

## **Deciding to do a thesis**

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Near the end of the first part of your graduate education looms one of academe's milestones -- the thesis. This reading outlines the nature of a thesis and the steps in doing a thesis.

For information on administrative requirements, see the Department's Handbook for Graduate Students in Psychological Science.

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### **What Is a Thesis?**

Your thesis is literally your masterpiece -- the piece of work that demonstrates your mastery of psychology as a science. As such, it serves four classes of purposes: social, educational, scientific, and demonstrative.

### **Social Purpose**

From the social point of view, the thesis serves as an initiation ritual and as part of a rite of passage into the profession of psychologist. An initiation ritual is an ordeal (great or small, short or long) designed to test an aspiring group member's desire to belong to the group.

In this case, psychologists are the group and the thesis tests your willingness to work to become a member of the group and demonstrates your acceptance of the group's values. Completion of the initiation ritual has two effects: members of the group are motivated to perceive aspirants as qualified for group membership and to accept them into the group, and the effort required by the initiation helps to bind the new members to the group (Forsyth, 1990).

The thesis, along with your course work, qualifies you for a rite of passage marking your transition from lay person to psychologist. This rite of passage--graduation--confers upon you a visible mark of your new status--your diploma--thus making the world aware of your status change.

### **Educational Purpose**

The thesis is a practicum in research. Although you may have worked as a research assistant, the thesis is your opportunity to learn how to be a principal investigator in research by conducting your own research project. You will learn at first hand how to deal with the problems that arise in the development, execution, and dissemination of research. Through this process you will refine existing skills and develop new ones.

### **Scientific Purpose**

The scientific purpose of a thesis is the same as that of all research--to generate knowledge. This purpose is fulfilled when a research project is properly designed and executed, regardless of whether its hypotheses are confirmed; a study that does not support well-grounded hypotheses provides information about the underlying theory just as does one that confirms its hypotheses.

### **Demonstrative Purpose**

Completion of a thesis requires you to demonstrate that you possess the characteristics of a scientific psychologist. You will have developed some of these characteristics during your education prior to the thesis; others will be developed or refined through the process of doing the thesis. The thesis functions as a performance test of these characteristics, and your thesis will be judged according to the degree to which it manifests them. The characteristics include the following:

Creativity, demonstrated through

- development of a research topic and hypotheses;
- creation of a research design.

Scholarship, demonstrated through

- locating and organizing a body of theoretical and research literature relevant to your topic;
- critically reviewing that literature;
- drawing implications from that literature that are relevant to developing and testing your hypotheses;
- integrating the results of your research with the existing theoretical and empirical literature;
- identifying the implications of your results for theory, research, and application.

Skill in

- professional communication, both written and oral;
- research design;
- data analysis.

### **Should You Do a Thesis?**

Because a thesis is not required for the master of art's in psychology degree at Ball State, students may feel uncertain and sometimes anxious about deciding whether to do one. It is very difficult to offer hard and fast rules that will help with this process. However, here are some general guidelines:

(a) Students who are certain they want to pursue a Ph.D. degree **may** want to complete a thesis.

Most doctoral programs expect their students to write a thesis before becoming candidates for the doctoral degree, and many will accept a thesis completed at another university. For students entering such programs, a completed thesis can offer a jump start to the next stage of their education. In addition, doctoral programs typically look for students who have strong research skills; a thesis is an excellent way to hone those skills.

(b) Students who are certain they want a professional degree or a Psy.D. **may not** want to do a thesis.

Many of those programs do not require a Master's thesis and, hence, for students with an interest in those degrees, a thesis may not be the best use of one's time.

(c) Students who are certain they want to seek employment, either short-term or the long-term, after graduation may not want to do a thesis.

These students may want to take additional course work relevant to their interests rather than pursue a thesis. Students in the general program, for example, might benefit more from advanced statistics or business-related classes than from a thesis.

Even if one's long term plan is to pursue an advanced degree, it is possible that a thesis would not be of great benefit. For example, some doctoral programs may be less willing to accept a "dated" thesis than a more recent one, so students may have to repeat the thesis requirement if they have been out of school for awhile. This is not to say, however, that a thesis offers no benefit for those seeking employment.

Employers seek workers who are responsible and can follow through. Many also seek applicants with data analysis skills. A complete thesis makes evident that you can see a large scale project to fruition and that you have excellent data analysis skills. The question to consider, then, is whether other options would benefit you more.

Many students are simply not certain about into which of the above categories they fall. For those students, the decision will be the most difficult. However, one should keep in mind that completing a thesis is not a "life or death" decision. It is highly unlikely that career goals will be blocked by this decision. At worst, it may mean backtracking a bit to complete a thesis at a later time. Similarly, completing a thesis is a highly valuable process regardless of one's career goals: writing and thinking skills are enhanced and students often gain a strong sense of accomplishment.

Sometimes students feel social pressure to do a thesis. If you find yourself in this situation, remember that doing or not doing a thesis is a highly individualized decision; the worst reason for doing a thesis is that your peers are doing one.

## **Steps in Doing a Thesis**

This section outlines the sequence of events in doing a thesis. Although these steps are presented as discrete events for heuristic purposes, some may occur simultaneously. For example, you might develop a topic in conjunction with a faculty member, thereby combining the first two steps.

### **1. Select a Topic**

The first task that you must accomplish is that of deciding what you want to study. In doing this, you must bear three guidelines in mind:

- Work on something that you are familiar with. Choosing a topic about which you already know something will greatly ease the process of reviewing the literature and developing hypotheses.
- Choose a topic that will contribute to knowledge. Such topics have strong theoretical, empirical or applied bases; involve research questions that can be transformed into unambiguous hypotheses and variables that have clear operational definitions; and ask a question that is important to its theoretical, empirical, or applied context. If your committee (see below) thinks that your topic is trivial, your thesis will not be approved.
- Remember your constraints. Time and material resources will be limited; design a research project that can be done within these constraints.

During the process of topic selection, do not hesitate to consult faculty members for assistance. They can provide guidance in identifying important theoretical, methodological, and practical issues (e.g., the feasibility of your research given the available resources), and can refer you to articles and books relevant to your topic.

You can also use this exploratory period to help you decide on whom to invite to be your thesis advisor and to be on your committee. Consulting people at this stage does not commit you to having them on your committee, so draw on as many people as necessary. This process allows you to get feedback on your ideas and to gauge how much more development is needed before you can start on a prospectus. During this process be sure that you clearly explain to the faculty members you talk to that you are exploring ideas at this point, not asking them for a commitment to serve on your committee.

### **2. Select a Thesis Advisor**

Your thesis advisor (or committee chair) is, after you, the most important person involved in this project; choose carefully. He or she will be your principal guide through the thesis jungle, and so must meet two characteristics.

First, your advisor should be familiar with the theory and research relevant to your topic and with the methodology you plan to employ to study it. This familiarity does not have to be at the level of complete expertise, but rather at a level from which he or she can guide you through your project with the collaboration of the other members of your committee.

Second, your thesis advisor should be someone with whom you feel that you can work. This characteristic is very important; you will be spending a lot of time with this person, so if you can't get along, life will be difficult.

You are under no obligation to choose a particular faculty member as your thesis advisor or for your committee. For example, you do not have to choose someone just because you have been his or her research or teaching assistant. As faculty, we understand the constraints that you are under in choosing a thesis advisor and committee; we won't be upset at not being chosen.

### **3. Select the Other Members of Your Committee**

This step is often done in conjunction with the next, developing the prospectus. As you get a more specific idea of what you will do, you will get a better idea of the kinds of people you will need on your committee.

The committee consists of at least two faculty members in addition to your thesis advisor. They have three principal duties:

- assisting you in developing your hypotheses and method, analyzing your data, and interpreting your result;
- ensuring that the study is well-developed and well-designed prior to approving data collection;
- ensuring that the final product is completely and properly done.

You should therefore choose committee members who are familiar with your topic or with the method you will use, and so can assist you through the thesis. Their skills and expertise and those of your thesis advisor should be complementary so that you have a well-rounded committee who can advise you on all aspects of your project.

As with your thesis advisor, you should choose people with whom you feel that you can work. From time to time faculty members will decline an invitation to serve on a thesis committee. Don't take this declination personally. Most likely, the faculty members are either too busy or feel that they do not have sufficient expertise to do a good job. They will usually refer you to someone whom they feel is better qualified.

### **4. Develop a Prospectus**

The prospectus is a description of the research that you plan to do and of the reasons for it. As such, it consists of the introduction and method sections of your thesis. You develop the prospectus under the guidance of your thesis advisor and in consultation with the other members of your committee.

The introduction section presents the theoretical and empirical bases for your hypotheses. It thus performs the same function as the introduction section of a research article, but usually in more detail. This greater level of detail is in support of the scholarship function of the thesis--it demonstrates to your committee that you have thoroughly researched the relevant issues and have addressed all potential problem areas. The introduction must address each independent variable that you intend to use, showing its relevance to the research question in terms of theory and prior research. It should also address any relevant methodological issues, such as the relevant merits of different operational definitions. Overall, the introduction should provide a logical development of your research question, with your hypotheses as the conclusion.

The method section describes how you will test your hypotheses. As in a research article, you will describe who you will use as subjects, including the selection criteria for special populations (e.g., diagnostic groups), and your procedures. The procedures section should lead your committee through your study step by step; they should get a complete picture of the experiences that you intend for your subjects. You should justify your operational definitions by presenting evidence for their reliability and construct validity, and copies of all stimuli, questionnaires, scripts, etc., should be attached as appendices.

Finally, you should describe the data analyses that you plan to do, including the statistical techniques that you will use and a description of the pattern of results that would indicate support for your hypotheses. Sternberg (1988) and Van Wageningen (1991) provide excellent guides to scientific writing and thesis writing, respectively.

How long should a prospectus be? Unfortunately, there is no absolute answer to this question. The body of a prospectus (introduction and method sections) can run anywhere from 10 to 30 (or more) pages depending on the topic and methodology. The only rule that can be given is to write your prospectus in sufficient detail that the members of your committee can have a full understanding of what you plan to do and why you plan to do it. Your thesis advisor will let you know when you have reached this point.

In the end, your prospectus should answer three broad questions:

- What hypotheses are you going to test and do they have adequate theoretical and empirical rationale?
- Can the procedures provide clear and unambiguous answers to the research questions?
- Are the appropriate statistical procedures being used?

On the way to this end, you should expect to do multiple rewrites of your prospectus as you and your thesis advisor mold it into shape. These rewrites are necessary because the first few drafts and any written work will be rife with ambiguities, shortfalls in explanation, and verbosity that pass the writer by but are noticed by other readers. Remember, you know what you are trying to say, so you automatically fill in any gaps as you read, but your reader doesn't have this knowledge base to draw upon.

The process of writing and rewriting the prospectus is usually lengthy (and frustrating), taking up to a semester to complete. One reason that it will take so long is that you won't be working on it full-time; you'll also have course work to do.

## **5. The Prospectus Meeting**

At the prospectus meeting you officially present your thesis to your committee for approval. I say "officially" because throughout the prospectus development process you should have been consulting with your committee members. As a result, they will have had the opportunity to point out to you any potential problems that they noticed. Nonetheless, the prospectus meeting is when they judge the prospectus as a whole piece of work, and the committee members might notice other potential problem areas. Therefore, you should provide each committee member with the final version of your prospectus at least two weeks prior to the meeting. This amount of time will allow them to study the prospectus carefully and provide you with initial feedback before the meeting. In very rare cases someone will notice a "fatal flaw" and suggest that the meeting be postponed until the flaw is corrected. Often, the committee members will give you a list of questions and issues that they want you to address at the meeting.

There is no set procedure for conducting the meeting. Typically, however, it opens with the student presenting an oral overview of the prospectus, interspersed with or followed by questions from the committee members concerning any problems of clarity of expression or of design that they saw in your prospectus.

The resulting discussion also frequently brings to light previously unnoticed problems and questions. As a result of this process, the committee might recommend (or require) changes to the introduction section or to the procedures to be used in the research. The student might then be asked to wait outside the meeting room until a decision is made. The decision is almost always favorable, but frequently includes conditions such as changes in procedures or the wording of questionnaire items. Once the committee approves your prospectus, that approval normally cannot be revoked. That is, your committee cannot later fault you for something that it approved as part of your prospectus. (This is one reason for making your prospectus as detailed as possible.) You should schedule two hours for the meeting, although most will take 60 to 90 minutes.

Your prospectus will be judged on four criteria:

- Does the prospectus describe the intended research completely, concisely, and clearly? That is, is it well written? I list this item first because the committee members cannot judge the other criteria from a poorly written document.
- Does it have scientific merit? That is, does it address an important question?
- Do the proposed procedures adequately test the hypotheses, leaving minimal room for alternative explanations if the hypotheses are supported?
- Is the proposed statistical analysis appropriate?

## **6. Data Collection and Analysis**

After your prospectus is approved by your committee, your procedures must also be approved by the Institutional Review Board (IRB); approval by the IRB takes a minimum of two weeks, and sometimes longer. You can request IRB approval prior to the prospectus meeting, but if the meeting results in changes to your procedure, those changes will also have to be approved by the IRB.

Once everything is approved, you can collect and then analyze your data. These steps are usually supervised by your thesis advisor, although you should consult your other committee members as needed, such as for statistical advice. If you want or need to do anything differently than or in addition to what you stated in your prospectus, you must get the approval of all of the committee members.

Sometimes students want to collect data off campus, such as in schools, community service agencies, or businesses. Although using such data collection sites enhances the ecological validity of the research, you should carefully consider the problems and risks involved as well as the benefits. For example, it might be difficult and/or time consuming to obtain permission to collect data at the site or the site might withdraw its support after data collection has begun. It is always best to use a site that you or your thesis advisor has or has had an association with; the knowledge of the site and its key personnel will help you determine the likelihood of problems arising and will facilitate the solution of any problems that do occur.

When you examine the results of your data analysis, it is important to bear in mind that although you started with the expectation that your hypotheses would be fully supported, the most common research outcomes fall short of full support. The most common outcomes are partial support for the hypotheses or none at all. Don't be misled into thinking that most research is successful because all published research is successful. There are two reasons why you see so much successful research in journals: (1) by and large, only successful research gets published (Greenwald, 1975), and (2) Published research is written so that it looks like that what the researchers found was what they were looking for (Judd, Smith, & Kidder, 1991).

So don't be too disappointed if your results don't turn out exactly as you expected.

## **7. Thesis Defense**

The defense is the final evaluation of your thesis. As in the prospectus meeting, you present an oral summary of your research and answer questions from your committee members. In the "bad old days" this meeting was open to the public and advertised campus-wide, and members of the audience were also allowed to ask questions. Some universities still use this procedure for dissertation defenses. Because your introduction and method sections were the foci of the prospectus meeting, the defense will emphasize your results and discussion sections, although the other sections will not be ignored.

The evaluation of your thesis will hinge on the following issues in addition to those listed earlier:

- Were the statistical analyses appropriate to the hypotheses and data, and were they correctly carried out?
- Were the correct conclusions drawn from the results of the statistical analyses?
- Was there a clear and complete description of how your results fit in with theory and prior research on the topic?
- Are the implications that you drew for theory, research and application on the topic clear and reasonable?
- Were there any implications that you overlooked?

In order for your committee to make these judgments, you must provide members with a copy of your thesis at least two weeks prior to the meeting. As with the prospectus, most people will discuss with you any concerns that they might have prior to the defense. Again, you should schedule two hours for the meeting.

As in the prospectus meeting, the committee may ask you to wait outside the room while it makes its decision. The decision is almost always positive, although some revisions are almost always necessary; the other committee members usually have the thesis advisor ensure that the revisions are made. It is customary to give a copy of the revised final version of the thesis to each committee member.

## **8. Conclusions**

As you can see, the thesis is a long and arduous process. There are, however, three additional matters to consider: administrative requirements, time planning, and publication.

### **Administrative Requirements**

In addition to the process described above, there are a number of administrative matters to which you must also attend. These matters include completion of forms for the approval of the prospectus and thesis (including signatures of the committee members and the department chair), notifying the Graduate School office of your intent to do a thesis, and registering for course credit for the thesis. See the Graduate Student Handbook for information on these matters, and check with the Department or Graduate School offices if you need clarification on anything.

### **Time Planning**

Here is a recommended time schedule for completing a thesis:

#### First Year

- Fall Semester
  - Consider thesis topics and possible advisors.
  - Get involved in research, either as part of an assistantship or as a volunteer.
  - Take as much responsibility for the project as possible.
- Early Spring Semester (1st half)
  - Narrow down potential topics.
  - Begin interviewing possible faculty advisors.

- Continue work on other research projects.
- Late Spring Semester (2nd half)
  - Decide on a thesis topic.
  - Choose an advisor.
  - Begin outlining thesis topic.
  - Complete a literature search on thesis topic.
- Summer
  - Formalize research question.
  - Outline methods for research question.
  - At minimum, complete a draft of your proposal.

## Second Year

- Early Fall Semester
  - Complete thesis proposal (introduction and method for project).
  - Have thesis proposal meeting.
  - Prepare IRB Protocol.
- Late Fall Semester
  - Begin data collection.
  - Prepare data for analysis.
- Spring Semester
  - Complete data collection.
  - Analyze data and write-up results.
  - Revise and update introduction and method sections.
  - Write discussion.
  - Have final thesis defense.

This is very much an idealized schedule and you will be very fortunate if you can keep to it exactly. However, if you intend to graduate in May of your second year, you should keep as closely to it as possible.

Although the official deadlines are more liberal than the schedule shown above, an early start is good for several reasons. First, the more time you have, the better job you will do. Second, if you wait too long to hold a prospectus meeting, many faculty members will decline to serve on your committee because they will believe that you will not be able to finish in the time available; they will want to put their resources into projects that they see as more likely to bear fruit. Finally, if you plan to use the PSYSC 100 subject pool, the availability of subjects declines sharply in the spring semester, and is almost zero in the summer.

Do bear in mind, though, that the schedule is usually flexible, and it is not uncommon for students to complete their data analyses near the end of the Spring Semester, finalize and defend their theses during the first part of summer, and graduate in August. However, one situation in which a conservative schedule is important is when the research involves an off-campus site; obtaining permission to collect data may take quite a bit of time. In any case, you should avoid stretching out your thesis beyond the end of your second summer: It will be extremely difficult to complete your thesis while coping with the demands of a doctoral program or job.

Finally, sometimes students begin the thesis process with full intention to complete it, but find that other time demands make finishing the thesis impossible. If you find yourself wondering if you will be able to finish your thesis, consult with your thesis advisor immediately and make a decision to continue or to stop. Although you may be reluctant to give up what you've started, trying to avoid the problem will only make it worse.

## **Publication**

As noted earlier, one of the purposes of a thesis is to add to the knowledge base of psychology as a science. This purpose can be fully achieved only if the results of your thesis are communicated to the scientific community. This communication can take place through either presenting your findings at a professional meeting or publishing them in a scientific journal (or both).

Although publication, especially journal publication, can be a long and arduous process, one might look upon it as an ethical obligation, for two reasons. One reason is that there is a basic scientific obligation to disseminate the results of research so that it can be judged and used by others. The other reason is that you have used the labor of other people in your research -- your subjects, your committee members, perhaps research assistants -- and these people have a right to know that their contribution to your work has been useful. Publication of your research is an acknowledgment of the utility of their contributions.

## **Sample Theses**

If you are curious to see what a finished thesis looks like, go to Bracken Library; they have copies of all the theses and dissertations done at the university. Any faculty member will recommend recent theses from the department for you to examine.

## **Author's Note**

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