

## Interested in Getting Research Experience? Advice and suggestions

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Its becoming increasingly important for students to have research experience during their undergraduate years. Working in a lab on campus can be a useful break from big classes, and is also a way to see science from a hands-on perspective. You will get to know professors and graduate schools, and add a different dimensions to your education. Additionally, graduate schools expect applicants to have worked in at least one lab. If you are a psychology major, you may appreciate getting research experience to determine if graduate school is something you want to consider.

There are two things to think about as you look for research internships.

#### *1. What research questions interest you?*

For psychology majors or those considering psychology graduate school, you could ask a couple of basic questions

**basic science or clinical:** investigating intellectual challenges or helping people recover from illness)

**More brain vs. more behavior:** different type of question is to conceive of the continuum from chemistry to biology to brains to culture/society. Some people conceive of a continuum ranging from "hard science" to "soft science". Others think of the same continuum as ranging from "low level" to "high level".

Think about where your interests are or where your comfort zone is:

- molecules, chemical compounds
- neurotransmitters
- specific region of the brain
- interacting neural systems of the brain
- computational models of the brain
- physiological processes that may be linked to specific behaviors
- cognitive processes
- patterns of behavior
- personality
- social information processing
- influences of culture and society on behavior

Or do you want to try to connect phenomena at different levels of this hierarchy? For example, how does culture influence physiology?

If you're reading this page, then you have the opportunity to see some of the questions being studied in my lab. For example, you know that some of my research uses psychophysiological techniques to bridge the gap between subjective emotional report, and the physiological responses of the brain/body (in domains like language processing, sociopolitical images, reactions to religious phrases). I also have projects in cross-cultural psychology and even gender studies.

#### *2. What level of structure and supervision do you want?*

Some research labs are large and quite hierarchically layered, with the principle investigator (or lab director) at the top of a pyramid, with post-doctoral fellows, graduate students, lab managers, and a bevy of

busy undergraduates. It is common for undergraduates to start with a very basic orientation to the research center, doing work such as filing, making copies or entering data from surveys and interviews. You may have to pay your dues at this lowest level before proving yourself to supervisors and moving up to a level where you have more autonomy and self-direction.

A difficulty in research internships is that the most intrinsically interesting work requires students who are highly knowledgeable and may already have considerable research experience. Even if an internship doesn't specifically require you to have prior research experience, getting to do the very interesting research may require that you be able to learn quickly and work well without a lot of direct supervision. You may need to be willing to take chances and figure things out on your own. At the same time, all research involves things like getting data into spread sheets where it can be analyzed, so even if you are ready to take on high-level responsibilities, you may be in a situation that the data for your project needs to be entered or coded, and for the project to move forward, you may be the logical person who is available to get the data coded.

I suspect my lab is similar to many psychology labs in that there is a great deal of on ongoing work that is at various stages of completion. This means that there are tasks that span the continuum from being structured and easy to master to jobs that are ideal for students who want to be in charge of an aspect of a project and would work with me as a junior collaborator.

## **Examples of tasks involving different levels of self-direction**

### *Easy, straightforward tasks that don't require a lot of supervision*

Entering participant's interview data and questionnaire results into excel spread sheets. This is a job that you can be explained to you in 15 minutes or less and that you really can't do wrong. You can take questionnaires home and work on your own computer, and you can work for any length of time that fits your schedule. While some aspects of entering data are fairly mindless, the questionnaire are often interesting and reveal many aspects of the interview process. You'll get to see how participants respond to questionnaires, and you'll also have some insight into good and bad questionnaire design.

### *Tasks requiring more training*

Coding essays for content. You will use an instruction sheet and will perform the necessary role of providing "inter-rater reliability" for a coding that has already been worked out.

Running participants in experiments. Requires a good amount of training. You get to work with other students. You need to show up at specific times (that fit your schedule).

### *Tasks requiring a lot of training*

Reviewing psychophysiological results and coding for artifacts. There is an instruction manual. You will be trained over a number of sessions.

### *Project coordinator*

A project coordinator assumes some responsibility for how the project is being managed during a set period of time (a month, a summer term, a semester). Below I review the project coordinator in more detail.

## **Project coordinator: What is involved in being charge of a project**

A project coordinator works relatively independently after training. Key areas are organizing meetings, researching the literature, reorganizing computer files, and supervising laboratory personnel

### *Organizing meetings*

- helps to schedule meetings; communicates with team members via phone and email
- keeps notes during research meetings about what tasks have been accomplished and what the remaining challenges are
- directs the meeting (reminds members of meeting goals; helps organize research meetings so that discussion is maximally useful to all team members)

### *Researching the relevant scientific literature*

- Learn about the scientific background of the study by finding, reading and summarizing papers. Read and organize lab notes on the project.

### *Organizing computer files*

- maintains computer files and paper files so that work related to the project is organized and can be readily understood by others

### *Supervising laboratory personnel*

- understands different aspects of the project and how to coordinate the efforts of a number of assistants who have taken on different tasks
- identifies team members who will have skills and interests that match different aspects of the project
- assists the Project Director in training and supervising team members
- understands the high level goals of a project (e.g., journal publication, grant submission) and coordinates efforts of the research team to achieve them.

## **Directed Study for Credit**

Directed studies can span the continuum from very structured and planned, to fairly informal. The content of the directed study may be mostly the student's idea, or can involve a project which has already been developed.

*Structured directed study:* students either already have a project (their own idea or an idea developed with their directed study supervisor).

*Less structured directed study:* students begin by getting exposed to different projects by being a participant in existing studies, observing, and assisting with tasks such as coding and entering questionnaire data. As students learn more they pick a project or help develop a new project and start to take responsibility for that project.