

PROPOSING EMPIRICAL RESEARCH

A Guide to the Fundamentals

Mildred L. Patten

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P y r c z a k P u b l i s h i n g

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Editorial assistance provided by Sharon Young, Brenda Koplin, Cheryl Alcorn, Randall R. Bruce, Elaine Fuess, and Ron Matossian.

Cover design by Robert Kibler and Larry Nichols.

Printed in the United States of America.

10 9 8 7 6 5 4 3 2 1 DOC 05 04 03 02 01 00 99

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ISBN 1-884585-25-6

Introduction

This book was written for students who are writing their first proposals for empirical research. Some students will be doing this as part of a culminating undergraduate course such as a senior research seminar. Others will be required to write one as a class project at the graduate level. Still others will have their first experience when they are required to prepare a proposal for their thesis or dissertation research. Ideally, such students should have taken at least one course in research methods and statistics or should be taking such course(s) concurrently while using this book.

Organization

Part A of this book is designed to help students select a problem area and develop tentative research questions, purposes, or hypotheses. In Part B, they are encouraged to reevaluate and refine them in light of the literature on their topics, relevant theories, and the feasibility of execution of their ideas. These activities should be conducted with considerable care and with an open mind since an idea a student has for research at the beginning of this process may prove to be unsuitable when fully considered in light of all the material in these two parts of the book.

In Part C, students are reminded of the major approaches to research (i.e., types of research) and are encouraged to select a suitable type. Sometimes the type of research selected (e.g., qualitative) has implications for how research purposes, questions, or hypotheses are conceptualized and stated. Hence, some students will want to further refine and tweak their research ideas after considering this material.

In Part D, students are shown how to organize and evaluate the literature they have collected in anticipation of the writing process.

The remaining parts of this book present guidelines for writing various components of a standard research proposal. Here students will find short examples that illustrate important writing techniques.

Sample Proposals

Two sample proposals are included near the end of this book. They are *not* presented as “ideal” proposals since any proposal that is a model of excellence for one purpose (e.g., as a project for a senior undergraduate seminar) may fall far short for another purpose (e.g., seeking major funding for research from a government agency). Instead, they are presented as examples of solid proposals that are consistent with the major recommendations in this book. Students and instructors may react to the proposals in classroom discussions. For example, instructors may wish to point out which parts of the sample proposal are written in a manner suitable for the specific purpose for which students are writing a proposal and which parts need more (or less) explication and detail.

Benefits of Writing a Solid Proposal

Of course, a solid, well-formulated proposal is needed in order to obtain approval for undertaking the proposed research. In addition, a proposal serves as an informal contract since those who approve the proposal are agreeing that if the research is executed as planned, the research will be approved when presented in a research report, thesis, or dis-

sertation. To avoid misunderstandings, this “contract,” like all others, should be as explicit and specific as possible—even if the proposed research is “exploratory” or “qualitative.” Finally, a solid research proposal can serve as the framework for writing the final research report. For example, if a full-fledged literature review is written for the proposal, it might be used as the literature review in the research report.

Cautionary Notes

Students who are writing a proposal under the supervision of an instructor should seek feedback throughout the process, especially while selecting a research problem and formulating research purposes, questions, or hypotheses. Writing a complete proposal without

such feedback is inherently dangerous and could result in rejection of the entire work.

It is important to note that this book presents a framework and guidelines for preparing a standard proposal *as envisioned by this author*. As in any type of writing, there may be legitimate differences of opinion. Students should defer to their instructors when this occurs.

Communicating with Me

I would love to hear from you and am especially interested in your suggestions for improving this book. You can write to me in care of the publisher at the address on the title page.

Mildred L. Patten

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Part A

Getting Started

In this part of the book, you will learn how to identify and evaluate broad problem areas in which you might wish to conduct research. In addition, you will learn how to *combine* variables of different types to form research questions, purposes, and hypotheses.

While some of the exercises in this part ask you to practice writing questions, purposes, and hypotheses, you are strongly urged to avoid making a final selection for your research proposal until after you have also completed Part B of this book, which will help you evaluate your tentative ideas for research in light of broader contexts. To use an analogy, *don't get married yet* to an idea. *Date* several ideas, get to know them well, check out their families, and consider their future prospects. Part B will help you with these activities.

Notes

Topic 1

What Is Empirical Research?

The term *empiricism* refers to making *observations* to obtain knowledge. As part of everyday living, we all make informal observations of the people and things around us, and very often, we use these observations as a basis for making decisions. For example, a teacher may observe that his or her students seem bored and decide to switch to a livelier instructional activity.

The term *empirical research* refers to making *planned* observations. By following careful plans for making observations, we engage in a systematic, thoughtful process that deserves to be called *research*.

First, we need to plan *what to observe*. For example, we might wish to observe boredom in the classroom. What other variables should we plan to observe in order to aid in our understanding of boredom? Maybe we should consider skill areas such as math versus creative drawing. Maybe we should consider teaching styles or the match between each student's abilities and the instructional materials that are assigned to him or her. The possibilities are almost endless, so a researcher needs to select those that seem most promising.

Second, we need to plan *whom to observe*. For example, to study boredom in the classroom, we would plan what types of students to observe (e.g., ele-

mentary and/or secondary, middle-class and/or lower socioeconomic students, and so on).

Third, we need to plan *how to observe*. How will we measure boredom (as well as the other variables that might be related to boredom)? Should we ask students directly if they are bored using a questionnaire? By interviewing them? Should we observe the expressions on their faces and infer whether students are bored? If so, who will make the observations, and on what basis will they make the inferences (i.e., what types of facial expressions will be counted as indicating boredom)?

Next, we need to plan *when to observe*. Observations made on a hot Friday afternoon might yield very different results than those made on a clear spring morning.

Finally, we should *plan how to analyze the data* and interpret them. Will we calculate the percentage of students who appear bored while participating in cooperative group activities versus how many appear this way when working individually as they answer questions on worksheets? Will we try to correlate boredom with other variables such as socioeconomic status?

In this book, you will learn how to write a formal research proposal in which all these elements are addressed.

Exercise for Topic 1

Directions: If you already have some ideas for empirical research projects, briefly describe them below. If possible, describe two or more (using additional sheets of paper, if necessary). The ideas you write here will give you talking points for classroom discussions and should be thought of as only tentative, first stabs at the task of preparing a research proposal. As you work through this book, you will probably decide to greatly modify or even abandon your responses to this exercise in favor of more suitable ones.

First Set of Ideas:

1. *What* might you observe?

The main variable (e.g., boredom in the classroom) is:

Other variables (e.g., teaching styles) are:

2. *Whom* might you observe?

3. *How* might you observe your main variable (e.g., a test, an interview)?

4. *When* might you make the observations?

Second Set of Ideas:

1. *What* might you observe?

The main variable (e.g., boredom in the classroom) is:

Other variables (e.g., teaching styles) are:

2. *Whom* might you observe?

3. *How* might you observe your main variable (e.g., a test, an interview)?

4. *When* might you make the observations?

Topic 2

Identifying Broad Problem Areas

Most beginning students should identify two or three broad problem areas in which they might wish to conduct research. These are broad areas in which many different types of specific research projects may be undertaken. Examples that illustrate what is meant by “broad problem area” are:

- HIV/AIDS prevention
- Alcohol abuse
- Homelessness

One source of ideas for broad problem areas is textbooks that you used in previous courses. Often, the authors will point out areas in which there is controversy or areas that are not fully fleshed out. For example, in the first chapter of his textbook on educational and psychological measurement, Thorndike¹ identifies “some current issues in measurement,” which include “testing minority individuals” and “invasion of privacy.” In a later chapter, he discusses “current and emerging issues” in the assessment of exceptional children. In yet another chapter, he discusses “problems with personality and interest measures.” In each of these sections, the textbook author identifies several broad areas in need of additional research.

Other sources that may help in the identification of a broad problem area are:

- Lecture notes from previous courses.
- Review and reference publications such as the *Encyclopedia of Educational Research*, which contains 2,701 articles organized under 16 broad headings.² The articles cover broad areas such as AIDS education, education of pregnant and parenting teenagers, and athletics in higher education.
- “Signature” publications of major professional associations such as the *American Psychologist* published by the American Psychological Association, which carries articles of broad interest to psychologists (as opposed to research journals that carry reports on narrowly defined research).
- Journals that specialize in reviews of research such as *Psychological Bulletin*. Typically, these reviews provide a synthesis of research in a variety of problem areas.
- Discussions with professors, especially those who might be serving on your thesis or dissertation committee.
- Discussions with employers and colleagues.

In the next topic, we’ll consider the evaluation of the problem areas you will identify in the exercise for this topic.

¹ Thorndike, R. M. (1997). *Measurement and Evaluation in Psychology and Education* (6th ed.). Columbus, OH: Merrill.

² Most academic fields have encyclopedias, dictionaries, and/or “handbooks” that summarize research in broad areas. Consult with your reference librarian to see if these are available in your discipline.

Exercise for Topic 2

Directions: List two or three broad problem areas in your field of study in which you might be interested in conducting research. For each, indicate what brought the area to your attention (e.g., textbooks, personal experience, suggestions from others) and rate the degree of your interest in the area on a scale from 1 to 5.

First Problem Area:

1. What brought this area to your attention?

2. How interested are you in this area?

Very interested 5 4 3 2 1 Not at all interested

Second Problem Area:

1. What brought this area to your attention?

2. How interested are you in this area?

Very interested 5 4 3 2 1 Not at all interested

Third Problem Area:

1. What brought this area to your attention?

2. How interested are you in this area?

Very interested 5 4 3 2 1 Not at all interested

Topic 3

Evaluating Broad Problem Areas

Each of the broad problem areas you identified in the Exercise for Topic 2 should now be evaluated. Get feedback from professors, other students, and colleagues. If you are proposing research for a thesis or dissertation, you will want to consider very carefully the interests of the professors who might serve on your committee. If you fail to follow this advice, you might become an “orphan” with no one especially interested in giving you that extra measure of help you inevitably will need at some point in your work.¹

Other important criteria for evaluating a broad problem area include:

1. Is the problem area in the mainstream of your field of study?

Beginners should consider working in the mainstream because they normally will have a better academic background on mainstream issues. Also, it will be easier for them to locate faculty and other students to help them with mainstream issues. For example, the broad problem area of “homelessness” is more of a mainstream issue for a social work major than a nursing major—although individuals in both professions work with homeless individuals.

2. Is there a substantial body of literature on the problem area?²

At first, you might be tempted to think that an area with a substantial body of literature is probably an area in which researchers have exhausted most of the interesting research possibilities. However, the reverse is almost always true: As an area becomes more well-researched, new and *more interesting* facets often emerge. As one researcher builds on the research of another, complex layers of information and data become available that reveal its complexity—suggesting additional promising lines of research.

3. Is the problem area timely?

Timely issues are more likely to be of interest to potential readers of your research. In addition, doing research on them is more likely to advance your career and lead to funding opportunities for your research. Try to distinguish between timely areas (on which there typically will be at least some published research and calls by professionals for more research) and merely fashionable areas that will fade when tomorrow’s newspaper headlines are different from today’s.

¹ When you approach professors with a broad problem area, some of them might want to dive into the thick of things and ask you for your specific research purposes or hypotheses. If this happens, explain that you are not at that stage yet—that you’re just considering broad areas and trying to identify faculty who might be interested.

² At this point in your academic career, you probably know how to search the major computerized databases of literature in your academic area. For those who do not, Appendix A describes the basics of this process.

Exercise for Topic 3

Directions: Rewrite the names of the three problem areas you identified in the Exercise for Topic 2. Then briefly evaluate each one.

First Problem Area:

1. Is the problem area in the mainstream of your field of study? Explain.
2. Is there a substantial body of literature on the problem area? Explain.
3. Is the problem area timely? Explain.

Second Problem Area:

1. Is the problem area in the mainstream of your field of study? Explain.
2. Is there a substantial body of literature on the problem area? Explain.
3. Is the problem area timely? Explain.

Third Problem Area:

1. Is the problem area in the mainstream of your field of study? Explain.
2. Is there a substantial body of literature on the problem area? Explain.
3. Is the problem area timely? Explain.

Topic 4

Identifying and Combining Variables

To narrow a broad problem area down to a specific research topic, it is helpful to brainstorm a list of *variables* within the area that might be of interest. Most variables can be thought of as belonging to one of three families:

1. *Knowledge.*

Research often focuses on what people know about some topic. Examples of knowledge variables are:

- Knowledge of how HIV is transmitted. (Note that people will differ or *vary* in the amount of this knowledge.)
- Knowledge of community resources for people with HIV.
- Knowledge of treatment options for HIV.

2. *Opinions and Feelings.*

Considerable research deals with this family of variables. Examples are:

- Attitudes toward people with HIV.
- Opinions on federal support for research on HIV.
- Depression among people with children who are HIV positive.

3. *Overt Behavior/Action.*

What people do is also of considerable interest. Examples of variables in this family are:

- Whether people “flee” when someone sitting next to them identifies him- or herself as being HIV positive.
- Frequency of condom use in non-monogamous relationships.
- Use of free clinics by people who are HIV positive.

As you may have already guessed, we combine variables to form interesting research questions. Using two of the *opinions and feelings variables* mentioned above, we could ask:

- Do those with more favorable attitudes toward people with HIV favor more federal support for research on HIV than those with less favorable attitudes?

We can also combine variables across two *different* families of variables and ask research questions such as:

- Do people with more knowledge of how HIV is transmitted have more favorable attitudes toward people with HIV than those with less knowledge?

The exercise for this topic will ask you to brainstorm some variables from each of the three families and try combining them—but do not fall in love yet, and do not get married to a research question! There is still quite a bit of work to do before making the ultimate commitment.

Exercise for Topic 4

Directions: Complete this exercise using one of the broad problem areas you named in your responses to the Exercise for Topic 3. If you are still considering more than one, use additional sheets of paper to complete this exercise for each additional area.

Name a broad problem area here:

1. List at least four *knowledge* variables within the problem area.
2. List at least four *opinions and feelings* variables within the problem area.
3. List at least four *overt behavior/action* variables within the problem area.
4. Combine two variables from *one family of variables* into a research question.
5. Combine two variables from *two different families of variables* into a research question.