**HSC4730: Research Proposal Guide**

In this guide you will find the **main instructions**, a **writing** **checklist**, and the **grading** **rubric** for the research proposal.

1. **Main Instructions**

**You and your research team are required to prepare a 4-page, single-spaced, research proposal***.* **This proposal must be human subject health-related research and must propose primary data collection.**

**You will have 3 sections of the proposal: *front matter, main document, and back matter***

* + - **Front Matter**: This will consist of 2 pages (not included in the 4-page limit). The first page is your title page. The next page is for your abstract and keywords. The abstract must be structured, and **no more than 250 words**. 5 ‘key words’ immediately follow your abstract. ***Please use the ‘Research Proposal Front Matter – template’ on Webcourses.***
    - **Main Document**:

Your research proposal will consist of a **4-page, single-spaced, 0.5” margins, 11pt Arial Font** document constructed as follows:

* + - 1. Background/Literature Review **(~1 to 1.5 pages)**
      2. Methods, including study design, sample, protocol, measures and analytical plan **(~2 to 2.5 pages)**
      3. Expected Results, Study Limitations, Ethical Principles, and Future Implications **(~0.5 to 1 page**)
    - **Back Matter:**
      1. Please have the back matter in the following order: References (AMA format), Appendices (if any), and %Effort
      2. The Appendix (or appendices, if multiple attachments) is where you put any graphs, figures, charts, surveys, pamphlets, educational handouts that you deem necessary for me to review. **This is not mandatory for the proposal.**
      3. The % effort sheet needs to be signed by each member of the group and will be the **LAST PAGE** of your document.

**Please note the following:**

**Front & back matter DO NOT count towards page limit.**

**Page limits (above) for each section are suggestions and can differ by proposal.**

**Please refer to the Proposal Writing Checklist (on the subsequent pages) and previous ‘sample’ research proposals on Webcourses as a framework when developing your proposal document.**

All written documentation in this class is to follow the **American Medical Association (AMA)** for referencing peer-reviewed literature. Please use the following link to get familiar with the formatting rules:

[**https://owl.purdue.edu/owl/research\_and\_citation/ama\_style/index.html**](https://owl.purdue.edu/owl/research_and_citation/ama_style/index.html)

1. **Proposal Writing Checklist**

**Please note, this is not the grading rubric. This is a guide that will help you prepare a quality research proposal. However, the actual ‘quality’ being graded comes from the information you are presenting, and how you present it. Your proposal will be graded based on the rubric at the end of this document.**

**General Formatting Requirements**

☐ Arial 11pt Font

☐ ½ inch margins on all sides

☐ **Main** **Document** is 4-pages, no more, no less!

☐ Page Numbers on Main Document Only (Page numbers should be 1 through 4)

☐ Front Matter complete as per template (posted on Webcourses)

☐ Back Matter complete (references are AMA format and %effort sheet complete)

☐ Proposal written in future tense (“we propose…”)

☐ Text/paragraphs are ‘Justified’*-* **NOT** left aligned

☐ **Use subheadings** to help navigate the reader

☐ All tables, figures or graphs should include a title (Table 1, Table 2 etc.) and be referenced in the text

☐ A **minimum** of **10 peer-reviewed studies** must be included as reference

☐ Upload your finished proposal document as a **Microsoft Word** document.

**MAIN DOCUMENT**

**BACKGROUND (~1 to 1.5 pages)**

☐ **Introduction.** Describe the overarching/main problem that your research is trying to solve. Typically, this begins with the ‘big picture’ health issue and then leads to a description of the specific components of the issue that you are addressing. Use statistics and recent national data to support the significance of your area.

☐ **Literature Review** What is the current state of the evidence? What do we know about the topic? What is the knowledge gap you are filling? Do not provide a laundry list of previous studies but rather a critical synthesis/summary of the literature that demonstrates you have read around the topic and know where the gaps are in the literature. What are the limitations of other studies that you’re trying to solve/address with this proposal?

☐ **Aims.** Clearly state the aims for this proposal. Include both your main overarching goal and then any secondary aims that will help you answer the question/explore your research area of interest. The main variables being measured in your study should be mentioned here (not how you will measure them, save this for the ‘Measures’ section). The aims provide a springboard for you to describe how you will conduct this proposed research project.

*\*\*\*****Tips!*** *This is a great section to include tables, figures, other data that might justify the need for your proposal. This is also a place where you can insert a conceptual/theoretical model of your proposed study\*\*\**

**METHODS (~2 to 2.5 pages)**

☐ ***Design***. Describe the study design that will be used. Why was this chosen?

☐ ***Setting***. Describe the setting in which your study will take place.

☐ ***Sample***. Who/what population was targeted and why? How many participants are you proposing to recruit? State the inclusion/exclusion criteria. What recruitment methods will be used to get people to participate in the study?

☐ ***Protocol***. This is a very detailed explanation of **how** the study is going to be conducted. Imagine someone was going to replicate your protocol and conduct this exact same study. That person should be able to do that based on your description of your study protocol. However, do not go into the detail on the measures you will use (i.e., you can say here what you will measure but not how, save that for ‘Measures’)

☐ ‘***Conditions’*** **or** **Groups**. **If you’re not proposing an experimental study, then you do not include this section!** If you are, such as an experimental study (e.g., randomized controlled trial), then you need to describe each condition or group(s) separately. For the intervention group, describe the number of visits/sessions/treatments/doses etc., the content of the intervention, who will administer it (if face-to-face research), and make sure to reference any published protocol or other studies that have used this intervention approach, too. For control conditions, describe in detail what control group participants will receive. Explain the type of control group used (e.g., attention control, standard care, no contact control, crossover design etc.).

*\*\*\*****Tips!*** *This is another chance to include a figure or table showing a timeline of procedures that can include what will be collected from who, when, how and how often/for how long\*\*\**

☐ **Measures/Instruments**. List all measures, I suggest breaking each measure into its own small paragraph/section. Make it clear how each outcome is being measured and when are these measurements are going to take place (e.g., every 2 weeks, baseline and post-intervention?) A detailed table or figure can help illustrate this. Include references from other studies that have used this measure/instrument/device/tool. What is the validity and reliability of this instrument/tool to truly ‘*measure’* the construct/outcome/variables of interest?

☐ **Data handling procedures**. Include a description of how you plan to ‘*handle’* or ‘*clean’* your data. This includes what you will use as the main outcome of interest (for example, your aim might be to capture someone’s daily physical activity levels, but what do you mean by that? Their minutes of light physical activity? Their minutes of moderate-to-vigorous physical activity? – be specific and clear). How you will clean your data? Are you going to dichotomize (split into two groups) your outcome variable (0 or 1 designation)? As an example, in my research I often analyze the data by who met the daily physical activity guideline (1) versus those who did not (0).

☐ **Analytic Plan**. Describe your approach to the statistical analyses. Begin with a brief description of descriptive statistics you will report and clearly state what your variables of interest are. This means stating: the dependent variable, main independent variable(s), any additional covariates etc. For top marks, include a sentence of the type of analysis(ses) you will use to answer the research question.

**EXPECTED RESULTS, STUDY LIMITATIONS, ETHICAL PRINCIPLES & FUTURE IMPLICATIONS**

**~0.5 to 1 page**

☐ **Expected Results.** This is your main hypothesis. What do you expect to find? This should be stated as a scientific hypothesis (es) based on your reading around the topic area and what past research has found. Justify how you arrived at your ‘expected results’ or hypothesis(es) by using supporting literature. You could illustrate your hypothesis through a bar chart or scatter plot (using fictitious data) showing the direction of the proposed relationship or any anticipated ‘effects’ you hope to see.

☐ **Study Limitations.** Include a section on the key limitations to your study. Some things to consider are the instruments you used to measure your variables, the study population, and the sample size. Be critical of your proposal from an outsider’s perspective. Were there any confounders that you did not consider/capture in this proposal?

☐ **Ethical Principles.** Include a section on how you will ensure the research will be conducted in a safe, harmless, and confidential manner. This might include a sentence or two about ethics, and how you will keep the data safe, de-identify the data, provide participant incentives for being part of the study etc.

☐ **Future Implications.** Discuss the implications of findings for clinical practice and/or public health. Identify research gaps that need to be filled by additional research and how the findings from this study can advance the knowledge-base in your area of investigation and lead to future studies.

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| **PROPOSAL ITEM**  (150 pts total) | **INSTRUCTOR GRADING CRITERIA:** **QUALITY SCALE** | | | |
| **Complete/**  **Incomplete** | **LOW** | **AVERAGE** | **HIGH** |
| Title Page  (5 pts) | See the source image | **N/A** | | |
| Structured Abstract  (5 pts) | See the source image |
| 5 Keywords  (5 pts) | See the source image |
| Overall Abstract Quality  (10 pts) | **N/A** | Abstract lacks *any* sort of coherence and presents irrelevant information and in the incorrect section. | Abstract contains *some* coherent statements but overall lacks conciseness and uses casual language. | Abstract is coherent, concise, and logical. Information presented is relevant and required. |
| Introduction  (20 pts) | **N/A** | Introduction poorly constructed, lacks flow. Overall confusing and disjointed thoughts. | Introduction has some coherence and flow. Still lacking importance and significance of topic. | Introduction illustrates importance of topic and has logical and clear thought process. |
| Review  (20 pts) | **N/A** | Review shows little attempt to review existing literature around topic of interest and lacks any additional thought. | Review shows some review of existing literature but does not elaborate on evidence presented. | Review shows comprehensive review of existing literature and provides critical thought. |
| Study Aim  (5 pts) | **N/A** | Study aim not clearly presented and hard to disentangle | Study aim presented but using casual and careless language | Study aim clearly defined with intended variables of interest clearly defined |
| Study Design  (5 pts) | **N/A** | Study design missing and/or confusing based on stated aims. | Study design stated but without any elaboration as to why it was chosen. | Study design clearly defined and justified and related to aims of proposal. |
| Protocol  (20 pts) | **N/A** | Protocol disjointed, carelessly presented. Missing most components and detail on procedures | Protocol has some key elements but does not provide enough detail on study procedures. | Protocol clearly articulated in detail with all key components addressed and expanded upon |
| Measures  (20 pts) | **N/A** | Insufficient information describing proposed measures, no justification of chosen method. | Some information describing measures, weak justification of chosen method. | Detailed information of measures, evidence-based justification of chosen method. |
| Data Analysis  (10 pts) | **N/A** | No information given regarding data analysis or handling of key study variables. | Some information on proposed data analysis and description of key study variables. | Detailed explanation of key variables and analysis plan including statistical test information. |
| Expected Results  (5 pts) | **N/A** | Little-to-no information presented on hypothesized results. A sentence or 2 on what researchers hope to find. | Some information presented on hypothesized results. Some attempt at figures but no hypotheses. | Detailed information presented on hypothesized results with figures and hypotheses statements. Secondary aims addressed. |
| Limitations  (5 pts) | **N/A** | Missing study limitations, or minimal attempt at addressing study limitations. | Study limitations stated but without thought or logic. | Detailed and logical study limitations stated with rational provided. |
| Language and Grammar  (5 pts) | **N/A** | Casual language with many grammatical mistakes throughout. | Some casual language with minor grammatical mistakes. | Scientific language throughout with little-to-no grammatical mistakes. |
| Formatting Requirements  (5 pts) | **N/A** | Did not follow formatting instructions. | Some attention given to formatting instructions. | Specific attention given to formatting instructions. |
| Figures, tables and other content  (5 pts) | **N/A** | No attempt made to incorporate content. Content not relevant to proposal. | Some attempt made to incorporate content but with lack of purpose. | Exemplary use of content, referred to in-text, and not over-used. |