EMPIRICAL RESEARCH EXAMPLE

Preliminary Pages

Note: The following constitute the preliminary page requirements for the completed Dissertation. Only the Title Page, Table of Contents, List of Tables (as needed), and List of Figures (as needed) are required for the initial, doctoral proposal. Samples of these Preliminary Pages can be found in the TCSPP Style and Format Manual.

Title Page

The title page of a proposal or completed Dissertation is the first page of the entire document.

Copyright Page

Although not necessary, students are encouraged to copyright their Dissertations. The Federal copyright office may be reached by telephone at (202) 707-5959, or online at http://www.copyright.gov/. This page is **not** included in the Doctoral Proposal.

Signature Page

The signature page is used for the signatures of the candidate's own Chair and committee members. This page is **not** included in the Doctoral Proposal.

Acknowledgments

On this traditional page, the writer pays tribute to those he or she wishes to thank for Dissertation guidance and assistance, and for any special assistance given. It is customary to include the members of the investigator's own committee in this list. This page is **not** included in the Doctoral Proposal.

Preface

Again, this page is not required. The preface is essentially the writer's own personal statement about the document, a personal statement that can contain the author's personal reasons for choosing the subject, some of the author's personal feelings about the document and its production, and perhaps a

list of the permissions granted for quoting published material. This page is **not** included in the Doctoral Proposal.

Table of Contents

Titles in the Table of Contents should be the same as those in the text itself. Both chapters and headings and sub-headings should be included in the Table of Contents. The Table of Contents should be automatically generated from Word/Insert/Reference.

List of Tables

Use Arabic numerals to number tables (1, 2, 3 etc.). Use the same titles in the List of Tables as are used in the text itself. Every table should have a separate number (not 1a, 1b, etc.). A sample List of Tables will be found in Appendix F.

List of Figures

Use Arabic numerals to number figures (1, 2, 3 etc.). Use the same titles in the List of figures as are used in the text itself. Every figure should have a separate number (not 1a, 1b, etc.). A sample List of Figures will be found in Appendix G.

Dissertation Abstract

An abstract is a concise summary of the study. It should contain a condensed version of the problem statement, a very short summary of methods, an account of the most important findings, and a summary of the conclusions and recommendations. The abstract should not be more than 150 words long. This page is **not** included in the Doctoral Proposal.

Chapter 1: Nature of the Study

The content of Chapter 1 is drawn primarily from the literature reviewed for Chapter 2. Realistically, in writing the Dissertation proposal, the major works that document the topic and justify its study must have been read and evaluated for Chapter 2 before Chapter 1 is written. Chapter 1 is informed by the literature to explain the background to the study, to show how the problem statement was derived, to formulate the research questions that depend on ideas suggested in the problem statement, to explain the study's theoretical bases and one or more contrasting points of view, and to find terms needed for a better understanding of Chapter 2.

An obvious hint for writing an acceptable Chapter 1 is first to write (or at least outline) the essence of Chapter 2. This is good advice for writing the doctoral proposal Chapter 2, and for revising and enlarging it for the completed Dissertation.

The first three sections of the first chapter are written in inverted pyramid form; the first section covers the subject in a very general fashion, the second is narrowed to a specific problem area, and the third contains the specific questions to be answered by the research. If, for example, you are writing about battered women who are currently in shelters, you will begin with a general discussion of spousal abuse (Background of the Study) and them proceed to the particular issue you are interested in (The Problem Statement concerning a specific treatment for battered women).

Background of the Problem

In this section, you introduce the context, or the "big picture" within which your study is set. The research questions you intend to answer do not exist in isolation; they are always part of a larger framework, and this section is used to explain that larger framework to the reader.

If you state something as fact, be sure to provide a reference so that your reader knows where you got the information from. This helps keep you honest in that it enables you to avoid a document that is all personal opinion, and it provides an identified source for the reader who wants to investigate the matter further. You may state your own belief occasionally (e.g. "In the investigator's opinion . . ."), but such statements should be held to a minimum.

Problem Statement

A worthwhile problem should be stated as an interrogative sentence that asks what broad or general relationships occur between two or more variables. It must at least imply the possibility of empirical testing: it is clear that the variables of the relation expressed can be measured. If a problem statement does not

meet these essential criteria it is not a scientific problem and it is not researchable through scientific methods. Also, if the question is grammatically answerable with Yes or No, it is too superficial and needs to be reworked. Examples are given in Appendix E .

Research Questions

A research question represents a specification of the general question directly or indirectly asked in the problem statement. There can be one or more research questions that may be posed, but all of them must be answered, and therefore must be answerable. Research Questions in a quantitative study are supported by hypotheses. These are the expressions of curiosity about the interaction of named variables in controlled conditions or in different combinations. The research questions utilizes terms that are more conceptual in nature, such as depression or intelligence, whereas an hypothesis that is later related to that research question is more operational in nature, such as "depression" as measured by the Beck Depression Inventory or "intelligence" as measured by the WAIS.

Research questions may also delineate extra data analysis beyond those needed to serve the mainline hypotheses, perhaps searching for statistical encouragement toward designing future studies.

Application of Results

Application of Results answers the question "Why is this study important? How can it be applied to one's field?" One of the questions asked at a proposal presentation or a dissertation defense involves the relevance of the study for psychology and/or specific field. This section is designed to answer that question and the companion question regarding the additions to be made to the literature by the study findings.

Put another way, this section addresses the question of just why the results of the study will be worth all the time and trouble it takes to do it.

Theoretical Framework

There are numerous explanations that may inform your question. The purpose of this section is to explain to the reader the theory or theories on which the study is based, and the theories from your field which the results of the study will be applied.

The investigator is not restricted to one theory – quite often several theories are involved as, for example, a study involving object relations theory that also has a social learning theory component. In a sense, this section is an introduction to the Review of Literature chapter in that it is used to present the

reader with an overview of the major theories and theorists that will be addressed in Chapter 2.

The investigator should make it clear what theory or combination of theories the study is based on and to which the results will be applied. The major proponents of each theory should be presented.

Definitions

This section presents concise, clear, conceptual (dictionary) definitions of significant or unfamiliar terms and acronyms used in the study. Include terms that would generally be understood by most scholarly readers, but that have specialized meanings in your study. Cite the source for each definition.

Outline of Remaining Chapters

A brief narrative will introduce the remaining chapters in the study.

Chapter 2: Review of the Literature

If one likens a proposal or a Dissertation to a building, then the Review of Literature chapter is its foundation, the basis upon which the building is supported. No dissertation springs fully formed from Jove's forehead. It has a history, it has antecedents, and it is based on theories written often long before. This chapter provides the reader with that history, that background, and gives a full explanation of the proposal or dissertation's place in the larger psychological picture.

You are cautioned against going overboard in reviewing literature. Just because a proposal or dissertation is on leadership (for example), and is based on transformational leadership, does not mean that you have to review everything about transformation leadership ever written. You are also cautioned that a Dissertation cannot simply be a review of the literature in a particular area. It must contain some element of original thinking that goes beyond the cognitive formulations of previous writers or researchers.

Reviews of literature tend to be somewhat idiosyncratic in that each study has its own set of special needs, so that a precise arrangement, such as that given above for Chapter 1, is not possible to provide. You decide in advance what topics are to be treated, outline them, and then determine the most logical sequence in which Subheadings are to be organized.

Chapter Overview

A few introductory remarks on the organization and contents of the chapter will help readers order their expectations and more easily follow your line of expository reasoning. Always prefer the past tense or present perfect tense in reviewing and citing literature.

Review of Historical or Theoretical Background

How "historical" this becomes will be in part a function of the literal age of the material to be reviewed. Some studies involve philosophical ideas and psychological theories reaching back to ancient times. Others are based on theories that had their genesis in the latter part of the 19th century. Others, especially those in the behavioral and social learning theory realm are based on work dating no further back than fifty or so years ago, if that far back.

This section involves synopses of past writings and studies frequently most logically presented in chronological order. The time divisions chosen by the writer will depend on the material being reviewed, but it is generally a good idea to be more detailed in review as the date of the writings under review approach the present.

It is common for students to question how far back a review must go. That depends on the historical context of the theoretical discussion. For example, the roots for attachment theory are found in the animal research conducted by Lorenz and his contemporaries. Bowlby extended that research to human samples, and Ainsworth provided the paradigm through which Bowlby's theories could be tested. Main and, subsequently, Hazan and Shaver, extended the study of childhood attachment to adult populations. A discussion of adult attachment theory would need to give the reader an understanding of the theory's evolution.

Review of Current Research Literature

Reviewing the current status of related research published within the last 5-10 years means discussing the collected research relevant to each major element in the study. The material could also be grouped for review by following the content found in the problem statement, research questions, the hypotheses, or the components of a theoretical position or framework. Present and discuss previous work on the problem, showing conceptual and chronological evolution of the problem and of other researchers' attempts to study it. Explain the relationship between your study and the material cited.

When relevant, students of research are encouraged to have 85% of the reviewed literature written in the past five years.If unable to do so, explain why you need older material.

Evaluation of Research Literature

In this section, you summarize the literature and research that have been reviewed, and evaluate it as it related to your problem statement and your research questions. You present the strengths and weaknesses of the material presented and offer your views as to its utility and applicability to the present study. This may involve discussing the extent to which the previous work has been useful in providing a base for your own work, or the extent to which results have been contradictory, creating theoretical confusion in the profession.

This may be done in one evaluation section at the end of the chapter, as indicated here, or it may be done by providing an evaluation section at the end of each major heading in the chapter. Which arrangement is more useful will depend on the length and format of the chapter.

You may find that additional material will come your way while you are collecting data and analyzing your results. If so, then remove any dead wood in the Review chapter and add the new material before you defend the final Dissertation.

Chapter Summary

You complete the chapter with a brief summary of the main points made in the chapter, both in the review and the evaluation sections. You can use this section as a bridge to the chapter that follows, Research Design and Method. The summary should pull the entire chapter together, not merely restate the topics in consecutive sentence form.

Chapter 3: Research Design and Method

The purpose of this chapter is to tell the reader how you will conduct your study. Basically, it consists of the following sections:

1. A recap of the problem statement as an introduction to the hypotheses
2. A description of the research design, its strengths and weaknesses, the assessment materials and methodological procedures to be used
3. A description of any pilot studies that may have been done
4. A description of participant sampling methods
5. A description of the testing instrumentation, including descriptions of the number and types of items used, subscales, and correlations coefficients for internal consistency, reliability, and validity
6. A discussion of statistical processing that will be conducted on obtained data, and last a section on the methodological assumptions and limitations and the ethical procedures taken to for the protection of the participants.
7. As with previous chapters, a summary completes the chapter.

Chapter Overview

Preview the chapter's organization and major contents. Mention appendix materials that help explain or document parts of Chapter 3. In the Doctoral Proposal, use the Future Tense because you are describing research work that will be conducted in the future. In the final Dissertation, use the Past Tense, since all work reported has already been completed. Retain the present or future tense, according to sense, for the problem statement, hypotheses, and objectives. When converting your document from the Doctoral Proposal to the Dissertation, be sure to change methodological references from future tense to past tense.

Problem Statement

This is a restatement, a verbatim copy, of the problem statement made in Chapter 1. Its purpose is to prepare the reader for the hypotheses in the immediate next section. Redundancy of this kind is important as a reminder to the reader, and is as useful as redundancy in providing instruction.

FOR QUANTITATIVE RESEARCH

Hypotheses and Their Rationales

A hypothesis is a conjectural proposition about the relationships between two or more variables. It should be formulated in a declarative sentence, and carry clear implications for testing the hypothesized relations. A statement that lacks any of these essentials is not a scientific hypothesis. Without a hypothesis, the researcher cannot know if the results are positive or negative.

State each research hypothesis along with the statistical level of confidence targeted (conventionally, .05 or .01). Explain the technical reason for this choice. If the level of confidence is not chosen in advance, but left to statistical discovery, whatever it actually turns out to be (unconventional), then this decision must be defended and a rationale offered for interpreting confidence in the results. Do not state a null hypothesis for every research hypothesis.

To avoid ambiguities in interpreting results for each hypothesis, state only two variables to be compared in each hypothesis. Do not write a hypothesis that has multiple outcomes, unless it is your intent that, for the hypothesis to be supported, all the conditions of the hypothesis must be met. Also, number each hypothesis consecutively with Arabic numerals (e.g., 1, 2, 3). Avoid subcategories of hypotheses, (e.g., 1a, 1b, 1c), however tempting it may appear if you are dealing with a number of subscales in a major measuring instrument.

Each hypothesis reflects one or more concepts expressed in the Problem Statement, and demonstrates a refinement of ideas presented in the Research Questions.

After each hypothesis statement, present a brief *rationale* for the relationships conjectured in the hypothesis. Refer to the Research Questions that fit each hypothesis. Explain the interpretations for expected outcomes that would support each hypothesis. In form, the rationale is a short paragraph that follows each hypothesis. If, however, several hypotheses fall along a similar line of reasoning, a single paragraph relevant to those hypotheses may be written after statement of the hypotheses.

Research Design

This is a rather lengthy section. It contains a set of concepts that must work together smoothly so that the results of the study can be trusted. The concepts are named and discussed separately in the proposal or dissertation.

Kind of Research Method

This section identifies the type of study being undertaken (e.g. developmental, correlational, cross-sectional, quasi experimental, true experimental). For a description of each kind of design, the reader is referred to *Research Methods for Clinicians* (Hunter, 1989), or to any standard work on research methods in psychology. See the Bibliography section of this Manual for a listing of additional resources.

You are cautioned against confusing cross-sectional study with a quasi experimental design. For a study to be experimental, it must involve a treatment designed and administered under the direction of the experimenter, and the

intent of the study must be to create change in participants. You are also warned against using the words "experiment," experimenter," or "experimental," unless it is the intent of the researcher to create such change.

It is also customary in contemporary psychology to use the term “participants” rather than the term “subjects” when referring to the individuals who volunteered to participate in your research study.

Operational Definitions of All Research Variables

In this section, the investigator must define the Independent and Dependent variables operationally as well as whatever demographic variables (gender, ethnicity, etc.) will be collected and/or investigated. Strictly speaking, non-experimental designs do not use dependent and independent variables. An alternative strategy is to define “predictor” and “outcome” variables. Typically, think of the Independent Variable as two or more comparison groups that are being evaluated, whereas the Dependent Variable(s) are the different traits, qualities, or symptoms that the groups are being assessed on.

Levels of Measurement

This section is used to describe the level of measurement of each of the research variables identified above, labeling each as either nominal, ordinal, interval or ratio.

Kinds of Measurements for all Variables

This involves the extent to which measures used in the study will create “reactivity” in the participants. In some cases, this may suggest the sequence in which the tests or instruments are given. For example, consider a measure of depression and an IQ test. Completing the depression measure first may influence the outcomes of the responses on the IQ test.

You should indicate which measures may be reactive, in that they create may create change in the participants taking them, and which are not. In an experimental study, this may be linked with the Design Validity section described below. Observer participation is highly reactive; paper and pencil tasks may or may not be reactive; unobtrusive observations are generally not reactive; a physical measure such as weight will probably be non reactive.

Design Validity

This is required for experimental designs and optional for non experimental designs. Discuss the design with respect to its relative advantages and disadvantages. Describe any threats to internal validity (i.e. the capability of

attributing causality) and external validity (i.e. the capability of generalizing beyond the study).

It is also recommended to discuss the ecological validity of the design. This is chiefly a concern for experimental studies. Indicate which measures may be reactive in that they may create change in the participants taking them, and which are not. A pencil and paper task filled out by the participant may or may not be reactive; an unobtrusive measure is not; a physical measure such as weight probably will not be.

Diagram of Design

True experimental and quasi-experimental designs require a diagram symbolizing the experimental and control groups, treatments, and placebos, psychological tests or observations, timeline, and related factors. Non-experimental studies may present a diagram if desired or needed to sort out a large number of factors. If the diagram is omitted in a non-experimental scientific study, an explanation of the interrelationship of groups, instruments, times, and so on, is necessary.

FOR QUALITATIVE RESEARCH

Qualitative Research in is varied approaches needs to follow the protocol of the chosen sub-method. The following are brief descriptions of two popular methods: Grounded Theory and Phenomenology.

Grounded Theory. Grounded theory is a qualitative research approach that was originally developed by Glaser and Strauss in the 1960s. The self-defined purpose of grounded theory is to develop theory about phenomena of interest. But this is not just abstract theorizing they're talking about. Instead the *theory* needs to be *grounded* or rooted in observation -- hence the term.

Grounded theory is a complex *iterative* process. The research begins with the raising of *generative questions* which help to guide the research but are not intended to be either static or confining. As the researcher begins to gather data, *core theoretical concept(s)* are identified. Tentative *linkages* are developed between the theoretical core concepts and the data. This early phase of the research tends to be very open and can take months. Later on the researcher is more engaged in verification and summary. The effort tends to evolve toward one *core category* that is central.

There are several key analytic strategies:

Coding is a process for both categorizing qualitative data and for describing the implications and details of these categories. Initially one does *open coding*, considering the data in minute detail while developing some initial

categories. Later, one moves to more *selective coding* where one systematically codes with respect to a core concept.

Memoing is a process for recording the thoughts and ideas of the researcher as they evolve throughout the study. You might think of memoing as extensive marginal notes and comments. Again, early in the process these memos tend to be very open while later on they tend to increasingly focus in on the core concept.

Integrative diagrams and sessions are used to pull all of the detail together, to help make sense of the data with respect to the emerging theory. The diagrams can be any form of graphic that is useful at that point in theory development. They might be concept maps or directed graphs or even simple cartoons that can act as summarizing devices. This integrative work is best done in group sessions where different members of the research team are able to interact and share ideas to increase insight.

Phenomenology. Phenomenology is sometimes considered a philosophical perspective as well as an approach to qualitative methodology. It has a long history in several social research disciplines including psychology, sociology and social work. Phenomenology is a school of thought that emphasizes a focus on people's subjective experiences and interpretations of the world. That is, the phenomenologist wants to understand how the world appears to others. It seeks to find meaning within a phenomenon.

Important in designing the methodological approach of a qualitative research dissertation is to ensure that steps in the gathering and processing of data be described in detail. Research texts like Creswell, J. (2005). *Educational research,* Upper Saddle River, NJ: Pearson Education, Inc. help in describing how to conduct interviews, how to remain unbiased and how to categorize and process data. Such methodology needs to be recorded in Chapter 3.

Similar sections outlined for the quantitative study are found in the qualitative study. It is important to explain what subquestions were used to answer the central research question and how they were used. You will want to explain what protocol you used for recording data and how you respected confidentiality through the process.

Additional Requirements for Chapter 3

Materials

Describe any unusual equipment or materials used and their function in this study. Standard equipment (e.g., stopwatches) need only be named. Specialized equipment needs more specific description, including model numbers and manufacturer information.

Procedures

Outline the chronology of major steps taken to carry out the research design. Include the decisions made and actions taken for the main elements in the design, such as choosing and administering tests, training judges, selecting and assigning participants, scoring tests, analyzing results, and so on. In deciding what level of detail to maintain, keep in mind that one of the essential qualities of a scientific design is its replicability. A researcher who wants to replicate your study with different participants will need a functionally useful and detailed map of procedures to follow. Chapter 3 is one of the main contributors to that map.

Pilot Studies

Describe briefly the methods and results of any preliminary or pilot studies conducted for this study to test such elements as instrument development, test administration, data collection, statistical analysis, and sample characteristics. For the Dissertation, report details of the pilot study in an appendix.

Since many of the topics discussed for the pilot will be the same as these in the basic Chapter 3 for the actual study, it is important to clearly identify the pilot study in all of its subheadings.

At least one, small pilot study is a very good idea. It need not be extensive – usually 10 participants are all that is normally required. Aside from enabling the researcher to do a trial run to see if the hypotheses have promise, it enables the researcher to get the bugs out of whatever research procedures will be conducted. It is a good dress rehearsal.

Participants

This section involves both a description of the participant pool (the participant pool represents the population to which generalizations can be made) and the sampling methods. Whether the sample is random or not, the procedures for selection should be described carefully enough that another researcher could readily replicate the sampling method. If the study is experimental, this section should also include methods for assigning participants to groups.

The description of the participant pool should include the characteristics that you want (e.g., methods of diagnosis if one or more pathological groups are included), an operational definition of the population of reference, and the sample size. Use descriptive terms (e.g. front line workers. Schizophrenics) rather than the term subjects, and never use the abbreviation "S" for subject.

It is common to distinguish the Inclusion Criteria and the Exclusion Criteria for someone to be eligible to participate in your research. The titles are fairly self-explanatory, but Inclusion Criteria are specific qualities that a potential participant must have in order to qualify for your particular research investigation, and Exclusion Criteria are specific traits or symptoms that a potential participant must not have in order to qualify for your study.

***Students will make to make sure that the population of interest is, in fact, available for research by that individual student*.** There is no point in writing an excellent Chapter 3, only to find that the participants cannot be located, or are unwilling to serve. No matter how well-designed, without participants, there is no study.

Instrumentation

Include all instruments that you are going to use. Describe your demographic instrument completely as well as and any other questionnaire you have developed for the study. If a measure has been developed specially for the study, describe the methods by which it was developed and the method of establishing validity. For a test developed by a student, reliability information is not required in this section, although running a reliability analysis as part of data processing is a good idea.

With published instruments or research tests, include information about the style of item (e.g., Five point Likert scale), and whatever reliability and validity information is given by the test publisher or researcher. Indicate how the instrument is scored, including any items that are reverse-scored, and what high and low scores indicate (e.g., higher scores on the Beck Depression Inventory indicate higher levels of depressive symptoms). Also indicate which, if any, scores must be attained in order to cross a clinical threshold.

Do not merely report that either are "adequate for the purpose" or some such. Provide the figures that the test maker provides, and if the information is not provided, include that statement in your description. Include also the method of administration to the participants and indicate the kind of score derived from the measures (e.g. raw score, transformed score). Remember, however, that one should almost never uses any form of transformed score (e.g. z-Score, Percentile Rank) in calculating inferential statistics.

Unless you have permission to do so, **do not** place published or proprietary instruments in the appendix. If you are unable to place the instruments in the appendix, it is useful to provide a brief description of representative items.

Data Processing

Describe how you will score, collect, record and analyze the data. If you use a special form for recording or accumulating data, place this in the appendix.

In quantitative studies, specify the statistical tests used with each measure you are using. Justify your use of that test by reporting the type of data you are collecting. This is redundancy, of course, since you reported the same information under an earlier section, but the reader will need that reminder. Report also the type of statistics you will use with your demographic instrument, justifying the use of that statistic with reference to the type of data involved.

In quantitative studies, distinguish between descriptive and inferential statistics. Descriptive statistics are used to operationally describe the characteristics of the sample in your study (number of men or women, mean income of the sample, mean scores on the instruments used in the study). Inferential statistics are those employed in order to test the hypotheses in order to make inferences about a broader population than the individuals you specifically studied. Many students (and readers) find it useful for the inferential statistics to be presented per hypothesis.

In qualitative studies, identify any software you used and describe how you used it. Explain what steps you took to place data into themes, or groups

Assumptions and Limitations in Method

This section is used to cover any limiting factors in your study, any factors that would inhibit your ability either to analyze the data or to generalize the results. This can involve such things as the limitations imposed by the sampling methods, assumptions about normality of distribution (required for parametric statistics), assumptions about equality of interval in rating or Likert scales, etc. Cover anything that may mean that your results should be read with caution.

Ethical Assurances

All psychological research will adhere to the standards published by the American Psychological Association (1992), in order to safeguard the welfare and privacy of people who consent to participate in Dissertation research. Refer to the previous section of this manual for a detailed discussion of research ethics.

Describe the steps taken to observe all ethical principles that apply to this study: establishing and maintaining voluntary, informed consent, and protecting the welfare and dignity of participants; preserving participants' freedom to agree or decline to be in the study, or to discontinue; explaining to participants their and the researcher's responsibilities in the study; protecting participants from physical and psychological discomfort or danger; explaining the nature of the study following its conclusion; removing any misconceptions that may have arisen; detecting and removing any undesirable consequences for the participant

including long-term aftereffects; and explaining and maintaining confidentiality. In the Dissertation proposal, plans for ethical safeguards are to be presented.

In an appendix, present copies of informed consent forms that offer nontechnical, simple explanations for the ethical issues listed above, applicable to the dissertation. They will explain that this research has been approved by a faculty review committee and is part of the work required to earn a doctoral degree from TCS. The forms will name as research supervisor the Dissertation Committee Chair (show highest, relevant, earned doctorate degree and academic rank), and will state office address and telephone number for the student and Dissertation chair, to accommodate inquiries. The form(s) will be signed by the student and the participant.

Sample consent forms for adults and children appear in Appendix I. The ideas in the form must be amended or altered to fit the specific aspects of each study.

Signed informed consent forms are mandatory for adult participants (18 years old and older), and for child participants (less than 18 years old). Federal regulations require that children be involved in the consenting; this means overt agreement to participate. Prepare separate name and signature lines on the parent's consent form for minors aged 12 through 17. Explanations in the parent form shall clearly address the intended participant (s): parent, or child, or both. Prepare a separate form for the *assent* of children less than 12 years old. Choose appropriate language and style by considering the children's ages, developmental maturity, ability to understand, and other psychological factors that may apply. The children may sign or print their name; very young children may make a mark of any kind. Affix each child's assent form to its parent's consent form.

Chapter Summary

Write a concise summary of the methods and procedures to be used in your study. You need not recapitulate the entire chapter, but the summary should include such main issues as type of study, sampling techniques type of data to be collected, statistical techniques to be used, and ethical considerations.

Discussion Regarding Chapters 1, 2, and 3

The above completes the proposal. Chapters 1, 2 and 3, comprise what the candidate "proposes" to do in order to complete the process of earning a doctorate. You will not embark upon the next chapter until the proposal has been accepted (probably with some corrections) and the data has been collected and analyzed.

You MAY NOT collect data until your proposal has been approved by your entire committee AND been reviewed by and accepted by the Institutional Review Board. The Institutional Review Board acts as the ethics committee for research done at TCS, and it is important that the document be examined for breaches of the APA code of ethics regarding human participants before data are collected.

You will also note that the proposal material does not necessarily constitute the complete first three chapters of the Dissertation. As has been suggested earlier, the Dissertation is an organic whole, and, as findings may dictate, or as other material is located, additions or changes may well be required in these first three chapters before the Dissertation can be considered complete. The extent to which this occurs will be very much a function of the individual Dissertation.

Chapter 4: Findings

The purpose of Chapter 4 is to present your findings, focusing upon the facts obtained in your specific research, without interpretation. Your interpretation of the findings belongs in the next chapter, Conclusions and Recommendations.

Chapter Overview

Delineate the sequence for presenting and evaluating the findings. Direct readers to appendix exhibits that will help explain the findings. In describing the results, use past tense. In discussing the results, use present tense.

Findings

Present the findings in narrative and tables or figures. Adhere strictly to the facts discovered. Use subheadings generously, to keep the findings storyline clear. When reporting the results, it is helpful to re-state the hypotheses verbatim.

Descriptive Statistics

In quantitative studies first show the descriptive statistics regarding the sample population: categorize demographic data and test information based upon that research sample, using frequency distributions, measures of central tendency, measures of variability, and transformed scores. It is also wise to report the internal validity of any scales utilized in the study. The purpose of these analyses is to provide the reader with a clear picture of the characteristics of the sample, as well as a preliminary look at how the study variables relate to one another.

Inferential Statistics

In quantitative studies, second, give the inferential statistics and their interpretation, hypothesis by hypothesis (by the separable pairs of variables within each). State clearly the extent to which the results support the relationships tested in each hypothesis. Explain both the numerical significance and the interpretative meaning of each outcome.

As an alternative, following the table(s) of demographic and other descriptive data, all inferential results can be given in a single table, followed by a consideration of the selected results for each hypothesis. If this alternative would be highly redundant, and would double the statistical information (not the case in all studies), then the single presentation of results by each hypothesis will be preferred.

Another option is to present tables for statistically significant results within the text of chapter 4, and to place tables of non-significant results in an appendix. In either case, the text must present all findings for the hypothesis and reference each related table.

Numerical results not contributing directly to testing a hypothesis, but considered worthy of including, often belong in an appendix. An exception to this would be the reporting of any serendipitous or unexpected findings judged to be noteworthy. Report these, with appropriate tables and text, in a section following this one called Additional Findings.

Use tables and figures parsimoniously. They should supplement and not supplant the text, should be clear and understandable within themselves, and should be explained in the text only in terms of major results (rather than exhaustively narrated, consequently making tables redundant to text). Nonetheless, a good way to first structure the order in which your data are presented in Chapter 4 is to first develop relevant tables or figures that adequately present analysis of the data you obtained, and then elaborate on the information in those tables and figures when you write the accompanying text portion of Chapter 4.

In preparing statistical tables and figures, follow the directions and illustrations in the APA Manual.

Additional Findings

With most studies, analysis of the data beyond testing of hypothesis is performed. In many cases, some of the most interesting findings are brought to light this way. These additional findings are reported in the same fashion as those for demographics and hypothesis findings.

In qualitative studies, you will want to describe the steps taken to analyze data into themes and groups. You will want to show what evidence you gathered to support each theme. If there were multiple layers to the themes, you will want to illustrate those layers.

Analysis of Design

This section is used for commenting on the support or non-support of quantitative hypotheses as well as any problems that arose in data collection or other weaknesses that may have affected the results or the generalizability of the study.

In qualitative studies you will want to describe if the findings answered the research question.

In evaluating your findings, be sure to distinguish in your writing between analysis and inference or interpretation. Reportage of the numbers themselves results from analysis. Any opinion you may hold about those numbers is interpretation. Interpretation is best saved for Chapter Five.

At this point, it is necessary to recognize that non-support of hypotheses and/or research question does not invalidate the study. Non-significant findings can be just as important as positive findings. Non-support of hypotheses may be hard on the ego, but all findings add to humankind's knowledge. Research is not a ball game; there are no winners or losers – unless the study was so badly managed that no one can explain the results, in which case everyone loses.

In discussing non-significant findings, use logic, not excuses. The standard excuse about the instrument not being "sensitive" enough is probably rarely true. What may be true is either that your hypotheses were simply incorrect or that your test did not measure the relevant variable. Also, although modest sample sizes are common in Dissertations, it is not sufficient to write off non-significant findings due to a small sample size.

You do not begin from the logical position that your hypotheses or your approach are still correct, but that something went "wrong."

You do not begin from the logical position that you selected the correct measuring instrument. Instead, get over your understandable disappointment, re-examine the logic of your hypotheses or your approach in the light of the data, re-examine your choices. The following questions may help in this type of analysis:

1. Are the differences great enough to inform future research? If not, then further discussion may be fruitless. This may, incidentally be true even with statistically significant findings.

2. If the differences are large enough, then perhaps discussion of a larger N may be appropriate. If not, then such a suggestion is illogical.

3. If the differences are large enough, are the standard deviations large? Given the maxim "Maximize experimental variance, minimize error variance," if your differences are large but the statistical test was not significant, then perhaps your sample was too heterogeneous, and future researchers should be advised to reduce error variance.

4. If the differences are not large enough, consideration of your measurement instrument may be in order. If you think of measurement as resembling a rifle range, is it possible that you were aiming at the wrong target? In other words, is it a question of "sensitivity," or is it a question that the instrument was not valid for your purpose? Given your clinical hunches about the population, is it possible that the test simply addressed a different issue than the one listed in your hypotheses?

It is also important to realize that there is no such thing as a perfect study. The Dissertation is an exercise in demonstration of ability to conduct research, but this does not mean that the study need be perfect. What is required is that the you understand the conventions of research, that you follow them as much as is feasible, and make a report when field conditions render this impossible. Again, with replication in mind, it is important for future researchers to learn of the difficulties encountered in the field so that they can plan around them if study replication is to be done.

Discussion

The discussion of findings offers the first opportunity to synthesize results across hypotheses or themes and categories, and to integrate them with other information. It will include a critique of outcomes in relation to the study's theoretical framework the writer's rationale behind the study, the major literature reviewed in chapter 2, and implications for the practice of professional psychology or psychotherapy. The Discussion section also provides an opportunity to compare the results of previous research studies by other investigators to the Dissertation data obtained by the student.

Chapter Summary

Your discussion will include your critique of the results as they may relate to the theoretical framework, your own rationale, the major literature reviewed in Chapter 2 and any implications for professional psychology.

Chapter 5: Summary, Conclusions, and Recommendations

In this final chapter, you will engage in a reflection of the process through which you have gone in order to complete this Dissertation. It will allow you to look back on what you intended to achieve, what you actually did achieve, and what that means for readers who might want to extend or replicate your study.

Summary

Summarize the contents of the first three chapters and the Findings section of Chapter 4 to help readers understand the conclusions that you will present shortly. Remember to summarize by making substantive statements that condense major points established in each chapter. Reissuing the table of contents as sentences is not summarizing. This is not the section for introducing new literature or new findings.

There are three sections in the Dissertation that summarize material, and each requires different treatment:

1. Dissertation abstract: the last element in the preliminaries is the dissertation abstract (not to exceed 600 words).

2. Chapter-end summaries: the last element of each chapter (except the first and last) is the summary, recapitulating the substance of the main points of that chapter and setting the stage for the next one.

3. Dissertation summary beginning Chapter 5: the first element in the last chapter (Summary, Conclusions, and Recommendations) synthesizes major points from all preceding chapters (including Chapter 1), usually by drawing from chapter summaries.

Conclusions

With this section, you come full circle. Way back in Chapter 1 (and by this time it will seem a long way indeed), you issued a problem statement and detailed one or more research questions. It is in this section that you answer those questions. It may seem as if this was done in Chapter 4, but that was merely a reportage chapter, not an interpretation chapter.

Discuss each of your research questions in turn, indicating whether the findings answered the question, and if so how completely. Discuss the generalizability of the findings (this will result from the success you had with your sampling procedures) and state to what extent you completed your original intent.

Note how the findings in your particular study compare to the findings of previous research investigations that you described in Chapter 2.

Readers are reminded that inability to fulfill an original purpose does not necessarily invalidate a study. "Man proposes and God disposes" is no less true in research than anywhere else, and frequently events in the field render it impossible to complete one's original plans. If this happens, then it is important that researchers be informed of the problems that you found.

Recommendations

This part could include practical suggestions for using the findings, for conducting additional related research, and for making necessary alterations in the research design if the study were to be replicated. As needed, distinguish between recommendations flowing directly from the study's results, and those merely using the results as stepping stones to speculative suggestions lacking direct evidence in this study's findings.

Avoid global, idealistic exhortations to future researchers. Be realistic and objective. Be concise and concrete in the research you recommend.

Final Materials in a Dissertation

Final material consists of the References, which is a listing of the books and journal articles in alphabetical order cited within the text of the Dissertation. Also included is the Appendix, or Appendices, containing original materials referred to in the text.

References

The list of references, naming authors and their works follow the body of the dissertation, confirms the authority behind the study and demonstrates the public availability of the material cited. This reference listing must contain every author cited in the text, and the converse is also true. (By contrast, a bibliography would show authors and works recommended to be read for background or further interest, but these works are not necessarily cited in the study. The bibliography is not used for Dissertations.)

The listing of references actually used or cited will be in alphabetical order, by last name of first author, and will not be numbered sequentially. Do not subgroup and subtitle reference entries by kind, for example, periodicals, books, reports, and so on. Follow the citation style given in the Publication Manual of the American Psychological Association (APA, 2009) for listing references.

Note that for books, you must state the name of the authors, the date of publication, the title with only the first word capitalized, the city where published, and the name of the publisher. For journal articles, you must state the name of the authors, the date of publication, the title of the article with only the first word capitalized, the name of the journal, the volume number, and the page numbers.

Besides the usual books and periodicals that are publicly available, you may list such sources as recordings, institutional reports, unpublished materials, professional papers, internet resources, and so on, not easily available to the public.

Personal communications (letters, telephone conversations, E-mail, etc.) should be cited in the text only, and not in the reference list, because they "do not provide recoverable data" (APA, 2001, p. 214).

You are required to use primary (original) sources for reference. In those rare cases where the material is available only in a secondary source, its use is permissible but this must be clearly indicated in the format of entry in the reference list.

Appendices

Material reserved for presentation in an appendix may include such items as: listings of raw data, by individual case (if judged to be of compelling pertinence, as in the instance of data on rare subjects); listings or tables of supplementary or corollary data (considered as incidental to the study, but sufficiently integral or informative to be included); copies of original instruments (not copyrighted, not standardized, not published); wording of consent forms or of letters to prospective participants; instructions to participants or judges; details of pilot studies; extended quotations; a glossary of technical terms; or any other supplemental matter considered vital to include.

Each appendix should be lettered in sequence (Appendix A, Appendix B, etc.) and should be titled to describe its content.

The appendix must <u>not</u> be used as a length extender. Care must be used in deciding if material is important enough to the study to be appended.