

Pragmatic Issues in Successfully Carrying Out A Senior Thesis

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This is a brief overview of some of the pragmatic issues that you need to think about, and solve before you'll be able to carry out a successful senior thesis. Too many people fail to complete their theses, and we want to make sure that you know how to finish it successfully and on time.

1. Take stock of your interests, time, and abilities.

It is essential that you know what you can do, and what you cannot. Do not sign on to do a project that you haven't the time, energy, or resources to carry out. If you feel you cannot actually finish a project, then drop Honors at the end of this semester (you won't be penalized in terms of a grade—you just won't graduate with Departmental Honors).

It is A-OK to come to the conclusion that Departmental Honors isn't for you. Many of the current department's faculty did not get Honors (although many did). It is A Good Thing, but not everyone needs it.

2. Finding an advisor.

Take a good look again at the earlier handout about how to interact with an advisor. Think broadly about your interests as an honors student. Many students want to work only with Clinical faculty—this is unnecessarily narrow. One of us was admitted to 100% of the Clinical programs he applied to, and his undergraduate research background was primarily as a rat-runner conditioning taste preferences. Graduate programs like any kind of psychological research experience, and some cognitive and social theses are easier to actually get done—they can be discrete and modest projects.

3. Getting to yes.

Look back at the handout on how to interact with faculty. It says a lot about how to interact professionally with faculty. The important thing is to look like a promising student. Of course, even more important is *being* a promising student. Do your homework, pay attention, and be pleasantly persistent.

4. Getting started on the thesis.

Most projects require a review by an Institutional Review Board. At Kansas, it's called ACHE. Your advisor should work this out with you, but it includes (1) describing why you are doing your study, (2) what procedures/protocols you will use, (3) what questionnaires and/or materials you will use, (4) an Informed Consent form, and a debriefing sheet/script.

There is a formula for how to do this ACHE form, and your advisor will need to sign it.

If you are going to use participants from the PSYC 104 Subject Pool, you must pass the exam on being an experimenter, in the Main Psych Office. It's easy, but you ***must*** pass it.

Getting subjects is easy at the beginning and early in the semester, and it's very hard near the end of the semester. Participants are more plentiful in the Fall semester than in the Spring semester. Subjects are obtained by offering times on the sign-up board, on the 4th Floor. The location of the experiment/study itself is something you arrange with your advisor.

Sometimes you will want to pre-select participants into your studies—people with religious belief, left handers, Republicans, etc. To do this, you must do Mass Testing, a process where people in Psych 104 fill out questionnaires in a group setting during the third week of the semester, on a weekday evening. Mass testing is generally discouraged, as it is an over-used and precious resource. Still, if your study requires it, then you should keep in close touch with your advisor at the beginning of the semester. The Subject Pool Coordinator puts out a memo early in the semester—you won't get one, but your advisor will.

Working out supplies—photos, pencils, photocopying, computers, etc., should all be worked out between you and your advisor.

5. Actually collecting the data.

Here, you must be very responsible. Getting to work with student participants is a privilege, and it can be easily taken away. Because participants are the basic ingredient to a research project, you must very carefully follow the rules at this point.

Participants are scheduled by phoning (if you mass tested), or by putting sign-up sheets on the board on the 4th Floor. *A copy of all sign-up sheets must go to Jama, at the time you post the empty sheets.*

Please note that people won't come to experiments early in the morning, late in the evening is dicey, and weekend sessions are usually a waste of time. Also, you should pay attention to when the largest section of PSYC 104 is—very few students will be able to schedule sessions during that class (esp. in the Fall semester).

Also, if you fail to show up for an experimental session, you can be cut off from the subject pool. You are often allowed one mess-up, the 2nd one, and you can be tossed out. It's very bad practice.

While collecting the data, you should keep very careful notes. This means that you keep track of the session, you make notes about anything unusual that happened, etc. Also, you must keep track—very carefully—of which participants were in which condition, and so on. If you are collecting your data on a computer, you might want to back up your data after every session.

You must take collecting data very seriously, and always treat the participants with respect. In addition, in this stage, and all subsequent stages, you must be careful to treat the data with either confidentiality or complete anonymity. Making public any person's responses in a research setting is not allowed—there is virtually no exception (with the small exception of when the participant physically threatens someone, or indicates that s/he is about to engage in a serious crime, but these are things that *rarely* happen while collecting Thesis data).

6. Analyzing the data

This is the point at which most students yell the most loudly for “Help!” While your Psychology 300 course may have provided you with all that you needed to know to analyze your data, it is not unreasonable that you may not recall some of what you have learned. Or, perhaps you did not have enough “hands on” experience with the type of data you will generate with your project to be ready to conduct an analysis without some help. The first step is to ask your advisor, before the start of the project, what statistical treatment he or she feels will be required. If you are not prepared to do that type of analysis before the start of the project, then you have two options. First, you may choose to generate a simpler data set that you are comfortable with. Second, you can learn to conduct the type of analysis you will need before you collect all of your data. Your advisor or a graduate student in the laboratory will most likely be able to furnish you with some previously collected data, as well as how they analyzed it and the results of their analysis of that data. You may choose to conduct the analysis in a similar fashion, if the equipment exists. For example, if they used SAS on a computer in their laboratory, you may also learn to use SAS on that computer. Or, you may decide to use some other computerized statistical package (e.g., SPSS, SYSTAT, etc). The department computer lab has statistical analysis packages that will work for almost all projects. Whatever you decide to do, you should conduct the analysis yourself. Not only is it part of your honor's project, but also it is the most reliable method of ensuring it is done on time. Plus, if you are going to graduate school, it is a skill you will need.

The first task of analysis is entering the data into the computer. Your advisor will have to help you set this up—there is always a bit of local knowledge (the computer, the program, the dataset) required before you can get going on this. Once you have entered the data, the next step is “cleaning” the data. This involves making sure that your data have been entered correctly. Once you run the program to enter the data, many times the computer will inform you of errors. You need to track these down and fix them. You will often find that an error on Participant #N will be based on a data entry error on Participant #N-1. Next, you need to look at the data, using descriptive statistics and histograms, etc. This way you will find out if you have some values in your data that are impossible (called “wild codes”, for example, a score of 9 on a 1-7 scale). You need to figure out what the problems are, and fix them.

7. Figuring out what the data mean

Okay, now that you have a bunch of numbers, what does it all mean? First, you should compare what you have with what you predicted you would find. That means you need a set of predictions at the start of the project. (If the project is exploratory, make some predictions

anyway so you can know what you might expect.) The best way to make to do this is to make some graphs of hypothetical data before the project. If your real data generate graphs that match the hypothetical data, then you are in great shape, start writing. If the graphs are different, ask yourself what is different about them. Is one result different? Are all of the results different? Are you finding anything at all? (Are there any differences between the groups?) Once you have an “eyeball” view of the data, you can then start to ask specific statistical questions (“Is group A at level 1 different from group B at level 1 ?”) that are relevant to your initial question. Your advisor will be particularly helpful in this regard, as they will have the experience to recognize many trends that you may miss.

8. Writing the report.

You have already received a handout on this matter, and so I will be brief. However, you should know several things, and keep them uppermost in mind. First, writing such a paper takes a lot of time, and you should get started as soon as possible.

You may write the Method section as soon as you have begun collecting data. This is actually a good idea, because the exact method will be fresh in your mind. This is often the easiest section to write, and you may begin writing this first. That’s the way most researchers do it. (However, in your case, your advisor may ask you to write a draft introduction first, and if this is the case, then the Method section should be second.)

The Results section is written next, and it is based on your actual statistical analysis. This is difficult to write the first time, because you need to handle things in a technical manner. It’s quite arcane, and you will need some guidance. Sometimes, it’s a good idea to copy to the structure and outline of a published paper. Borrowing the order+structure from a paper is not plagiarizing, and it’s ok to do it. Copying actual sentences is not OK.

Next, finish up the Introduction, and make sure that your Intro ends up with a well-stated section on the actual hypotheses. Then, write the Discussion.

The very last thing that you write is the Abstract. This is far more difficult than you might expect—writing short is far more challenging than writing long. Make sure you allow plenty of time for this step—often, people give short shrift to this important task; please do not make the same mistake. The Abstract is often the only part of any paper that people read; you need to give your paper a fair representation here.

You will have to present your thesis to the class, after you’ve analyzed the data. The good news about this presentation is that it will overlap, to a large extent, with the written document. The ideas will appear mostly in the same order, use the same figures, graphs, tables, and will be presented at about the same level (to people with substantial psychological knowledge, but without substantial expertise in your research area itself).

9. Getting your advisor’s OK.

You may be dismayed to discover that your advisor keeps asking for revisions. This is par for the course. It's tricky—they have high standards, and will want you to meet them. However, you should also know that they understand that you will not be able to meet the highest standards, and you may have to engage in a little negotiation about what is reasonable work. **MAKE SURE YOU UNDERSTAND THAT IT IS VERY LIKELY THAT YOUR FIRST VERSION TURNED INTO YOUR ADVISOR WILL NOT BE ACCEPTED AS WRITTEN.** Allow some time for revisions. No journal, nor master's thesis, nor dissertation is taken without changes made along the way.

10. The second reader.

At least *three* faculty members read your thesis. The Honors faculty will read it (one or both of us), your advisor will read it, and a "Second Reader" will read it, too. This person serves as a "quality control" person; she or he will read it with an eye toward maintaining departmental standards. Sometimes, this person will ask for changes, sometimes they will not. The second reader is located by the Honors faculty, not by you, and not by your advisor. Either you or your advisor can request the second reader, and we can honor this request under some circumstances, but it's best if you just let the Honors faculty handle this job. There are several very good reasons why we do it this way. Trust us.

11. Getting Honor's

Once you've had your thesis accepted, that's it, right? Almost. There's some paperwork, and so on. Make sure that you get it done. Keep in touch with us—it's likely that your advisor won't know what to do.

If you don't do the paperwork, then Honor's won't show up on your transcript. This is not a result you want, and so, do the paperwork.

For graduation, if you successfully complete Honor's you can wear the Honor Cords at Commencement, and it's very cool. The cords are cheap, and make the black gowns look cool. You want them.

OK, there's a lot to do. Don't dawdle. You can do it, but not if you put things off. You will have support at every stage. But you have to ask for it.