HLTH AGE 3B03/SOCPSY 3L03: ADVANCED RESEARCH METHODS
Winter 2021

Instructor: Dr. Tara Marshall
Email: marsht6@mcmaster.ca
Pronouns: she/her
Lecture: Asynchronous online delivery. Lectures will be recorded and posted on Avenue every Wednesday by 3pm.

Office Hours: by appointment
Office: KTH 206/A

Contents

Course Description

In this course, students will learn how to design research projects in preparation for conducting a fourth-year thesis project or independent project in the health or social sciences. Students will gain hands-on experience conducting qualitative and quantitative research at every stage of the research process: selecting a topic, reviewing literature, developing a research question or hypothesis, designing qualitative questions, collating measures for survey research, collecting and analyzing data, and writing an academic research report. Openness and transparency in the research process will be emphasized.

Course Objectives

By the end of the course students should be able to:

- Critically analyze the research methods of empirical papers
- Design appropriate methods for answering research questions and hypotheses
- Analyze qualitative data
- Gain familiarity with basic statistical software for analyzing quantitative data
- Write research reports in a clear and concise manner

Required Materials and Texts

We will be using a FREE textbook for this course. Although it is billed as a textbook for psychological research methods, it is equally applicable for health/aging-related research methods.

Chiang, I. C. A., Jhangiani, R. S., & Price, P. C. *Research Methods in Psychology – 2nd Canadian Edition.* https://open.umn.edu/opentextbooks/textbooks/research-methods-in-psychology-2nd-canadian-edition

Class Format

Lectures will be asynchronous: this means that recordings of the lectures and accompanying PowerPoint slides will be posted every Wednesday by 3pm, and it is up to you to listen to the recording and take notes on your own time. You can therefore follow the lectures at your own pace, but I strongly advise keeping up with the recordings on a weekly basis. The recordings go into the material in much greater depth than do the PowerPoint slides; to perform well in this course, it is necessary to attend to the recordings. There is no synchronous component to this course for the first 11 weeks of this course; lectures will be pre-recorded and posted each Wednesday. However, I am happy to schedule individual meetings through Zoom if you have any questions about the course. I have set aside Weeks 12 and 13 for you to analyze your data; I will be available on Zoom during the scheduled class time (Wednesday 12:30-1:30pm; Friday 11:30-1:30) to help you with any aspect of your report (attendance is voluntary).

Course Evaluation – Overview

1. Test 1 – 20%, Feb 12

2. Test 2 – 30%, Mar 26
3. Preregistration – 5%, Mar 12th
4. Report – 45%, due April 14

Course Evaluation – Details
1. Test 1 (20%), February 12th, 11:30am-1:30pm

Test 1 will consist of multiple-choice questions only. It will be based on material presented in lectures from Weeks 1-4 only. The material on quantitative research design presented on February 10th in Week 5 will be covered in Test 2, not Test 1. If Test 1 is missed, **Test 2 will be reweighted to 50% of your final mark.** There is no make-up test for missing Test 1.

2. Test 2 (30%), March 26th, 11:30am-1:30pm

Test 2 will be similar in format to Test 1 (i.e., multiple-choice questions only). It is non-cumulative so it will be based on material covered in Weeks 5-11 only. The material on writing a research report presented on March 24 will <u>not</u> be included in Test 2. As Test 2 is worth 30%, is not eligible for an online MSAF. If Test 2 is missed, please visit your respective Faculty office with appropriate documentation for the Faculty to review. If Faculty approval is obtained, **your report will be reweighted to 75% of your final mark.** There is no make-up test for missing Test 2.

3. Preregistration (5%), March 12th, 11:59pm

You will need to preregister 1-3 hypotheses, your data analytic plan, and several other aspects of this study using AsPredicted (https://aspredicted.org/). More details will be provided in lectures. Please submit a copy of your preregistration in Avenue to Learn.

4. Report (45%), due April 14th by 11:59pm

As a group, we will identify a topic of research and research question(s) that can be studied with a mixed-methods approach (i.e., quantitative and qualitative). To facilitate completion of this project in a timely manner, we will need to be mindful of identifying a research topic which will involve easy access to and the identification of potential participants (e.g., students). The topic should address the correlates of physical and mental health. *We must pick a topic that is unlikely to create anxiety and discomfort or involve recall of unpleasant or traumatic events. Your topic must also not involve a high-risk population (e.g., those with mental health issues) or vulnerable persons (e.g., children, persons with disabilities, persons with dementia).*

As a group, we will vote on the selection of three short scales that will yield quantitative data, and three open-ended questions that will yield qualitative data. We will also ask four demographic questions. The Results section of your report should be divided into a quantitative section and a qualitative section.

Quantitative section

For this project, you will quantitatively assess the predictors of mental and physical well-being. As a group, we will include several predictor variables in our survey, such as stress, personality traits, gender role conformity, perceived discrimination, relationship quality, or social media use. We will vote as a class on the three predictors we will include in the final survey. We will also measure the following four demographic variables in our survey: age, gender identity, ethnicity, and SES. Finally, the group survey will also include two outcome (dependent) variables: the 6-item Warwick-Edinburgh mental health survey to measure mental/emotional well-being, and the general health perceptions subscale from the SF-36 to measure physical well-being.

This survey will measure more variables than you will need to analyze in your report. This will provide each student with flexibility and choice in what variables you find most interesting to write about in your report. **At minimum**, you will need to select **one** predictor variable, **one** demographic variable, and **one** outcome variable (physical or mental health) to focus on in your final report.

For example, you may choose stress as your predictor variable, SES as your demographic variable, and mental well-being as your outcome variable. Your report might therefore assess (a) the association of stress with mental well-being, and (b) the association of SES with mental well-being. Those of you who are feeling ambitious may also test the interaction between these predictor variables – i.e., stress x SES – which tests whether the association of stress with mental well-being differs for high vs low SES individuals. Testing interaction effects is optional for this project: if correctly executed and interpreted, testing the interaction effect may boost your mark. However, if incorrectly executed or interpreted, testing the interaction effect may potentially decrease your mark. It is up to you to decide what course of action to take. Please note that we will be devoting a lot of class time for data analysis toward the end of this course and your professor can provide a lot of individualized instruction through Zoom.

As a group, we will need to find relatively short (e.g., 5-10 items) published scales to assess the predictor variables. I will give a **1% bonus mark** to any student who finds three appropriate scales. This bonus mark will be added to your final mark for this course.

You will need to preregister 1-3 hypotheses and a data analysis plan (see details in Preregistration section above). As a group, we will create a single online survey using Qualtrics. Each student will distribute an online link to this survey to your social networks (e.g., via email, word of mouth, or social media) with the expectation of recruiting at least 10 participants each. When data collection is finished, everyone will analyze the same data set using Jamovi statistical software (https://www.jamovi.org/download.html), which is free to download. I will provide step-by-step instructions for using this software and analyzing the results in my lectures.

Qualitative section

We will include three open-ended questions in our survey. These questions should complement the quantitative scales so that they address experiences of stress, gender

role conformity, perceived discrimination, relationship quality, social media use, etc. We will vote as a class on the three open-ended questions we will include in the final survey.

After data has been collected, you will carefully read responses to the open-ended questions and make notes on the data. In doing so, you will highlight notable quotes or passages of text. If we collect a large number of responses, we will devise a system so that you will only need to analyze a certain number of responses. Once you have read through these responses and gotten a feel for the content, you will begin the process of coding the data, which involves organizing the qualitative material into themes. In your report, you will discuss what is analytically interesting about the qualitative data based on the themes and sub-themes that you have identified.

Each student will produce a report (**2500 words** excluding references, tables, and the title page). It should be written in APA style and consist of the following sections: title page, abstract, introduction/literature review, method, results (separate sections for quantitative and qualitative results), discussion, references.

To facilitate communication between students, an online Discussion Board will be created for you on Avenue to Learn. Please note that all comments posted in this space are visible to your professor.

Please note: you may submit this report individually **or** collaborate with **up to two** other students in the class and submit this report as a group. If you decide to submit the report with 1-2 others, it will be held to a somewhat higher standard than if you submit it as an individual. All group members will receive the same mark. I strongly advise group members to check each other's work, especially the quantitative analyses. Your learning experience in this course will be diminished if you do not engage with both the quantitative and the qualitative analyses.

Weekly Course Schedule and Required Readings
Week 1 (Jan 13) Introduction to research methods: Identifying a research topic/question; theoretical frameworks and their links with various methods

Readings: Chapter 2 of online textbook

Week 2 (Jan 20) Research ethics and conducting literature reviews

Readings: Chapter 3 of online textbook

Week 3 (Jan 27) Qualitative research design

Readings: Chapter 7 of online textbook. Section on Qualitative Research only.

Notes: we will vote on three qualitative questions to include in our survey.

Week 4 (Feb 3) Qualitative analysis: grounded theory, thematic analysis

Readings:
- Chapter 7 of online textbook. Section on Qualitative Research only.
- Braun, V., & Clarke, V. (2008) Using thematic analysis in psychology. *Qualitative Research in Psychology, 3,* 77-101.

Week 5 (Feb 10) Quantitative research design: Experimental and survey methods; Test 1

Readings: Chapters 6 & 7 of online textbook.

Notes: **Test 1** will be held on **Friday, February 12th from 11:30am-1:30pm.** The lecture on quantitative research design will be posted on February 10th, but you will **not** be tested on this material in Test 1, only in Test 2.

Week 6 (Feb 17) Reading Week

No readings

Week 7 (Feb 24) Quantitative research design: Operationalizing variables, developing hypotheses, sampling, measurement, selecting scales, reliability and validity

Readings: Chapters 5 & 9 of online textbook.

Notes: class vote on scales to include in our survey

Week 8 (Mar 3) Replicability and openness in social science research; Preregistration due

Readings:
- https://www.psychologicalscience.org/observer/research-preregistration-101

- Simmons, J. P., Nelson, L. D., & Simonsohn, U. (2011). False-positive psychology: Undisclosed flexibility in data collection and analysis allows presenting anything as significant. *Psychological Science, 22*, 1359-1366.

Notes: Study preregistration through AsPredicted due on **March 12 by 11:59pm**.

Week 9 (Mar 10) Quantitative data analysis: Jamovi statistical software

Readings: Chapters 12 & 13 of online textbook.

Notes: collect data this week

Week 10 (Mar 17) Quantitative data analysis: Jamovi statistical software

Readings: Chapters 12 & 13 of online textbook.

Notes: set up your Jamovi data file and start analyzing the data

Week 11 (Mar 24) Writing a research report; Test 2

Readings: Chapters 12 & 13 of online textbook.

Notes: Test 2 will take place on **Friday, March 26 from 11:30am-1:30pm.** The material on writing a research report presented on March 24 will <u>not</u> be included in Test 2.

Week 12 (Mar 31): Analyze your data

Notes: there will be no required readings or recorded lectures posted this week. This time has been reserved for you to analyze your data and prepare your report. Dr. Marshall will be available on Zoom during the scheduled class time (Wednesday 12:30-1:30pm; Friday 11:30-1:30) to help you with any aspect of your report.

Week 13 (Apr 7): Analyze your data

Notes: there will be no required readings or recorded lectures posted this week. This time has been reserved for you to analyze your data and prepare your report. Dr. Marshall will be available on Zoom during the scheduled class time (Wednesday 12:30-1:30pm; Friday 11:30-1:30) to help you with any aspect of your report.

Week 14 (Apr 14) Report due April 14th by 11:59pm

Notes: No lecture this week

<u>Course Policies</u>

Submission of Assignments

Please submit an electronic copy of your preregistration and report the dropboxes in Avenue to Learn (Assessments → Assignments → HLTHAGE 3B03/SOCPSY 3L03 Preregistration or Report). The report dropbox is Turnitin-enabled. Emailed assignments will NOT be accepted. Your report should be typed and double-spaced in 12-point Times New Roman font with one-inch (2.54cm) margins on all sides. Please include a title page with your report title, student number (**DO NOT INCLUDE YOUR NAME**), date submitted, course number, page number (upper right corner), and word count, and a References section at the end. References should adhere to APA style conventions. I will review these conventions in a subsequent lecture, but they should take the following form:

John, J. B., & Joe, M. L. (1998). Gratitude interventions enhance subjective well-being. Journal of Happiness Studies, 27, 254-260.

Tip: do not include the title of any papers in the body of your essay as this will deplete your word count unnecessarily (i.e., include the title in the References section only). In-text citations should only include the authors' last names and the date of publication (e.g., "Smith & Lee, 2019").

Please note that I am not able to provide feedback on written drafts; however, I am happy to answer questions in person or via email.

Grades

Grades will be based on the McMaster University grading scale:

MARK	GRADE
90-100	A+
85-90	A
80-84	A-
77-79	B+
73-76	B
70-72	B-
67-69	C+
63-66	C
60-62	C-
57-59	D+
53-56	D
50-52	D-
0-49	F

Late Assignments

Extensions for course assignments will only be granted under conditions of medical, family, or other extraordinary circumstances. All other late assignments will be penalized at a rate of 5% per day (including weekends). Late assignments will not be accepted after 7 days beyond the original deadline without appropriate documentation from the Office of the Associate Dean of Social Sciences.

Absences, Missed Work, Illness

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work".

<u>University Policies</u>
Academic Integrity

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. For information on the various types of academic dishonesty please refer to the *Academic Integrity Policy*, located at https://secretariat.mcmaster.ca/university-policies-procedures-guidelines/

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

Authenticity / Plagiarism Detection

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software. **All submitted work is subject to normal verification that standards of academic integrity have been upheld** (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

Courses with an On-line Element

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used.

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Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

Online Proctoring

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

Conduct Expectations

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the *Code of Student Rights & Responsibilities* (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online**.

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

Academic Accommodation of Students With Disabilities

Students with disabilities who require academic accommodation must contact Student Accessibility Services (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's *Academic Accommodation of Students with Disabilities* policy.

Requests For Relief For Missed Academic Term Work

McMaster Student Absence Form (MSAF): In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work".

Academic Accommodation For Religious, Indigenous or Spiritual Observances (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the RISO policy. Students should

submit their request to their Faculty Office ***normally within 10 working days*** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

Copyright And Recording

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

Extreme Circumstances

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

Faculty of Social Sciences E-mail Communication Policy

Effective September 1, 2010, it is the policy of the Faculty of Social Sciences that all e-mail communication sent from students to instructors (including TAs), and from students to staff, must originate from the student's own McMaster University e-mail account. This policy protects confidentiality and confirms the identity of the student. It is the student's responsibility to ensure that communication is sent to the university from a McMaster account. If an instructor becomes aware that a communication has come from an alternate address, the instructor may not reply at his or her discretion.