lab. We borrow heavily from them in some places, and we're grateful for their making their work open for us to use. This manual is a work-in-progress and always will be. We plan to reevaluate the manual regularly. If you have ideas about things to add or clarify, let us (David and Sara, the PI's) know.

Chapter 2

What we do and why we do it

2.1 Philosophy of scientific principles

Rigor. Our most important goal is to produce rigorous science. This does not mean "perfect" or "flawless." It does mean that we take seriously our responsibility to analyze data to the best of our ability. In service of rigorous science, we will consider potential biases in data collection, analysis, and interpretation. We use whatever tools we can to create results that are replicable. We seek feedback on our work. We do not measure success by counting journal publications or grant dollars, but by our willingness to stand by our findings.

Open Science. We believe that the goals of science are best served when science is open. Open science means that science is (1) accessible and (2) transparent. We benefit from open science. For example, we learn from free tutorials that describe how to use open-source software (R, jamovi); we read preprints; we use open data (HRS, MIDUS). Our job as scientists is to ensure our own products are accessible, especially to people outside the academy. This means posting code, data (when possible), and preprints. It means favoring open-source teaching materials, to reduce barriers to learning, and openly-available research tools, to reduce barriers to replicating or reproducing our work. This is what we mean by accessible. An added benefit of posting code and data is that others can see and reproduce all the steps in our analysis, thereby fully understanding our choices and judging for themselves whether we analyzed the data appropriately (and maybe even "optimally). This is what we mean by transparent. Whenever possible, we will preregister our analyses before working with data and ideally before collecting data (although sometimes this is not feasible given our work).

Diversity. We conduct science for public benefit and consumption, and this includes all members of the public – not a select few. As teachers, we wish to impart knowledge to all our students and we strive to ensure all students feel supported in their quest for knowledge. As mentors, we celebrate the variety of backgrounds and perspectives that can enrich our lab and our work. Perhaps most importantly, we will never feel comfortable with the amount of work we have done or are doing to combat systemic racism and sexism in our field and our community, and we will always seek out ways we can be doing more or doing better.

2.2 Chronological and academic history

Sara and David joined the University of Oregon in January 2019, which is when the Personality Is Everywhere Lab was formed. Following the inaugural pi day celebration on March 14, 2019, the lab underwent light renovations during the summer of 2019. We hosted a number of personality researchers during the fall of 2019 (Johanna Hartung, Pat Hill, Colin DeYoung, Dustin Wood) and our first real interview weekend in February of 2020. The lab was fully closed from March to August 2020 in the wake of the COVID-19 pandemic.

And then…

2.3 Required reading

2.3.1 Papers by the PIE lab

2.3.2 Papers etc. by others

- Goldberg. (1993). The structure of phenotypic traits.
- Roberts et al. (2007). The power of personality.
- Hampson. (2012). Personality processes: Mechanisms by which personality traits "get outside the skin." - Gelman. (2016). What has happened down here is the winds have changed.

Chapter 3

Roles and expectations

3.1 People

3.1.1 Principal Investigators

David Condon

Research interests: personality structure, assessment methods

Sara Weston

Research interests: health behaviors and outcomes, personality development

3.1.2 Graduate students

Kendall Mather Sarah McDougald Ian Shryock Dillon Welindt

3.1.3 Undergraduate honors students

Joshua Coughlin

3.1.4 Alumni

Someday...

3.2 Expectations

3.2.1 Principal Investigators

Research is our number one priority as faculty. It is the primary basis for our professional evaluations, and it is the primary mechanism for securing funding for the lab. At any given time, we will be involved in writing several manuscripts. Many of these will involve colleagues at other universities. Many will not involve our students. There will be opportunities for us to invite our students to work on such papers, if we know that it is related to their research interests and if we believe they can contribute meaningfully to the paper. To facilitate this, it is important that students keep us aware of their research interests, especially as they change and grow during their graduate career.

To graduate students, we pledge to

- Be available in person and via email/Slack (see Communication) on a regular basis, including for regular individual meetings
- Provide timely feedback on writing (manuscripts, grant applications, conference abstracts, etc)
- Apply for external finding with the end goal of supporting you financially
- Share our perspective on the state of the field
- Support career development by attempting to connect you with other researchers, promoting your - work, writing recommendation letters, and financing conference travel (as our budget allows)
- Help you prepare for your next career stage, whether that's in academia or industry
- Care for your well-being

To undergraduate honors students, we pledge to

- Guide you in preparing a structured project
- Help you find or collect data
- Teach you to analyze and interpret results
- Revise and edit your scientific report
- Meet regularly to discuss progress and pitfalls

3.2.2 Graduate Students

Research is the most important activity you can engage in as a graduate student. You will learn more doing research than you will in classes or workshops, so do not think of research as something you do instead of or after you have studied an area or a skill. Regarding research, graduate students are expected to:

- Work on projects that help them explore/develop their interests

- Be careful – this includes checking and double-checking (even triple-checking… quadruple! … you get the idea) preregistrations, analytic code, and drafts. Seeking feedback from others (fellow students, PIs, friends) is part of this process.
- Always be working on manuscripts for publication. By the time you graduate, you should have multiple publications in the pipeline (published, in press, in review, in preparation). Ideally, you would have one first-authored paper for each year of your program plus a few additional co-authored papers. (Note that this is not the same as doing one paper every year – your first year will likely not end with you submitting a manuscript, but you should hope to submit multiple during your fourth and fifth years.) This is aspirational, and not often achieved, but doing so would make you competitive for whatever comes next.
- Develop your dissertation research. This is something to have in the back of your mind at all times, not just at the beginning of your fourth year. Think about the identity you want to have as a research scientist and work on projects that build that reputation. As you develop and work on studies, be thinking of the next research question(s).

Coursework is a necessary part of graduate school and, approached wisely, can be very productive. While the UO Psychology program has its course requirements, you can consider the following classes to be required:

- Social/Personality
- Clinical or Developmental Psychology
- Systems Neuroscience or Cognitive Neuroscience
- At least two advanced quantitative courses (including the Data Science specialization in the School of Education, Structural Equation Modeling, Hierarchical Linear Modeling)

Remember that the goal of coursework differs from the goals you had as an undergraduate. No one will look at your transcript, so getting an A is no longer a priority. Instead, your goals should be (1) to identify the information or skills that will be most useful in your research program, (2) invest in understanding that information or those skills to the best of your ability, and (3) do so while spending as little time as possible on homework. If coursework is getting in the way of research, it is no longer supporting your career… it is impeding it.

Teaching is both a requirement and an opportunity in graduate school. Unless we have mountains of funding available, you will be required to GE during most academic terms. This can be an excellent, low-risk way to practice communication, instruction, and working with groups, skills that will be necessary regardless of future career path. Students will benefit from GE-ing for multiple different classes – this may be more work but can expose them to different teaching styles and types of classes. As a GE, you should consider it your responsibility to attend the class you support, even if the instructor does not require it. Use these opportunities to reflect on what good and bad teaching looks like, how active learning can be incorporated into classes, and what tools

or strategies you might implement in a future career. You may consider teaching a summer course as an opportunity for summer funding and also practice. Take this responsibility seriously, but as above, keep efficiency in mind. Please speak to us (David and Sara) if you find that teaching responsibilities are interfering with research.

Independence is a crucial skill for successful researchers. To be clear, independence does not mean that you can complete every stage of a research project perfectly by yourself. But learning how to "figure it out" on your own ensures that when you leave the lab, you'll have the tools you need to face new challenges and acquire new skills moving forward. In general, we expect our students to do as much as they can on their own and seek us (Sara and David) out when they are stuck. Use your best judgement regarding when this should be. If you need input to move forward, it is your responsibility to seek us out or schedule a meeting (see Communication). Note that your level of independence will change across graduate school – we expect to provide more regular guidance to new trainees, but by the time you leave the university, you should be able to function independently.

Be collaborative, not competitive with the other students in our lab. Science is better when people work together, not tear each other down. Respect your fellow lab-mates. They have strengths and weaknesses that they bring to the table – you can help them, and they can help you. Respect their culture, their religion, their beliefs, their sexual orientation, their perspective on the world. See every way they differ from you as an opportunity to learn and make your science better. Support your fellow lab-mates. Help them out, even if you're not a co-author on their project. Allow them to vent if they need it and create space for them if they need it. Help them, and you can expect help in return when you need it. Learn to view the wins of your fellow lab-mates as wins for the PIE lab.

Time Management is critical to success in research, not just as a graduate student, and in life more generally. We (Sara and David) will try to share strategies for time management during lab meetings, but you should feel welcome to ask for these discussions in individual meetings or lab meetings whenever they would be helpful.

Curiosity helps you develop your research program, integrate advances in methods and ideas into your work, and provide meaningful contributions in your collaborations and to the field. Be sure to consider the role of curiosity in your research. The hardest thing you can do is to resist the temptation to be right long enough to learn something. Approach every situation you're in with the goal of learning something new.

Have a personal life.

Other expectations

- Present your work at least once a year, ideally more often. Great places to

present are departmental events (e.g., FYP talks, brownbags), other labs, conferences.
- Apply for grants. You can apply for an NSF award during your first or second year and NRSA awards during your fourth and fifth years. Seek out other opportunities to apply for funding or awards.
- Seek information about all kinds of careers. Consider academia (research and teaching), industry, scientific writing, government research. We (Sara and David) can only really provide you with insight into a few (narrow) - paths, so don't rely on them for all your information about future careers. Communicate your interests and - values to us, so we can understand what a successful and meaningful career looks like to you.
- Keep track of your departmental deadlines – e.g., FYP, SAP, coursework, etc.
- Participate in weekly lab meetings.
- Attend the Social/Personality brownbag talks. Try to be an active participant, meaning think critically about the information presented to you. Identify the strengths and weaknesses of the study. Evaluate the claims. Be inspired to develop your own research questions out of the work presented. Maybe even ask a question.

Other things you might want to know about.

- **Working in other labs** is an excellent way to be exposed to new ideas, new ways of mentoring or doing science, and new people with whom you can form collaborations. This is directly facilitated by the Supporting Area Project, but you're encouraged to create new collaborations. We recommend being upfront about your interest with other PIs – are you trying to form a collaboration on a new project or are you just interested in sitting in on lab meetings? Consider yourself a representative of the PIE lab in these collaborations, and be sure to treat the people in these settings with the same respect and curiosity you would treat your fellow lab-mates.
- **Switching advisors** is permitted for personal or professional reasons. However, such a change must be mutually agreeable to all parties: student, original advisor, and new advisor. Ideally, a change would occur relatively early in a student's graduate career (first or second year), but this need not be the case. Additionally, students have the option of adding a secondary advisor at any point. Doing this could make a lot of sense if a student's interests wind up aligning with another faculty member's expertise, but the student does not wish to make a full change of advisors

3.2.3 Undergraduate students

Honors students are expected to

- Work on their independent project under the mentorship of another lab

member (PI or graduate student)
- Check-in weekly with your mentor
- Schedule time to make progress in your work
- Attend weekly lab meetings
- Present your research to the lab by the end of Spring Term

Research assistants are expected to

- Assist other lab members with data collection and analysis
- Develop a weekly work schedule by talking with your mentor. You should be coming to the lab every week and engaging with lab activities for the amount of time associated with your credit hours (3 hours for every credit) or based on your negotiated work load.
- Discuss career goals with a mentor.

Chapter 4

Communication

(as of 2020!) ## Slack

Slack provides an efficient way to send messages out to the group, share documents, and solicit help or tips. When posting messages or looking for updates, check the appropriate channel:

- #general for lab announcements
- #lab-meetings for notes or communication related to lab meetings
- #papers for sharing links to lab-relevant papers and discussing them
- #code-tips for sharing wisdom on code writing or asking (and answering) the coding questions of others
- #stats to ask and answer questions about statistical analyses
- #team-building for non-work-related chatting that is best kept out of the work-related channels.

For specific projects, create or join a closed channel for that project and use that channel to communicate about details. Try to keep each channel on topic, so that people can subscribe only to the channels that concern them. For messages to one person or a small group, use direct messages. If it's an emergency and we (Sara or David) are not responding on Slack, e-mail them.

Full-time lab members should install Slack on their computers and/or phones. Part-time lab members should also check Slack regularly. You should of course feel free to ignore Slack on evenings and weekends – and we probably will, too!

4.1 Email

In general, we would prefer to keep communication to a central location, so defer to Slack whenever possible. Email, however, may be appropriate when

including people outside of the lab or forwarding emails from outside sources. Please use our official work emails.

4.2 Response time

We're committed to responding to your messages within one business day. If 24 hours have gone by without an acknowledgement of your message, then it is an appropriate time to send us a follow-up "just checking in!" message. As a general rule, we do not expect you to be checking messages (email or Slack) over the weekend and after business hours, and we do not promise to be checking messages during those times as well.

4.3 Phone

Texting is used for urgent matters or in cases when immediate communication is necessary. The latter includes trying to coordinate a meet-up at a conference, and other such frivolities. Phone calls are useful ways of holding remote meetings, if the Internet is unreliable. Note that neither Sara nor David have official campus phone numbers.

Chapter 5

Logistics

5.1 Getting locked out

If you lock your keys in the lab or your office during business hours, Cindy Salmon in the front office may be able to let you into the space. After business hours, a UOPD officer can let you in. To contact them, call (541) 346-2919.

If you get locked in the stairwell after 5:30 pm, a UOPD office can let you back onto the floor.

5.2 Being in the lab

There are no set times you have to be on campus, in your office or in the lab. Show up to your meetings, show up to classes, show up to seminars, and show up to lab meetings. But you do not need to be here by 9am, and you are not expected to work late. You are expected to get your work done and to be efficient, but you can work efficiently at whatever time of day you like.

We expect you to spend some time each week working in the lab space (not your office). Being in the lab is a good way of learning from others, helping others, building camaraderie, having fast and easy access to resources (and people) you need, and being relatively free from distractions at home. That said, hours in academia are more flexible than other jobs – but you should still treat it as a real job (40 hours/week) and show up to the lab. Our primary concern is that you get your work done, so if you find that you are more productive in your assigned office, a coffee shop, or at home (lab-mates can be chatty sometimes), feel free to work in those spaces. If you have no meetings or other obligations that day, it might be a good day to work off campus – but you can't do this all the time, and we expect to see everyone in the lab on a regular basis.

5.3 Holidays and vacations

Take them. Planning time off is really important. . Communicate with us when you'll be taking time off, whether you expect to do no or a little work, and whether you'll be monitoring email/Slack.

Before winter and summer break, meet with Sara or David to discuss your work goals and expectations around communication.

5.4 Remote working

As of writing this, most of our work will be largely remote for the foreseeable future. Please keep in mind that "showing up" still holds when working remotely. If you need any resources to help you be productive from home, please let us know. We may be able to lend you some materials, or we might be able to purchase materials for the lab to lend to you.

Chapter 6

Day-to-day Information

6.1 Pet Policy

We love pets, and we love having animals around the lab, even if our own creature is too anxious to comfortably hang out during the week. However, we recognize that not everyone is comfortable around animals, for a variety of reasons. Please notify us (Sara or David) if you have allergies or concerns about working near pets in the lab. If a single lab member expresses discomfort, we will be pet-free for the term. We will communicate our policy at the beginning of the term; we will not identify lab members who express discomfort.

6.2 Sickness policy

Stay home if you are sick, and take care of yourself. Both parts are essential to keep others in the lab safe and to ensure you are as productive and efficient as you can be in the long run. It is much better to do nothing for a couple of days and recover than to work tired and distracted. Reschedule your meetings as soon as you can.

##Respect space

Keep the door to the lab locked at all times, to protect the security of our data and our people. If you're expecting a guest to the lab, you're responsible for letting them into the room.

Turn off lights if you are the last one to leave. Sign out of lab computers.

Clean up after yourself if you eat or make coffee in the lab. Refill the water pitcher if you empty it. Do not leave food in the refrigerator after it has gone bad.

6.3 Be professional

Be on time to things. Respect that everyone has very busy days and everyone's time is valuable. Graduate students, think of yourself as an entry-level employee in a field you hope to advance in. Anyone presenting their work, remember that you represent the lab as much as yourself. Treat all members of the department, no matter their role, with respect and patience. Be a good ambassador in the spaces you find yourself in: lab meetings, departmental seminars and brown bags, conference presentations, classes, and even hallways.

Chapter 7

Code of Conduct

7.1 Scientific integrity

Our lab and UO are committed to ensuring research integrity. We take a hard line on research misconduct. Fabrication, falsification, and plagiarism are not acceptable for any reason. You can read about the University of Oregon's policies here:

- Responsible Conduct of Research
- Instruction of RCR
- Research Misconduct
- Allegations of Research Misconduct

Research misconduct is largely the result of the pressure to publish, which is currently accomplished largely by finding statistically significant and interesting or novel results. If you are feeling pressured to publish a lot, talk about these pressures with us and your lab mates – we should all support each other as we navigate the competing forces on our time and focus. However, pressure to publish is never an excuse to engage in research misconduct. Remember that fabrication, falsification, and plagiarism is antithetical to the goals of science. Research misconduct will harm you in the long run and also harm our field. It is never worth it.

If you suspect someone else of engaging in research misconduct, you have a duty to report it. You can notify:

- Us (Sara or David)
- The UO's Research Integrity Officer (RIO), Cassandra Moseley (cmoseley@uoregon.edu)

If you have any questions about research misconduct, you can contact Sheryl Johnson at 541-346-2510 or via email: sherylj@uoregon.edu.

7.2 Code of Conduct

We are committed to ensuring a safe, friendly, and accepting environment for anyone who comes to the lab, regardless of whether they are an official lab member or a guest. We do not tolerate any physical or verbal harassment or discrimination on the basis of gender, gender identity and expression, sexual orientation, disability, physical appearance, race, ethnicity, or religion. We will not tolerate intimidation, stalking, following, unwanted photography or video recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. Finally, it should go without saying that lewd language and behavior have no place in the lab, including any lab outings.

You can read about the UO Student Code of Conduct here.

If you are experiencing harassment or discrimination, here are resources available to you:

- UO Bias Education and Response Team
- Investigations and Civil Rights Compliance (e.g., harassment, abuse of power, discrimination)

Graduate students have additional resources at hand, including reporting issues of bias, discrimination and harrassment to the Committee for an Inclusive Community, to anyone on the FYP or advising committees, and to the department chair.

Finally, anyone who is responsible for or works with students may find themselves in need of resources. See the following sites for guidance on:

- Reporting academic misconduct
- If you notice a student exhibiting troubling behaviors, see the page on assisting students of concern
- Remember that student academic records must remain private and confidential. That means you may not discuss a student's grades with anyone except the student themselves and the instructor of record – do not share information about students in your class with other GEs, faculty, parents, etc. See the [Student Records Privacy Policy](https://registrar.uoregon.edu/privacy.

7.2.1 Sexual Harassment and Assault

A key component of the Code of Conduct is protection and support of victims of sexual harassment and assualt. If you experience this while a member of the PIE lab, here is some important information and links to resources.

First, we (David and Sara) are student-directed employees, meaning we are required to:

- Listen to disclosures in a supportive way, including responding with respect and kindness, listen before speaking, be sensitive to needs, and ask if a student is under 18.
- Consult with a confidential resource, although we do not need to identify you in the process
- Not attempt to investigate the incident for ask for more details than you volunteer
- Connect you with resources
- Follow your wishes.

Legally, we cannot promise to be confidential, but our reporting requirements end at consulting confidential sources without naming you nor anyone else involved in the incident.

One of the most serious and debilitating concerns that victims face is the potential for retaliation or other negative consequences associated with reporting. It is therefore important to note that it is the University of Oregon's policy to "protect from retaliation students and employees who make good faith reports under this policy or who participate in a University process initiated in response to a report of prohibited discrimination."

Additional resources include:

- The UO Safe Site dedicated to support victims and survivors of sexual assault and harrassment. The FAQ page has very useful information and may be a good place to start.
- A 24-hour hotline for victims and survivors: 541-346-SAFE
- Project Callisto offers a way to report specific perpetrators while minimizing the risks associated with coming forward. There is a UO-specific Callisto site.
- The UO Ombuds program is a fantastic resource for getting advice if you are not sure how to proceed. They provide "confidential, impartial, independent, and informal" advice. You can speak to someone from their office without having to provide your name and they can help you navigate the choices available to you. They can also help mediate discussions while maintaining confidentiality. If you feel overwhelmed, conflicted, or unsure how to proceed–whether you have been a victim or have had a victim confide in you–the Ombuds program can provide valuable guidance.

7.3 Managing Conflict

Communication is key to minimizing conflicts. For example, this document is an effort to clearly communicate our expectations to reduce the possibility of misunderstandings. If you have concerns about your interaction with us or with anyone else, please don't hesitate to come talk with us.

If you are uncomfortable speaking with us, speak to another faculty member, such as faculty members serving on your FYP or advising committees, the Department Chair or Associate Department Chair, the UO Ombuds office, or the Student Conflict Resolution Center. If you wish a conversation to remain anonymous, be sure to indicate that at the start of the conversation.

Chapter 8

Recurring events

8.1 Lab Meetings

Weekly lab meetings (~ 1.5 hours each) are meant to be a forum for research training and professional development, as well as community building within the lab. All lab meetings will involve check-ins regarding progress on research projects and goals. Lab meetings can also be used to present project ideas or data and receive feedback from the rest of the group; to review articles together; to discuss papers; to teach particular research or professional skills; or to discuss specific professional development topics. If we are reviewing or discussing a paper, come to the meeting having read the paper and prepared with comments and questions to contribute.

Graduate students are expected to come to lab meetings every week, and our weekly meeting time will be determined collectively. Some meetings will be restricted to PIs and graduate students only; other meetings will be open to all PIE lab members, including undergraduate honors students and affiliated graduate students.

Lab meeting agendas and notes will be kept in the #lab-meetings channel on Slack.

8.2 Departmental talks

Research talks in the department are one of the best ways to learn and grow as a scientist, as well as stay current on new topics in psychology. Moreover, research talks should be an enjoyable part of your job – learning new ideas and talking about research with colleagues is intrinsically rewarding. However, this reward is often the result of active engagement during a research talk. During

any presentation, ask yourself what you can learn from the experience. You might learn:

- A new area of research that you were not familiar with before – this might be a new avenue of research for you, or it might help you see your own research in a new light
- A new method or technique – look for new ways of collecting data, asking questions, analyzing data, or formulating research questions
- Tips for presentation – some presenters do an excellent job of conveying information. Pay attention to how they design slides, their pacing, their tone, visual aids, their language, how they position their bodies, how they answer questions from the audience. Even when a presenter does an ok or horrible job, you can still improve your own presentations by evaluating aspects of the presentation.

If you're consistently bored during presentations, try to take a more active approach. If you try this and still hate going to talks, this is valuable to know, as it may suggest that a career in research will not be intrinsically rewarding. It's worth discussing these experiences and concerns with us, as you identify and prepare for your ideal career trajectory.

While we encourage active engagement in all talks, we recognize that sometimes you may need to multi-task to stay efficient. It is ok to bring a computer to a talk and work, but be sure to sit towards the back, to avoid distracting others. Choose tasks that do not require a lot of concentration (or typing), so you can still pay attention to the talk. And do not bring your computer to smaller gatherings or student-led presentations.

The **Social-Personality brownbag** (~1 hour) is a forum to learn about new research in the area, through presentations by guests from other departments or universities, and also as a place to for graduate students to practice presenting their own work. Brownbag currently takes place every other Wednesday (starting the second week of the term) at noon in Straub 257. Graduate students are expected to attend every week. If you are scheduled to take or teach a course during this time, be sure to notify Sara or David immediately. This is a space that should be computer-free! You are required to present in brownbag at least once a year, with the exception of your first-year.

You may consider attending other brownbag series in the Psychology department or other departments at the university.

Departmental colloquium (~1.5 hours) happens sporadically, usually Friday afternoons. You are expected to attend any department colloquium that does not conflict with a course you are taking or teaching.

Any year the department is hiring, there will be **job talks** (~1.5 hours) and **chalk talks** (~1 hour) during winter term. Job talks are formal presentations of a line of research; they are meant to be attended by the entire Psychology department and even faculty from other departments. If you apply to any job

in academia, you will give a job talk. Chalk talks are more informal – at UO, they often focus on a second line of research, or the use of a particular method, and the faculty will treat these talks more informally. Not all departments have chalk talks. We strongly encourage students to attend any job talks that do not conflict with a course they are taking or teaching, and we expect to see students attend job talks and/or chalk talks of candidates applying to the positions relevant to their research area.

8.3 Weekly Check-Ins

All students (graduate and undergraduate) should have at least one meeting (~0.5 - 1 hour) each week with a mentor (PI or graduate student). These meetings can involve checking in on research progress, updating or discussing career goals, conversations about professional development, and giving feedback (both directions).

When discussing a research project, it is advisable to start with a 2-minute reminder of the overall project, its current status, and the specific tasks or issues you want to discuss in the meeting. Don't be surprised if we have trouble remembering all the projects you're working on or where things stand. It's not personal, we're just juggling a lot of things!

8.4 PI PIE

David and Sara will meet for an hour at the beginning of each week to discuss the long-term goals of the lab, evaluate progress on lab projects, and set personal goals for themselves over the week. We will also provide feedback to each other about mentorship and professional progress.

Chapter 9

Mentorship of graduate students

9.1 PI Mentorship Philosophy

One of our goals is to help you thrive in your chosen career. This means going beyond the minimum requirements of the graduate program (i.e., classes, first year project, quals, dissertation, etc). We aim to prepare you for the requirements of your career by helping you learn and practice the skills needed to be successful. Our default assumption is that you are seeking a career that involves research skills. In both academic and industry settings, the skills required to conduct research have much in common. These include:

- Working with data, including data collection, analysis, cleaning, management and storage, and visualization
- Summarizing research in written form and presenting summaries of research to small and large audiences
- Integrating new knowledge into your understanding
- Constructively critiquing research methods, of others and yourself
- Thinking for yourself
- Figuring things out for yourself

There's a lot to learn in graduate school; most of it is learned and practiced outside of the classroom. We commit to helping you make the most of graduate school by identifying your strengths and areas for growth, and providing opportunities to practice what you need and advance where you can excel. Your training will not look the same as the other students'. We are an individual differences lab, after all. In the process, we will help you pursue research questions that you find interesting and exciting, while guiding you to build a research identity that you can easily communicate to others.

Because we are both researchers at an R1 institution, our approach to mentorship will necessarily focus on research training. Do not let this deter you from learning more about other careers you can pursue with a Ph.D. Remember our number one goal is that you thrive – this means not just being good at your future career but that you enjoy doing it.

In the course of your training, you may occasionally find yourself having to complete tasks that you do not particularly enjoy! For example, nearly every graduate student feels great discomfort presenting research in front of an audience. We will only push you to do things that we strongly believe will help you develop skills or resources that will benefit you in the long run. If you're feeling uncomfortable about something we've asked you to do, come talk to us. We can decide together whether this is worth doing and, if so, how we can help you prepare as best as possible. If you hide your discomfort, we can't help.

Above all else, communicate with us. Let us know what future you envision for yourself, what your values and goals are, and whenever you change your mind. Let us know what parts of your training are fun and exciting and which parts are boring or scary. Let us know when we're meeting your needs and when we are not. Whenever possible, name the experience you're having, even if you don't have a solution for it. We promise to do the same – we will give you feedback throughout your time here on where you're succeeding and where you need to work, and what to focus on moving forward. Be open to feedback. Know that we are open to feedback. Giving feedback requires a surprisingly large amount of time and effort, and feedback should always be accepted with gratitude. Even if you never act on our feedback, always consider it given with respect and the best intentions. We will do the same for you.

9.2 Primary mentors

Your primary mentor will be the PI nominally responsible for your well-being and career success. While both of us will be heavily involved in your training, we believe that the primary-mentor model reduces issues of diffused responsibility and also gives you a "first point of contact" for all your concerns and questions.

Each graduate student will be assigned a primary mentor (either Sara or David) before they arrive on campus. For the first year, this will largely be an arbitrary designation. Graduate students should expect to meet with both PIs regularly during their first year and to collaborate with both mentors on their FYP. We recommend bringing questions to your primary mentor (this will help spread out mentorship work between the PIs) or lab meetings, so we can share knowledge with the entire group.

Towards the end of Spring term during the first year, the student should discuss with Sara and David which PI is the best fit for them personally. This decision should account for research interests as well as mentoring style. Keep in mind

that our number one goal is your career success: this is not a conversation about which one of us you like more, but which mentor will best help you flourish. Also keep in mind that on our end, we may push you one way or another, if we feel that either some aspects of fit are more important than others or if we're in danger of one PI taking on too much primary mentorship.

You may choose to have both PIs on your committees (FYP, Advising, SAP, Prelims, Dissertation) or just your primary mentor. For all committees, you must have two faculty members outside of the PIE lab.

9.3 Recommendation Letters

Letters of recommendation are extremely important for getting new positions and grants. You can count on us to write you a letter if you have been in the lab at least two terms. Exceptions can be made if students are applying for fellowships shortly after starting in the lab.

If you need a letter, notify the ideal letter-writer as soon as possible with the deadline, your CV, and any relevant instructions for the content of the letter. If the letter is for a grant, also include your specific aims. In some cases (especially if short notice is given), you may also be asked to submit a draft of a letter, which will be modified based on our experience with you, made more glamorous, and edited to add anything you left out that we think is important. This will ensure that the letter contains all the information you need, and that it is submitted on time.

9.4 UO Program Requirements

Doctoral student forms

9.4.1 Coursework (required)

See course information organized by Lori Olsen (last updated July 2020) - 3-term statistics sequence (PSY 611-613) - Professional seminar (PSY 607, each term first year) - Three of five core courses (usually listed as PSY 610): - Systems Neuroscience - Cognitive Neuroscience - Social/Personality - Developmental - Psychopathology

Additional courses worth considering - Structural Equation Modeling (PSY 610) - Multilevel Modeling (PSY 607) - Data Science Specialization Sequence (5 courses) in the College of Education (EDLD 610)

9.4.2 Expected Timeline

9.4.3 First-Year Project (FYP)

- To help beginning students develop and demonstrate their abilities as researchers, first-year students in the Ph.D. program are expected to design a research project, obtain and analyze data, and write a report in publishable format describing their work ("First-Year Project"). In some circumstances, it may be impossible to design a study, collect data, and analyze data all within one year, such as in longitudinal research or large sample clinical studies. In such cases, students may address a novel question in an existing data set. The scope of the work for the first year project needs to be agreed upon within student's First Year Committee. Accompanying this process, the First-Year Research Series (Psy 607) serves as a forum for students to discuss their ideas for the First-Year Project and to learn about some of the practicalities of conducting research at the University of Oregon. Students should also work closely with their First-Year Committee and obtain assistance and guidance for the project.
- To be completed by November of your second year
  - Presented to department during First Year Talks in October of your second year

9.4.4 Supporting Area Project (SAP)

- The goal of the Supporting Area project (SAP) is to provide breadth to the student's training, within a new content domain and/or with new research methodology to which they would not normally be exposed in their primary lab. In addition, it provides students with an opportunity to work closely with a faculty mentor other than their primary advisor, so as to gain experience with a different mentoring style, and to provide an opportunity to cultivate a relationship with another person who could later provide a detailed letter of recommendation for grant or job applications.
- Typically done during second or third year

9.4.5 Prelims

- The Major Preliminary Examination ("Prelims") provides an opportunity for students to integrate their knowledge of a relatively broad area of psychology (e.g., traditionally developmental, social, clinical, cognitive, or physiological, and more recently developmental psychopathology, emotion, or cognitive neuroscience) and to demonstrate their scholastic competence in this area. Students are ready to Advance to Candidacy after the completion of the SAP and Prelims (and, for clinical students, all clinical coursework and practica).

- Typically done during your second or third year

9.4.6 Dissertation Proposal

- The Dissertation Proposal has several functions: First, it encourages the student to think through details of hypothesis formation, design, and analysis strategies in advance of data collection. Second, the student and the dissertation committee arrive at shared expectations regarding the scope of the dissertation and details in design, data collection, and analysis. That way, unwelcome surprises for both parties (e.g., an advisor's request for more studies or a student's failure to provide certain analyses) are made less likely. Third, when new faculty are added to a dissertation committee at a time when data collection has already been completed (which may be true for the outside member), the newly added member can consult a document that specifies the goals of the dissertation and can thus more fairly assess the success of the completed dissertation in meeting these goals.
- Typically completed by the end of your fourth year

9.4.7 Dissertation

- The doctoral dissertation is a major project that demonstrates the student's ability to act as an independent researcher and scholar. The dissertation should be planned in close cooperation with the Dissertation Committee. The University and Graduate School have established strict guidelines that must be followed in order to complete this final step in the graduate program.
- At least five weeks before the oral defense is held, begin the **Application for Final Oral Defense** process (formerly known as Confirmation of Agreement to Attend). Return to your Advanced Degree Application on GradWeb, in the Oral Defense module, enter the date/time/location of the oral defense. Each dissertation committee member will receive an automated email and they must respond via GradWeb. Once all members have responded, this becomes the Application for Final Oral Defense. The Graduate Secretary secures the signatures of the Department Head and Graduate Education Committee Chair. This document must be at the Graduate School *three weeks before* the oral defense.
- A formal oral defense of the dissertation on the Eugene campus is mandatory before the Ph.D. degree can be granted. The defense is usually held during the term in which the degree will be granted, and must be scheduled three weeks in advance of the defense date. At this time the committee members should be presented with a copy of the dissertation in final form. Students should not request that their committee accept an incomplete or draft copy of the dissertation. If, in the judgment of the student and

his/her adviser, the dissertation is not complete three weeks prior to the defense, the oral defense should be rescheduled. Committee members should not agree to sit for an oral defense if they have not received a complete and final copy of the dissertation at the appropriate time.

- Dissertations are submitted electronically. Please view the submission procedures on the Graduate School's site for the latest information. If approval of the dissertation is not unanimous, a review procedure will be established by the Dean of the Graduate School.

Chapter 10

About the lab

10.1 Location

PIE lab – Straub 417 and 419

10.2 People

10.2.1 PIs

David M. Condon

- Office: Straub 323
- Email: dcondon@uoregon.edu
- Twitter: @DMCpersonality

Sara J. Weston

- Office: Straub 325
- Email: sweston2@uoregon.edu
- Twitter: @sarawestonO9

10.3 Values

10.3.1 Transparency

Science must be verifiable by others. For this reason, we strive to be transparent in our work. We share code, materials and, when possible, data. We will admit

mistakes.

10.3.2 Curiosity

10.4 Expectations

10.4.1 Honesty

10.4.2 Respect

10.5 Network Drive

Files can be shared among lab members using the lab network drive.

10.5.1 Accessing the drive on a Mac

1. Go to 'Connect to Server'.
2. If you're off-campus, connect to the UO VPN.
3. Enter the network address: `smb://cas-fs2.uoregon.edu/Psychology/a/PIElab`. (It's worth adding this as a favorite network so you don't have to remember the address again.)
4. Enter your DuckID and your password when prompted. Note that you can only gain access if you have been approved for access.

10.5.2 Accessing the drive on a PC

1. Follow directions here.

Chapter 11

Science Resources

11.1 UO resources

11.1.1 Virtual Private Network (VPN)

Instructions are here.

11.2 R

11.2.1 Learning R

- Learning Statistics with R by Danielle Navarro
- R for Data Science by Hadley Wickham

11.2.2 Reference guides

- Cheatsheets

11.3 Writing

- Dan Simons's writing guide
- E.J. Wagenmaker's guide

11.4 Presentations

- Presentation by Rachael Meager

Chapter 12

Talapas Overview

Talapas is the high performance computing cluster managed by Research Advanced Computing Services (aka RACS) at the University of Oregon. Since it is possible (and maybe even best) to get started with Talapas without knowing too much about the capabilities of the system, we will simply point to the main website and the Talapas Knowledge Base for learning more.

In this document, the numbered sections below will deal with separate tasks that users in the lab might want to perform on Talapas. If you learn how to do something that is not documented below, please add it to the list, even if you are unsure that others will find it useful. Or, just point to the documentation available online.

12.1 Requesting Access

Go to this website to request access to the PIE lab Talapas account. Fill out the New Account Request Form, including **pielab** as the PIRG.

12.2 Using Open OnDemand Interactive Access

The RACS team recommends using an incognito tab in Chrome or Firefox before logging in to Talapas (Safari will not work), as this may help to limit the potential for someone to misuse your credentials. Bear in mind that computing services can be costly so there is more at risk than your personal info (and data).

In the browser window, go to: https://talapas-ln1.uoregon.edu

Enter your username and password. For UO users, your username on Talapas will be your Duck ID. That is, if your email address is alice@uoregon.edu, your

Talapas username will be "alice". Your password is the same university-wide, and can be managed at the UO password reset page. If you don't know your credentials (or if you're not sure you have credentials), visit this page to request access. This will require the approval of a lab PI (Condon or Weston). Since there are fees associated with using the computing cluster, your request will be evaluated based on need and the availability of other options.

There is a brief overview of the OnDemand service worth reading — see here.

12.2.1 Loading files for Interactive Access

Once you have logged in, it's fairly intuitive to navigate the dropdown menus at the top of the browser window. The 'Files' dropdown gives several options and each will open a new window. For shared projects, consider using the '/projects/pielab/shared' directory to store your files; otherwise use the directory associated with your username *within the pielab directory* (in other words, this one: '/projects/pielab/[username]'). Within the correct folder, you will want to create a new folder that is specific to each project as this is where you'll store the input and output files, just as you would if working on your own hard drive.

12.2.2 To launch an interactive session

From the OnDemand landing page, click 'Interactive Apps'/'Talapas Desktop'. This will load a form that requires entry of the PIRG name (pielab) and a few other fields. There are several things to keep in mind when filling out the form to launch the virtual desktop on Talapas. First, the 'partition' field requires selection of one of several options. For a complete list, with associated specs, limitations, and restrictions, see here. For many (most?) jobs, the default 'interactive' partition should be fine. For more intense jobs, consider using 'short' (gives up to 24 hours) or 'long' (up to 2 weeks). Note that 'interactive' has a max of 4 CPUs, which equates to about 16G RAM. For reference, a souped up laptop might have 32G and a standard MacBook Pro has 16G or maybe 8G if older. Analyses of SAPA data from 2017 or later will routinely kill RStudio with only 16G of RAM (necessitating use of the 'short' or 'long' partitions).

For the number of hours, a good practice is to use the lesser of the max amount of time (this depends on the partition) or a generous guess at the length of time needed. If the analysis runs for a long while and then times out, you will have no output and will have spent the funds anyway. Better to have a chance of getting what you need than running out of time. However, you should also get into the practice of deleting instances that are no longer in use, as this will save money! Otherwise, the expenses will add up until the full time allotment has expired. For the number of cores and total memory, the standard seems to be 4G of memory for each CPU though some partitions (fat and longfat) have CPUs with more memory — choose the CPUs accordingly (as best you can).

Note that you can also use GPUs, which seem to have more memory (and cost more). See here for more info about guessing the right specifications.

For SAPA processing, I have done lots of experimenting. Unfortunately, most of the analyses conducted on these data are not able to be parallelized, and this includes the most computationally expensive step of getting the count of pairwise administrations across all items. This means the marginal benefit of invoking additional CPUs is often small (but not zero). When going from raw data to a version that is Dataverse-ready, this set-up seems to work pretty well: 0 GPU, 256 GB, 9 cores, on the preempt partition for at least 24 hours.

Note that if you seek to use more than 128 GB (as above), your request will end up being completed on the GPU partition (which has 256 GB per node) or the fat/longfat/preempt partitions (which can handle up to 200 GB, per my correspondence with the RACS team). As of July 2019, the gpu partition costs twice as much as the short partition ($0.008 per SU) and the fat partition costs 6x as much. I'm not sure how much the preempt partition charges but it's probably in the same range. The preempt partition is nice because it will typically start more quickly than if you use one of the others, though you run the risk of having the job killed if traffic on Talapas picks up among higher-priority users. See here for more info. This won't happen with fat or longfat, but you might have to wait a while before your job can start.

12.2.3 To determine the memory usage of jobs previously run

This has to be done through an ssh interface with Talapas. Open a shell and enter this at the prompt:

```
ssh username@talapas-ln1.uoregon.edu
```

followed by your password.

To see the memory usage of recent jobs (since midnight of the current day), enter:

```
sacct --format='JobID,Elapsed,MaxRSS'
```

To get more information on an individual job (recommended), enter:

```
seff <JobID>
```

That last command will return something like:

```
$ seff 9609990

Job ID: 9609990
Cluster: mycluster
User/Group: username/talapas
```

```
State: CANCELLED (exit code 0)
Nodes: 1
Cores per node: 8
CPU Utilized: 00:23:25
CPU Efficiency: 3.10% of 12:36:16 core-walltime
Job Wall-clock time: 01:34:32
Memory Utilized: 29.12 GB
Memory Efficiency: 91.00% of 32.00 GB
```

This job was cancelled after repeated efforts to compile. Note the high ratio of Memory Utilized to Memory Available. It is also possible to learn much more. Try using the code below by entering your own 'username' and a date that goes back a few days in place of 'year-mo-da'.

```
sacct -u <username> -S <year-mo-da> --format='JobID,Partition,State,AllocCPUS,ReqMem,Ma
```

This gives all of the most relevant info (in my opinion) on jobs from the date entered until now, including the final status of the job.

To check on memory usage while a job is running, you can enter 'top' in the terminal window to see info about the CPUs currently in usage. Note that you will see slightly different info if you do this through a remote login to the terminal window vs opening a terminal window within the 'live interface' (see below for more about this option).

Finally, it is also possible to obtain information about specific files. This is useful if trying to determine how much time was needed to generate an output file. From the terminal, try a command like this:

```
ls -l ~/projects/<filename>
```

This will give the size of the file along with the date and time of creation.

12.2.4 To run a live session of RStudio

Once you have begun the session (i.e., submitted the form), a new page will load. From here, click the blue button that says 'Launch noVNC in New Tab'. This button may not be visible right away as you sit in the queue, waiting for the necessary resources to become available. When you launch the tab, a virtual desktop will open with a dropdown menu in the upper left called 'Applications'. Choose 'Education'/'Talapas RStudio'. Presumably you can figure out how to manage your workflow from here. You can also open a terminal window through this interface that will allow you to access the node you're running. To do this, click on the terminal icon in the 'TurboVNC' tab — it's to the right of the 'Applications' dropdown menu.

12.2.5 Ending your interactive session

Your analyses will continue running until completed, timed-out, or stopped for some other reason (coding errors, etc.). When your analyses are done, you should return to the Open OnDemand main page and click the red 'Delete' button. This will stop your usage of the system and associated fees.

12.3 Using Talapas for Batch Jobs

I haven't done this yet (on Talapas)! But see here if you want to give it a go.

Chapter 13

Onboarding

13.1 CITI training

All lab members must have appropriate CITI training in order to be included on IRB protocols and grant applications.

13.1.1 Where to get CITI training

Click on this link in order to access the CITI Single Sign On (SSO) platform.

If you're a new user log in using your DuckID and follow the instructions to create an account.

13.1.2 Required courses

Everyone - Protection of Human Research Subjects

For Grant Applications - Responsible Conduct of Research

13.1.3 When you're done

Save a copy of your certificates somwhere you can easily access them.

Chapter 14

Website and Lab Manual

14.1 Website

14.1.1 Details

URL: pielab-science.com

Username and password: email Sara or David for this information.

14.1.2 Purpose

PR for the PIE lab - Who's part of the PIE lab - What are we currently doing? - (If actively recruiting) landing page for new recuirts - (If ongoing study) landing page for study participants

14.1.3 Current sections

- What we study
- About
- Current lab members (with a page for each)
- Friends of the lab
- Cooling on the rack (news)

14.1.4 How to update

- Go to pielab-science.com/admin and log in (see above for username/password details)

- See sections below for updating specific aspects

14.1.4.1 Your profile

- Go to the Media section (on the left-hand menu) and click Add New
- Drop file into box, or select using menus
- Go to Pages (left-hand menu) and hover over your page – select Edit with Elementor
- Use the interface to change text, upload a new picture, include links to other pages, whatever you want!
- Be sure to click Update before leaving the page.

14.1.4.2 Your CV

- Go to the Media section (on the left-hand menu) and click Add New
- Drop file into box, or select using menus
- Go to Pages (left-hand menu) and hover over your page – select Edit with Elementor
- Hover over the box that contains the text. A pencil will show up in the corner; click on it.
- On the left-hand side, an Edit Text Editor menu will show up. Find the link to your CV. If you click on it, the link to the PDF will appear. You can either - Edit the link to match the new upload (involves changing the year and month of upload and the name of the file as it was uploaded to Wordpress), or - Delete the current link to the CV and add a new one with the Add Media button.
- Be sure to click Update before leaving the page.

14.1.4.3 Troubleshooting

If the page doesn't update

- Wait 15 minutes and reload the webpage.
- Clear the wordpress Cache
  - On the wordpress dashboard, click on Mangaged Wordpress (top) and select Flush Cache. This will take a minute or so.
- Clear your browser Cache
  - This will be under your browser's settings.
  - Try opening the webpage in an incognito window as well, to see if this is a problem.

14.2 Lab Manual

14.2.1 Clone lab manual to your computer

Notes:

1. *this is only available to current graduate students and PIs in the lab.*
2. *the steps listed here only need to be followed on the first use.*

Necessary materials:

- Git
- GitHub account with access to PIElab organization
- Rstudio that is connected to GitHub through your personal account.

1. Go to manual repository.
2. Click on the green *Clone or download* button.
3. Copy the link that appears.
4. Open RStudio. Create a New Project.
5. Select Version Control and then Git. Name the project "manual" (so it matches the Rproj file that already exists in the repository. Save this project somewhere you will remember.

14.2.2 Updating the manual [using the RStudio GUI]

Before you make ANY changes:

1. Open the manual RStudio project.
2. Pull the most recent version of the manual using the blue down arrow.

Make any changes to the manual as you think are necessary.

3. In the Build tab in Rstudio, click on *Build Book*.
4. In the Git tab, click Commit. In the commit message section, briefly (4-5 words max) describe the changes you made. Example: wrote updating manual section. In the window on the left, the easiest thing to do is select everything and click *Stage*. Ensure all the boxes are checked. This will be slower than only selecting the parts of the book that have changed. However, the nature of an RMarkdown book is many changes affect most parts of the book (because it changes you navigate to them). If you miss a change you have made, the book may not render properly online. Click the *Commit Button*.
5. Click on the green up arrow to push the book to GitHub, which will update the book online.

14.2.3 Updating the manual [using the terminal in Rstudio]

Before you make ANY changes:

1. Open the manual RStudio project.
2. In the terminal window of RStudio, pull the most recent version using this code:

```
git pull
```

Make any changes to the manual as you think are necessary.

3. In the Build tab in Rstudio, click on *Build Book*.
4. In the Terminal, commit your changes. The easiest way to do this is to type:

```
git add .
```

where the period indicate to include anything. Alternatively, you can add only specific files, if you don't want to commit everything. For example:

```
git add file.R
```

or:

```
git add path/file.R
```

To commit your changes, type:

```
git commit -m "message here"
```

Be sure to include a message describing the changes. Keep the message short.

Finally upload your changes with:

```
git push
```

You're done!

14.2.4 Requesting updates

You may be unable to make changes to the lab manual because you are not authorized to make changes or don't know the answer to the question. In either of those cases, you make create an issue on the GitHub page to alert the lab to the need for additional material. To do so:

1. Go to the Issues tab on the GitHub page for the lab manual.
2. Click on New Issue and complete the form. Be sure to include as much detail as you can about the issue you have. The more detailed your request, the better the information in the manual will be.

Note: create one issue request for each question you have. Don't put lots of requests into a single issue.

Other lab members can take responsibility for this issue by self-assigning the issue. Once material has been added to the manual, the member responsible for resolving the issue should reply to the original poster, including a link to the relevant section. If this meets the need of the original poster, they should reply so and the issue can be marked as closed.

Chapter 15

Life

15.1 Taxes

Note that being a GE and having a research fellowship are considered different forms of compensation. Here's a guide to preparing your (2019) federal taxes.

Chapter 16

SAPA project website

16.1 Introduction

The SAPA Project hosts surveys that explore different dimensions of personality.

16.1.1 Infrastructure

The SAPA Project is hosted on Google Cloud. There is one active compute engine virtual machine (VM) instance, and one backup or staging instance. The VM instances run an Apache/2.4.25 web server on Debian 9 (stretch) Linux based operating system that hosts the actual SAPA Project website. Each time a user completes a survey, the survey results are stored in a MySQL database, which is running on a Google Cloud SQL instance running MySQL 5.7.

16.1.1.1 Admin console

Admin console for the computing infrastructure is available at https://console.cloud.google.com.

16.1.1.2 How to add new administrators / owners

Add a new user from the IAM & Admin admin console page.

16.1.2 How to connect to database

First time users:

1. Download and install the Google Cloud SDK
2. Download and install the Google Cloud SQL Proxy
3. Download and install a MySQL client. On macOS, use homebrew to install a command line client via `brew install mysql`, or you can install the MySQL Workbench GUI client

- In a terminal session, authenticate to Google services

```
gcloud auth login
```

A web browser will open and direct you to login to your Google account.

- Start the `cloud_sql_proxy`:

```
cloud_sql_proxy -instances=silken-alloy-248920:us-west1:woodworth-pi-improvement-proje
```

If the command succeeds, you'll see the following message returned to your shell:

```
Ready for new connections
```

The Cloud SQL Proxy allows you to make connections to the MySQL database running in Google Cloud as if the database was running locally.

- In a new terminal window, verify the connection:

```
mysql -h 127.0.0.1 -u SAPAreader -p
```

Enter the password when prompted. If the connection is successful, then you'll see the mysql prompt:

```
mysql>
```

16.1.3 Connecting from R

Following the instructions here: https://cloud.google.com/blog/products/gcp/google-cloud-platform-for-data-scientists-using-r-with-google-cloud-sql-for-mysql

It is helpful to create a function that creates the connection to the MySQL database:

```
library(RMySQL)

getSqlConnection <- function(){
  con <-
    dbConnect(
      RMySQL::MySQL(),
      username = 'SAPAreader',
      password = 'password',
      host = '127.0.0.1',
      dbname = 'SAPAactive'
```

```
    )
  return(con)
}
```

Then you can query any table in the `SAPAactive` database by following this example, which queries 10 results from the `TAIE_responses_111119` table:

```
conn <- getSqlConnection()
res <- dbSendQuery(conn, "select * from TAIE_responses_111119 limit 10")
data <- dbFetch(res)
print(data)
dbDisconnect(conn)
```