

**FRAN\*6000: Quantitative Research Methods (.50 credits)  
Fall 2012 Course Syllabus**

**Department of Family Relations and Applied Nutrition  
University of Guelph**

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**Office hours:** Monday and Wednesday (by appointment)

**Course format:**

I am expecting a student enrolment of approximately 20 for this course. Topics that will be examined in the course are listed in the course outline. Classes will consist of a combination of lectures, discussion of readings, and/or class activities. You will discuss research methodology concepts and issues in the required readings related to quantitative research methods and critique the readings that illustrate empirical quantitative research.

**Class times:** Wednesday, 8:30 - 11:20 am, Macdonald Stewart Hall, room 331

**Course website:**

Announcements, updated schedules, grades, and other information will be posted on CourseLink, a website for on-campus courses: <https://courselink.uoguelph.ca/shared/login/login.html>.

My lectures are my intellectual property and posting them electronically could result in my scholarly work being inappropriately disseminated on the internet. Therefore, I don't post the PowerPoint slides from lectures.

However, some PowerPoint slides from lectures, such as intricate tables and figures, will be available in pdf format on CourseLink. If I am able to develop these slides well in advance of the lecture, I will post them prior to the lecture so you can print and bring them to class.

**Course description:**

This is a graduate course in **quantitative research methods**. The course includes critical appraisal of the research literature. Theory, research ethics, sampling strategies, measurement issues, scale development, survey design, experimental and quasi-experimental designs, cross-sectional and longitudinal designs, and questionnaire development are discussed.

This course is designed to provide you with a conceptual understanding of the issues and methods that are related to the development and implementation of quantitative research. The Department of FRAN provides an interdisciplinary program of graduate studies in areas related

to applied human nutrition, family relations and human development, and couple and family therapy. To make the course more relevant to you, your research proposal can address a general research topic of your choice and readings from various program areas have been assigned.

**Prerequisite(s):** 75% in an undergraduate research methods course.

**Specific learning objectives for students:**

1. To understand the logic and process of conducting systematic, applied, quantitative research.
2. To understand the role of theory in research.
3. To understand ethical issues in conducting systematic, applied, quantitative research.
4. To understand various sampling designs that can be used in quantitative research and some issues that must be considered when selecting a sampling design.
5. To understand how to assess and establish the validity and reliability of measures.
6. To understand how to develop scales.
7. To understand guidelines for the development and implementation of surveys for mail, telephone, face-to-face, and internet research.
8. To understand various research designs that can be used to conduct quasi-experiments, randomized experiments, cross-sectional research, and longitudinal research.
9. To understand some strengths and limitations of various quantitative research designs and some issues that must be dealt with when using these designs in research.
10. To understand how to apply the experience sampling method.
11. To understand various types of evaluation research.
12. To develop skills in the critical appraisal of quantitative research described in journal articles.
13. To write a well-conceptualized quantitative research proposal.

**Academic misconduct:**

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The academic misconduct policy is detailed in the graduate calendar:

[http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec\\_d0e1609.shtml](http://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/sec_d0e1609.shtml)

The Learning Commons' academic integrity tutorial, which includes a plagiarism module, is available at <http://www.academicintegrity.uoguelph.ca/>.

### **Evaluation:**

#### **1. Class participation: 25% (12.5% for 1st half of course and 12.5% for 2nd half)**

Meaningful participation in discussions contributes to learning so you are expected to attend classes and participate in discussions. Grading will be based on class participation rather than mere attendance.

All of us share the responsibility of creating an environment that facilitates class discussions. As you read the required readings prior to the classes, develop a list of discussion questions related to **both** methodology concepts and issues **and** critical appraisal questions, which you can ask during the classes. Critical appraisal questions relate to the research objectives or hypotheses, research design, sampling, measurement, data collection and analysis, interpretation of the results, and other aspects of and issues in the research, to stimulate class discussion. Your preparation and participation in the discussions will contribute to the group's learning and will be appreciated by all.

On **September 12**, I will initiate assigning specific journal articles from the list of required readings to each student. You will be responsible for **facilitating a 20-minute class discussion** of **both** methodology concepts and issues in the article **and** a critical appraisal of the article (**particularly focusing on the research topic for that week**).

- **The facilitator is expected to seek out background information necessary to both understand the article and lead the discussion.**
- Dr. Michelle Edwards (Data Resource Centre, Library) has generously offered to provide statistics consultation to students in this course. I strongly encourage facilitators to make an appointment with Michelle ([edwardsm@uoguelph.ca](mailto:edwardsm@uoguelph.ca)) if they want assistance to enhance their understanding of the statistics used in the assigned articles.

#### **2. Written quantitative research proposal: 50%**

You are required to write a research proposal to examine the effectiveness of an existing community intervention in Canada. The research proposal will address a general research topic of your choice and must not be related to the focus of a thesis or research project that you have done, are planning on doing during your graduate program studies, or are currently doing. The research proposal should include elements such as:

- A title page.
- A brief introduction that includes (a) background information and a review of relevant research literature and (b) the general purpose of your research.
- The research objectives or hypotheses and their rationale.
- The method that includes sub-sections that discuss participants, measures, research design, and procedure.

- References.
- Appendices.

Guidelines for writing your research proposal are in Appendix A.

Please meet with me to discuss and obtain approval of your proposed research, which must be feasible, before you go ahead to write the research proposal. You are not expected to actually conduct the research as part of the requirements of this course.

**You are to complete the written research proposal independently. Students are not to collaborate on the proposal (it is not a group effort).**

**Both a paper copy and an emailed copy of your written research proposal (including any appendices) are due by Nov. 28, 11:30 am. Late submissions have a 10% (out of 100) per day penalty.**

### **3. Mid-term exam: 25%**

The exam will consist of essay questions (e.g., a critical appraisal of empirical article(s) distributed during the exam period) based on the lectures, class discussions, and required readings (e.g., textbook and journal articles) during Sept. 12 to Oct. 17.

The 2.5-hour exam will be written during the Oct. 24 class, 8:30 am – 11:00 am.

### **Grading system:**

The grading schedule described in the graduate calendar will be used. The grading system is as follows:

Letter grade	%	Letter grade	%
A +	90 - 100	C +	67 - 69
A	85 - 89	C	65 - 66
A -	80 - 84	F	0 - 64
B +	77 - 79		
B	73 - 76		
B -	70 - 72		

### **Protocol:**

- The electronic recording of classes is expressly forbidden without the prior consent of the instructor. This prohibition extends to all components of the course, including, but not limited to, lectures and seminars, whether conducted by the instructor or a seminar leader or demonstrator, or other designated person. When recordings are permitted, they are solely for the use of the authorized student and may not be reproduced, or transmitted to others, without the express written consent of the instructor.
- Information about what students should do if they are unable to complete course work

because of medical, psychological or compassionate circumstances is given in the graduate calendar, in the “grounds for academic consideration” section. If you are not able to meet an in-course requirement due to illness or compassionate reasons, please inform me in writing. Where possible, this should be done in advance of the missed work or event. If this is not possible, this should be done as soon as possible after the due date. If appropriate documentation of your inability to meet the in-course requirement is necessary, I will request it of you.

### **Required readings:**

The amount of reading is reasonable for a graduate course. It is important that you keep up with the readings.

The required readings for each week should be done before coming to the class so that you are prepared to ask questions and raise issues from your readings during the class. Bring your required readings to the class.

The textbook for the course is: Leong, F.T.L., & Austin, J.T. (2006). *The psychology research handbook: A guide for graduate students and research assistants* (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.. The textbook can be purchased at the university bookstore which is located in the MacNaughton Building.

The journal articles (i.e., required readings) are available through the library via e-journals: <http://www.lib.uoguelph.ca/>

### **Recommended (not required) readings:**

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada (December 2010). Tri-council policy statement: Ethical conduct for research involving humans. Available at <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>

The Tri-council policy statement 2 (TCPS 2) tutorial course on research ethics. Last modified 2011-10-21. Available at <http://www.pre.ethics.gc.ca/eng/education/tutorial-didacticiel/>

- This tutorial will take approximately 3 hours to complete.

Locke, L.F., Spirduso, W.W., & Silverman, S.J. (2007). *Proposals that work: A guide for planning dissertations and grant proposals* (5th ed.). Thousand Oaks, CA: Sage Publications, Inc..

Specific chapters in Leong & Austin (2006) textbook:

- Scherbaum (2006), chapter 18, A basic guide to statistical research and discovery: Planning and selecting statistical analyses.
- Peterson (2006), chapter 24, Writing rough drafts.
- Nagata & Trierweiler (2006), chapter 25, Revising a research manuscript.
- Osipow (2006), chapter 26, Dealing with journal editors and reviewers.

**Course schedule:**

I reserve the right to revise the schedule of classes as needed, as long as you are given adequate notice.

<b>Date</b>	<b>Topic and required readings</b>
Sept. 12	Overview of course; introduction to research methodology <ul style="list-style-type: none"> <li>• Hershey, Jacobs-Lawson, &amp; Wilson (2006), chapter 1, Research as a script: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Oleson &amp; Arkin (2006), chapter 4, Reviewing and evaluating a research article: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Domoff, S. E., Hinman, N. G., Koball, A. M., Storfer-Isser, A., Carhart, V. L., Baik, K. D., &amp; Carels, R. A. (2012). The effects of reality television on weight bias: An examination of the biggest loser. <i>Obesity (Silver Spring, Md.)</i>, 20(5), 993-998.</li> <li>• Hoerster, K. D. K., Mayer, J. A. J., Sallis, J. F. J., Pizzi, N. N., Talley, S. S., Pichon, L. C. L., &amp; Butler, D. A. D. (2011). Dog walking: Its association with physical activity guideline adherence and its correlates. <i>Preventive Medicine</i>, 52(1), 33-38.</li> </ul>
Sept. 19	Theory in research <ul style="list-style-type: none"> <li>• Leong &amp; Muccio (2006), chapter 2, Finding a research topic: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Gelso (2006), chapter 32, Applying theories to research: The interplay of theory and research in science: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Martin, R. J., Usdan, S., Nelson, S., Umstattd, M. R., LaPlante, D., Perko, M., ... Shaffer, H. (2010). Using the theory of planned behavior to predict gambling behavior. <i>Psychology of Addictive Behaviors</i>, 24(1), 89-97.</li> <li>• Grossman, C., Hadley, W., Brown, L. K., Houck, C. D., Peters, A., Tolou-Shams, M., &amp; Project SHIELD study group (2008). Adolescent sexual risk: Factors predicting condom use across the stages of change. <i>AIDS and Behavior</i>, 12(6), 913-922.</li> <li>• Leviton, L. C., Khan, L. K., Rog, D., Dawkins, N., &amp; Cotton, D. (2010). Evaluability assessment to improve public health policies, programs, and practices. <i>Annual Review of Public Health</i>, 31, 213-233.</li> <li>• Newby, K., Bayley, J., &amp; Wallace, L. M. (2011). "What should we tell the children about relationships and sex?"©: Development of a program for parents using intervention mapping. <i>Health Promotion Practice</i>, 12(2), 209-228.</li> </ul>
Sept. 26	Ethics in research <ul style="list-style-type: none"> <li>• Flicker, S., &amp; Guta, A. (2008). Ethical approaches to adolescent participation in sexual health research. <i>Journal of Adolescent Health</i>, 42(1), 3-10.</li> <li>• Barata, P. C., &amp; Stewart, D. E. (2010). Searching for housing as a battered woman: Does discrimination affect reported availability of a rental unit? <i>Psychology of Women Quarterly</i>, 34(1), 43-55.</li> </ul>
Oct. 3	Measurement and scale development

Date	Topic and required readings
	<ul style="list-style-type: none"> <li>• Constantine &amp; Ponterotto (2006), chapter 7, Evaluating and selecting psychological measures for research purposes: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Lounsbury, Gibson, &amp; Saudargas (2006), chapter 9, Scale development: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Pignotti, M., &amp; Abell, N. (2009). The negative stereotyping of single persons scale: Initial psychometric development. <i>Research on Social Work Practice, 19</i>(5), 639-652.</li> <li>• Yun, S. H., &amp; Vonk, M. E. (2011). Development and initial validation of the intimate violence responsibility scale (IVRS). <i>Research on Social Work Practice, 21</i>(5), 562-571.</li> <li>• Kim, J., Klein, D., Olino, T., Dyson, M., Dougherty, L., &amp; Durbin, C. (2011). Psychometric properties of the behavioral inhibition questionnaire in preschool children. <i>Journal of Personality Assessment, 93</i>(6), 545-555.</li> </ul>
Oct. 10	<p>Sampling; experience sampling method</p> <ul style="list-style-type: none"> <li>• McCready (2006), chapter 10, Applying sampling procedures: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Myers (2006), chapter 11, Statistical power: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Farris, C., &amp; Holtzworth-Munroe, A. (2007). Representative sampling of maritally violent and nonviolent couples: A feasibility study. <i>Journal of Interpersonal Violence, 22</i>(12), 1613-1622.</li> <li>• Izal, M., Nuevo, R., Montorio, I., &amp; Pérez-Rojo, G. (2009). Method of recruitment and the scores of self-report measures: The example of worry in the elderly. <i>Archives of Gerontology and Geriatrics, 48</i>(1), 45-49.</li> <li>• Stein, R. I., Kenardy, J., Wiseman, C. V., Dounchis, J. Z., Arnow, B. A., &amp; Wilfley, D. E. (2007). What's driving the binge in binge eating disorder?: A prospective examination of precursors and consequences. <i>International Journal of Eating Disorders, 40</i>(3), 195-203.</li> <li>• Gorely, T., Biddle, S. J. H., Marshall, S. J., &amp; Cameron, N. (2009). The prevalence of leisure time sedentary behaviour and physical activity in adolescent boys: An ecological momentary assessment approach. <i>International Journal of Pediatric Obesity, 4</i>(4), 289-298.</li> </ul>
Oct. 17	<p>Quasi-experimental research</p> <ul style="list-style-type: none"> <li>• Wampold (2006), chapter 6, Designing a research study: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Ha, E., &amp; Caine-Bish, N. (2009). Effect of nutrition intervention using a general nutrition course for promoting fruit and vegetable consumption among college students. <i>Journal of Nutrition Education and Behavior, 41</i>(2), 103-109.</li> <li>• Reavley, N., Pallant, J. F., &amp; Sali, A. (2009). Evaluation of the effects of a psychosocial intervention on mood, coping, and quality of life in cancer patients. <i>Integrative Cancer Therapies, 8</i>(1), 47-55.</li> <li>• Kuperminc, G. P., Thomason, J., DiMeo, M., &amp; Broomfield-Massey, K. (2011). Cool girls, inc.: Promoting the positive development of urban preadolescent and early adolescent girls. <i>The Journal of Primary Prevention, 32</i>(3-4), 171-183.</li> </ul>

Date	Topic and required readings
Oct. 24	Mid-term exam <ul style="list-style-type: none"> <li>• No readings</li> </ul>
Oct. 31	Randomized experiments <ul style="list-style-type: none"> <li>• Gow, R. W., Trace, S. E., &amp; Mazzeo, S. E. (2010). Preventing weight gain in first year college students: An online intervention to prevent the “freshman fifteen.” <i>Eating Behaviors, 11</i>(1), 33-39.</li> <li>• Gelatt, V. A., Adler-Baeder, F., &amp; Seeley, J. R. (2010). An interactive web-based program for stepfamilies: Development and evaluation of efficacy. <i>Family Relations: An Interdisciplinary Journal of Applied Family Studies, 59</i>(5), 572-586.</li> <li>• Berry, K., &amp; Hunt, C. J. (2009). Evaluation of an intervention program for anxious adolescent boys who are bullied at school. <i>Journal of Adolescent Health, 45</i>(4), 376-382.</li> <li>• Spence, J. C., Burgess, J., Rodgers, W., &amp; Murray, T. (2009). Effect of pretesting on intentions and behaviour: A pedometer and walking intervention. <i>Psychology &amp; Health, 24</i>(7), 777-789.</li> <li>• Vaillancourt, T., &amp; Sharma, A. (2011). Intolerance of sexy peers: Intrasexual competition among women. <i>Aggressive Behavior, 37</i>(6), 569-577.</li> </ul>
Nov. 7	Evaluation research <ul style="list-style-type: none"> <li>• Altschuld &amp; Austin (2006), chapter 5, Program evaluation: Concepts and perspectives: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Skolits, G. J., Morrow, J. A., &amp; Burr, E. M. (2009). Reconceptualizing evaluator roles. <i>American Journal of Evaluation, 30</i>(3), 275-295.</li> <li>• Azzam, T. (2011). Evaluator characteristics and methodological choice. <i>American Journal of Evaluation, 32</i>(3), 376-391.</li> <li>• Jefferson, W. K., Zunker, C., Feucht, J. C., Fitzpatrick, S. L., Greene, L. F., Shewchuk, R. M., . . . Ard, J. D. (2010). Use of the nominal group technique (NGT) to understand the perceptions of the healthiness of foods associated with african americans. <i>Evaluation and Program Planning, 33</i>(4), 343-348.</li> <li>• Geist, M. R. (2010). Using the delphi method to engage stakeholders: A comparison of two studies. <i>Evaluation and Program Planning, 33</i>(2), 147-154.</li> <li>• Buckley, L. L., &amp; Sheehan, M. M. (2009). A process evaluation of an injury prevention school-based programme for adolescents. <i>Health Education Research, 24</i>(3), 507-519.</li> </ul>
Nov. 14	Survey research (e.g., mode) <ul style="list-style-type: none"> <li>• Goddard III &amp; Villanova (2006), chapter 8, Designing surveys and questionnaires for research: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Chen &amp; Huang (2006), chapter 14, Conducting telephone surveys: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Rothman, E. F., ScD, Sullivan, M., Keyes, S., &amp; Boehmer, U. (2012). Parents' supportive reactions to sexual orientation disclosure associated with better health: Results from a population-based survey of LGB adults in Massachusetts. <i>Journal of Homosexuality, 59</i>(2), 186.</li> <li>• Alamian, A., &amp; Paradis, G. (2009). Clustering of chronic disease behavioral risk</li> </ul>



Date	Topic and required readings
	<p>factors in Canadian children and adolescents. <i>Preventive Medicine</i>, 48(5), 493-499.</p> <ul style="list-style-type: none"> <li>• Al-Sahab, B., Heifetz, M., Tamim, H., Bohr, Y., &amp; Connolly, J. (2012). Prevalence and characteristics of teen motherhood in Canada. <i>Maternal and Child Health Journal</i>, 16(1), 228-234.</li> <li>• Slevac, J., &amp; Tiggemann, M. (2010). Attitudes toward cosmetic surgery in middle-aged women: Body image, aging anxiety, and the media. <i>Psychology of Women Quarterly</i>, 34(1), 65-74.</li> </ul>
Nov. 21	<p>Survey research (cont.) (e.g., specific issues)</p> <ul style="list-style-type: none"> <li>• Vaux &amp; Briggs (2006), chapter 13, Conducting mail and internet surveys: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Darker, C. D., &amp; French, D. P. (2009). What sense do people make of a theory of planned behaviour questionnaire? A think-aloud study. <i>Journal of Health Psychology</i>, 14(7), 861-871.</li> <li>• Brennan, M., &amp; Charbonneau, J. (2009). Improving mail survey response rates using chocolate and replacement questionnaires. <i>Public Opinion Quarterly</i>, 73(2), 368-378.</li> <li>• Fan, W., &amp; Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. <i>Computers in Human Behavior</i>, 26(2), 132-139.</li> <li>• van der Vaart, W., &amp; Glasner, T. (2011). Personal landmarks as recall aids in survey interviews. <i>Field Methods</i>, 23(1), 37-56.</li> </ul>
Nov. 28	<p>Observational research</p> <ul style="list-style-type: none"> <li>• Zaitzow &amp; Fields (2006), chapter 22, Archival data sets: Revisiting issues and considerations: In <b>Leong &amp; Austin (2006) textbook</b></li> <li>• Moens, E. E., Braet, C. C., &amp; Soetens, B. B. (2007). Observation of family functioning at mealtime: A comparison between families of children with and without overweight. <i>Journal of Pediatric Psychology</i>, 32(1), 52-63.</li> <li>• Lustenberger, D. E., &amp; Jagacinski, C. M. (2010). Exploring the effects of ostracism on performance and intrinsic motivation. <i>Human Performance</i>, 23(4), 283-304.</li> <li>• Campos, B., Graesch, A. P., Repetti, R., Bradbury, T., &amp; Ochs, E. (2009). Opportunity for interaction? A naturalistic observation study of dual-earner families after work and school. <i>Journal of Family Psychology</i>, 23(6), 798-807.</li> <li>• Bowker, A., Boekhoven, B., Nolan, A., Bauhaus, S., Glover, P., Powell, T., &amp; Taylor, S. (2009). Naturalistic observations of spectator behavior at youth hockey games. <i>The Sport Psychologist</i>, 23(3), 301-316.</li> </ul>

## Appendix A

### Guidelines for writing your quantitative research proposal

Please follow these guidelines when writing your proposal.

#### General information:

You are required to write a research proposal to examine the effectiveness of an existing community intervention in Canada. The research proposal will address a general research topic of your choice and must not be related to the focus of a thesis or research project that you have done, are planning on doing during your graduate program studies, or are currently doing.

Checklist for research proposal:

- Maximum of 15 pages** (if more than 15 pages are submitted, only the first 15 pages will be graded)
- Should have a title page, reference section (use single space for the reference section), and appendices
- Page limit does not include the number of separate pages for the title page, reference section, and appendices.
- 8.5" x 11" paper
- Printed on 1 side of page
- Your name and page number are in the header of the document
- Double-spaced
- 2.5 cm. margins
- 12-point font size
- Not stapled

#### Writing style (including references):

Use headings and sub-headings. The proposal must be well-organized. Paragraphs should be logically developed and there should not be grammatical or spelling errors.

You are to use the style in the American Psychological Association's (2010) Publication manual of the American Psychological Association (APA) (6th ed.) for citing references in the body of the proposal and for listing references. You don't have to use the APA style for writing other elements of the proposal. Also, the APA style is described at the website below. This website has a free tutorial, which can be accessed by selecting "Learning APA style" from the menu.

- <http://www.apastyle.org/index.aspx>.

**The research proposal should include headings and sub-headings such as:**

#### Title page:

#### Introduction:

This section should be brief (about 3 pages). You should discuss the problem that will be studied, discuss background information and relevant research literature, and specify the general purpose

of your research.

**Objectives (or hypotheses):**

The objectives or hypotheses should be linked to the literature review. These statements should be quite specific and include operational definitions of the variables being examined. The rationale for the objectives or hypotheses should be presented.

**Method:**

This section provides details about how you will conduct the research. There should be sub-sections such as participants, measures, and procedure.

**a) Participants:**

Describe the sample in this sub-section. Specify information such as the number of participants required, the inclusion/exclusion criteria, and the sampling strategy that will be used.

**b) Measures:**

Provide the conceptual definition of each variable and discuss how each variable will be operationally defined so that it can be measured. The rationale for using each measure should be given. Background information such as the reliability and validity of the measures should be discussed. Specify the strengths and weaknesses of the measures. If you are proposing to develop the measures, then this should be addressed here. Provide sample questions for the measures.

**c) Procedure:**

Describe how you will conduct the research in this sub-section. Summarize each step in the research process in sufficient detail to clearly communicate how the research will be done. The research design (e.g., a specific quasi-experimental design) and the rationale for choosing this research design should be discussed. Describe the statistical analyses that you plan on doing.

**References:**

The reference citations in the body of the proposal must be listed in the reference section.

**Appendices:**

Any information that supports your proposal, such as questionnaires and a letter of informed consent, should appear as appendices.

The following grading system will be used:

<b>Component of research proposal</b>	<b>%</b>
Introduction (e.g., background information; research literature; purpose)	/ 10
Objectives or hypotheses (including rationale)	/ 10
Method: Description of sample	/ 10
Method: Measures (e.g., operational definitions; reliability and validity)	/ 15
Method: Specific research design (including rationale and design issues such as internal validity)	/ 20
Method: Procedure (including ethics)	/ 15

<b>Component of research proposal</b>	<b>%</b>
References, appendices, writing style, organisation, and grammar	/ 20
Total	/ 100