



The UBC School of Social Work acknowledges that we are located on the traditional, ancestral, and unceded territory of the xʷməθkʷəy̓əm (Musqueam) people.

School Vision: Building upon a foundation of social justice and an ethic of care, we are a community of learners actively engaged in the development of critical, transformative knowledge for social work practice.

MSW Mission: The MSW program offers an accessible, advanced professional degree focused on social work practice in the fields of child and family welfare, health and social care, and international and social development, using a social justice lens. The purpose of this MSW program is to prepare our graduates to be competent social work professionals, equipped with state-of-the-art knowledge and skills, a critical analytic lens, and a social justice orientation.

Year/Term	2020 / Summer T1 (May 4 to June 17)
Course Title	SOWK 553C: Quantitative Methods in Social Work Research
Credit Value	6 credits
Course Schedule	Monday & Wednesday 9:30 AM to 4:30 PM
Course Location	Remote contact

Instructor	Office Location	Office Phone	e-mail address
Sheila Marshall	JBB 336	604-822-5672	Sheila.Marshall@ubc.ca
Office hours	By appointment		

PREREQUISITE and/or COREQUISITE

There are no pre- or co-requisites for this course.

COURSE DESCRIPTION

This course provides an overview of methodologies that can be used in social work inquiry *with a focus on quantitative methods*. Students will learn how to design a study, conduct analyses of data, and interpret appropriately research findings.

COURSE STRUCTURE AND LEARNING ACTIVITIES

Classroom-based lectures complemented by individual and group exercises, discussion, and statistics lab work.

LEARNING OUTCOMES

- Familiarize students with a variety of approaches to social work research.
- Introduce students to processes, methods and issues in qualitative and quantitative inquiry.
- Strengthen abilities to critically read and evaluate research designs and findings of quantitative and qualitative studies.
- Facilitate skills in identifying questions relevant to social policy, social service programs and social work practice that can be addressed using quantitative designs.
- Enhance skills in identifying ethical issues in conducting systematic inquiry, particularly in relation to marginalized groups.

REQUIRED TEXTBOOK(S) AND LEARNING MATERIALS

Gorard, S. (2013). *Research design: Creating robust approaches for the social sciences*. Los Angeles, CA: Sage.

Navarro, D.J., & Foxcroft, D.R. (2019). *Learning statistics with Jamovi*. (Version 0.70). doi: [10.24384/hgc3-7p15](https://doi.org/10.24384/hgc3-7p15)

jamovi open source statistical software from: <https://www.jamovi.org/>

jamovi quick guide from: <https://www.jamoviguide.com/>

See course outline below for additional required readings.

ASSESSMENT OF LEARNING:

Assignment 1: Complete Tri-Council (2018) on-line tutorial module

Assignment 2: Creation and assessment of a self-report measure: 20%

Assignment 3: On the same research topic you will generate two different types of designs with rationale for decisions:

Design #1: knowledge generation, descriptive design: 15%

Design #2: evaluation of an intervention: 15%

Assignments 4 to 8 are elements of a small research project.

Assignment 4: 5% Codebook for your data set

Assignment 5: 5% Methods section of the manuscript

Assignment 6: 5% Plan for analysis

Assignment 7: 5% Results: preliminary analyses of data, results of analysis

Assignment 8: 5% Interpretation of results; description of limitations, implications

Assignment 9: 25% Decision Tree

COURSE SCHEDULE:

Before first class: Retrieve and read a research article (not a review paper) on a social work topic of your choice. Have the article ready for discussions during the first two weeks.

SESSION 1:	Monday May 4, 2020
TOPIC 1:	Getting started: Thinking about thinking
READING:	Moon, K., & Blackman, D. (2014). A guide to understanding social science research for natural scientists. <i>Conservation Biology</i> , 28, 1167-1177. doi: 10.1111/cobi.12326
TOPIC 2:	Research designs
READING:	Chapters 1 and 2 of Gorard
SESSION 2:	Wednesday May 6, 2020
TOPIC 1:	Matching questions and research designs
READING:	Chapters 3 to 5 of Gorard Navarro & Foxcroft, sections 1.1.1 and 1.2
TOPIC 2:	Ethics in research
READING:	TCPS 2—2018 <i>Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans</i> (skim chapters 12 and 13) available through: http://www.pre.ethics.gc.ca/eng/documents/tcps2-2018-en-interactive-final.pdf Chapter 13, Gorard Charles, G. (2017). Beyond ethics and evidence: Learning to look at the intended and unintended consequences of our actions. <i>Child & Youth Services</i> , 38, 108-125. doi: 10.1080/0145935X.2017.1297200 Whetung, M. (Nishnaabeg), & Wakefield, S. (2018). Colonial conventions: Institutionalized research relationships and decolonizing research ethics. In E. Tuck, K.W. Yang, & L.T. Smith (Eds.) <i>Indigenous and Decolonizing Studies in Education</i> (pp. 168-180). New York: Routledge.
SESSION 3:	Monday May 11, 2020
TOPIC 1:	Constructs & Variables
READING:	Finkelstein, L. (2003). Widely, strongly and weakly defined measurement. <i>Measurement</i> , 34, 39-48. Navarro & Foxcroft 2.1 to 2.26
TOPIC 2:	Measurement & Validity Evidence
READING:	Bandalos, D.L. (2017). <i>Measurement Theory and Applications for the Social Sciences</i> . New York, NY: Guilford Press. Chapter 11 only.

	Recommended Reading: Messick, S. (1995). Validity of psychological assessment: Validation of inferences from persons' responses and performances as scientific inquiry into score meaning. <i>American Psychologist</i> , 50, 741-749.
SESSION 4:	Wednesday May 13, 2020
TOPIC 1:	Validity Evidence continued.
READING:	Review Bandalos (2017) and Messick (1995).
TOPIC 2:	Reliability Evidence
READING:	If reliability is new to you, read Navarro & Foxcroft section 2.3 Streiner, D. L. (2003). Starting at the beginning: an introduction to coefficient alpha and internal consistency. <i>Journal of Personality Assessment</i> , 80, 99-103. Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and application. <i>Journal of Applied Psychology</i> , 78, 98-104. Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: an overview and tutorial. <i>Tutorials in Quantitative Methods for Psychology</i> , 8, 23-34.
WATCH:	Reliability analysis (Cronbach's alpha): https://www.youtube.com/watch?v=KQrLw1qInI8
SESSION 5:	No class, Monday May 18, 2020, Victoria Day holiday
SESSION 6:	Wednesday May 20, 2020
TOPIC 1:	Sampling
READING:	Chapters 6 and 7, Gorard
TOPIC 2:	Timing and Sequence in Designs
READING:	Chapter 8, Gorard Wu, A. D., & Zumbo, B. D. (2008). Understanding and using mediators and moderators. <i>Social Indicators Research: An International Interdisciplinary Journal for Quality of Life Measurement</i> , 87, 367-392. No need to read sections on mediated moderation & moderated mediation.
SESSION 7:	Monday May 25, 2020
TOPIC 1:	Controlled Interventions; alternatives to trials
READING:	Chapters 9 and 10, Gorard

TOPIC 2:	Challenges to Validity of Design
READING:	Navarro & Foxcroft, section 2.7 Chapter 11, Gorard
SESSION 8:	Wednesday May 27, 2020
TOPIC 1:	Data Management, Setting up Codebooks
READING:	Burchinal, M. R. & Neebe, E. (2006). I. Data management: recommended practices. <i>Monographs of the Society for Research in Child Development</i> , 71: 9–23. doi: 10.1111/j.1540-5834.2006.00402.x
WATCH:	Variable types and labels in jamovi https://www.youtube.com/watch?v=7tlvuYO76Ok
TOPIC 2:	Descriptive Statistics: Central Tendency, Variability
READING:	Navarro & Foxcroft, Sections 3 and 4 (and for fun, section 5)
Watch:	Descriptive statistics in jamovi https://www.youtube.com/watch?v=srqNCux0ijY
SESSION 9:	Monday June 1, 2020
TOPIC 1:	Probability, Hypothesis testing
READING:	Navarro & Foxcroft, sections 7 to 9
TOPIC 2:	Creating scale scores
WATCH:	Creating scale scores in jamovi https://www.youtube.com/watch?v=-t1Q52QChoo
SESSION 10:	Wednesday June 3, 2020
TOPIC :1	Associations between variables: Chi-square
READING:	Navarro & Foxcroft, section 10.2 to 10.8
WATCH:	Chi-square test (independence of associations) If you do not understand the text, this resource may help: https://www.discoveringstatistics.com/statistics-hell-p/egestes-predicting-categorical-outcomes/chi-square-test/ Conducting chi-square in jamovi https://www.youtube.com/watch?v=vsrj647Tb3g
TOPIC 2:	Associations between variables: Correlation

READING:	Navarro & Foxcroft, section 12.1 and 12.2
WATCH:	Correlation in jamovi https://www.youtube.com/watch?v=u5kZ4erx8QE
SESSION 11:	Monday June 8, 2020
TOPIC 1:	Linear Regression
READING:	Navarro & Foxcroft, section 12.3 to 12.4
WATCH:	The linear model: If you do not understand the text, this video may help: https://www.discoveringstatistics.com/statistics-hell-p/antevorta-predicting-continuous-outcomes/applying-the-linear-model/ Linear regression in jamovi: https://www.youtube.com/watch?v=5AVGuEzCXc
TOPIC 2:	Multiple Linear Regression
READING:	Navarro & Foxcroft, section 12.3 to 12.4; 12.5 to 12.10.4
WATCH:	Multiple regression: If you do not understand the text, this resource may help: https://www.discoveringstatistics.com/statistics-hell-p/antevorta-predicting-continuous-outcomes/applying-the-linear-model/ Multiple regression in jamovi: https://www.youtube.com/watch?v=5AVGuEzCXc
SESSION 12:	Wednesday June 10, 2020
TOPIC 1:	Categorical Predictors and Moderation
WATCH:	Moderators in linear regression: https://www.discoveringstatistics.com/statistics-hell-p/antevorta-predicting-continuous-outcomes/categorical-predictors-and-moderation/
TOPIC 2:	Comparing Two Means: t-tests
READING:	Navarro & Foxcroft, sections 11.3 and 11.4; section 11.7.2
WATCH:	t-tests in jamovi_ https://www.youtube.com/watch?v=SM-DN9dpPd4
SESSION 13:	Monday June 15, 2020
TOPIC 1:	Comparing Means Across Time: Paired Samples t-test

READING:	Navarro & Foxcroft, sections 11.5 and 11.7.3
WATCH:	Paired samples t-test in jamovi https://www.youtube.com/watch?v=ISjfYYiJG6E
TOPIC 2:	Options for t-tests with non-normal data
READING:	Navarro & Foxcroft, sections 11.9
TOPIC 3:	Comparing Several Means: ANOVA
READING:	Navarro & Foxcroft, section 13 to 13.6.4 Optional: Navarro & Foxcroft, sections 13.7
WATCH:	Oneway ANOVA: If you do not understand the text, this resource may help: https://www.discoveringstatistics.com/statistics-hell-p/porus-comparing-means/one-way-anova/ Oneway ANOVA in jamovi https://www.youtube.com/watch?v=TJoJTVgDyqY
SESSION 14:	Wednesday June 17
TOPIC 1:	Repeated Measures ANOVA
READ:	Navarro & Foxcroft, section 13.8 Optional: Navarro & Foxcroft, section 13.9
WATCH:	Repeated measures ANOVA: If you do not understand the text, this resource may help: https://www.discoveringstatistics.com/statistics-hell-p/porus-comparing-means/repeated-measures-designs/ repeated measures ANOVA in jamovi https://www.youtube.com/watch?v=m5JNwPgiMso
TOPIC 2:	Wrapping up

ASSIGNMENTS:

Assignment 1: Due May 8, 2020

Ethics Tutorial. This assignment is aligned with *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2)* guidelines and UBC ethics review boards' expectations that all people applying for ethical review and working with data complete the tutorial. A certificate is provided upon successfully completing this tutorial. Submit the certificate by uploading an electronic copy into Canvas. This tutorial must be completed prior to being given access to anonymized data for practice during class and for class assignments.

Complete the on-line tutorial course at:

<https://tcps2core.ca/welcome>

Assignment 2: Due May 22, 2020 (20%)

Creation & initial assessment of a self-report measure.

Activities:

Select a topic of interest which you will use to create a self-report measure.

Do a brief literature search on the topic. Use existing literature to help you define the construct you would like to assess.

Determine whether you are going to assess quality or quantity of the construct.

Design the measure (this includes instructions to users).

Test response processes with two class members. Document the plan for testing response processes.

During testing, document responses for reporting.

Adjust the measure according to responses, if needed.

Reporting:

In essay format (using APA style), describe the following: (In an Appendix, include a copy of the measure which can be referenced in your paper.)

Briefly introduce the topical area.

Define the construct.

Describe what aspects of the construct are to be assessed in the measure.

Describe the design of the measure, including instructions, all parts of the measure, way that the measure is administered (e.g., paper and pencil), and any other details necessary for other researchers to be able to use the measure.

Report the plan for testing response processes.

Report the results of testing response processes.

Describe any limitations of the testing.

Describe any adjustments to the measure you made after testing for response processes.

Write a conclusion regarding the development and evaluation of the measure.

You may find the following resources helpful in writing Assignment 3 and the elements of your research project (Assignments 4 to 8):

<http://www.discoveringstatistics.com/docs/writinglabreports.pdf>
<https://www.youtube.com/watch?v=vekCPvF016A>

Assignment 3: Due May 29, 2020 (30%)

Research Designs

Activities:

Select a topic of interest to you. Generate two different types of designs with rationale for decisions.

The first design will be for knowledge generation (15%).

The second design will evaluate an intervention (15%).

Writing:

Begin the paper with an introduction to the topic.

Include in descriptions of each design (write the descriptions of each design sequentially in the paper):

Aim for the research.

Research question or hypothesis.

Sampling strategy.

Way(s) of collecting the data.

Procedures.

Ethical considerations.

Conclude the paper with a reflection on what you have learned from constructing these two different types of studies.

Assignments 4 to 8 are elements of a research project. You will select a research question or hypothesis from a list provided in class. You will be provided with a data set you will use to use to answer the question or hypothesis.

Assignment 4: Due June 3, 2020 (5%)

Codebook for your data set following the example in Burchinal and Neebe (2006). You will need to research the background information on variables to document the source of variables and any other pertinent information. You will also need to conduct analyses to document the reliability of any scales in the data set.

Assignment 5: Due June 10, 2020 (5%)

Methods sections of journal articles include: sample description, measures, and procedures. This assignment should look like something out of the APA manual or a tier-1 journal. Use (a) the data set to describe the sample, and (b) codebook to write the measures section. Information about procedures will be provided with your data set.

Assignment 6: Due June 15, 2020 (5%)

Plan for analysis should describe what technique you intend to use to answer the research question and why that is the technique of choice. Link your choice of technique very clearly to the hypothesis or question and the type of data you are using to answer the question.

Assignment 7: Due June 19, 2020 (5%)

Description of preliminary analyses of data, including tables, and checking of assumptions. Results of analysis should include reports in text or in tables but not both.

Assignment 8: Due June 22, 2020 (5%)

Interpretation of results; description of limitations of the study design, measures used in the study, description of strengths of the study design and measures, implications for future research.

Assignment 9: Due June 29, 2020 (25%)

Decision Tree. Design a decision tree which includes all of the statistical strategies (including descriptive statistics) covered in this course. Include decisions regarding:

- a) Type of data,
- b) Type of strategy, and the assumptions of data when using the strategy
- c) When to change strategies if assumptions are not met.

LEARNING RESOURCES:

UBC Learning Commons has a variety of tools and information such as; borrowing equipment, academic integrity (**APA Citation Guide**), writing support, skills for class, skills for life and academic support to assist students in their learning. <https://learningcommons.ubc.ca/>

UNIVERSITY POLICIES:

Support: UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available at

<https://senate.ubc.ca/policies-resources-support-student-success>

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. No learning analytics are being used in this class.

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Students may record classes for their own learning processes.

UBC GRADING CRITERIA:

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Letter Grade	Percent Range	Mid-Point	
A+	90-100	95	Represents work of exceptional quality. Content, organization and style are all at a high level. Student demonstrates excellent research and reference to literature where appropriate. Also, student uses sound critical thinking, has innovative ideas on the subject and shows personal engagement with the topic.
A	85-89	87	
A-	80-84	82	
B+	76-79	77.5	Represents work of good quality with no major weaknesses. Writing is clear and explicit and topic coverage and comprehension is more than adequate. Shows some degree of critical thinking and personal involvement in the work. Good use of existing knowledge on the subject.
B	72-75	83.5	
B-	68-71	69.5	
C+	64-67	65.5	Adequate and average work. Shows fair comprehension of the subject, but has some weaknesses in content, style and/or organization of the paper. Minimal critical awareness or personal involvement in the work. Adequate use of literature.
C	60-63	62.5	
C-	55-59	57	
D	50-54	52	Minimally adequate work, barely at a passing level. Serious flaws in content, organization and/or style. Poor comprehension of the subject, and minimal involvement in the paper. Poor use of research and existing literature.
F	0-49		Failing work. Inadequate for successful completion of the course or submitted beyond final date of acceptance for paper.