

# Applied Research Methods in Behavioral and Community Health (Version 1)

**HLTH 712     Fall 2018  
SECTION 0101**

**DAYS AND TIMES**     **Mondays** 4:00-6:45pm (SQH 1123)

**INSTRUCTOR:**             Bradley O. Boekeloo, Ph.D., M.S.  
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**Office hours:** Meetings can be arranged by appointment. This is a fast moving course and students are asked to contact the instructor early before challenges become major obstacles to successful performance.

**Suggested PREREQUISITES:**  
HLTH 710, Methods and Techniques of Research  
HLTH 711, Advanced Research Methods

**REQUIRED READING:**  
Students are provided suggested readings each week to supplement learning and for discussion in class. The readings in the syllabus are subject to change. Students should at least skim and review all assigned readings before class. Students are expected to thoroughly review readings highlighted by the instructor.

**REQUIRED SOFTWARE:**  
Students will need access to an up to date version of basic SPSS statistical analysis programs.

**COURSE TEXTS:**  
As this is an advanced course that assimilates and builds on prior course work, multiple texts may be useful in this course. Students are encouraged to review the texts below to supplement their learning.

Experimental and Quasi-Experimental Designs for Research. **Donald T. Campbell and Julian Stanley** Jul 13, 1963.

Internet, Phone, Mail, and Mixed-Mode Surveys. **Don A Dillman, Jolene D. Smyth, Leah Melani Christian**, John Wiley & Sons, Inc:Hoboken New Jersey, 2014.

Advanced Research Methods: A Practical Guide for Social Research Projects (How to),

**Catherine Dawson**, Constable and Robinson Ltd:London, 2013.

Behavior Theory in Health Promotion Practice and Research, **Bruce Simons-Morton, Kenneth Riley McLeroy, Monica Wendel**, Jones & Bartlett Publishers, 2011.

Research Methods in Health Promotion, **Richard A. Crosby (Editor), Ralph J. DiClemente (Editor), Laura F. Salazar (Editor)**, Jossey-Bass, 2006.

How to Manage, Analyze, and Interpret Survey Data Second Edition. **Arlene Fink**, University of California at Los Angeles, The Langley Research Institute. SAGE Publications, 2003.

Measurement in Health Behavior, **CK Di Lorio**, Jossey-Bass, 2005.

Introduction to Research and Medical Literature for Health Professionals, Third Edition, **Blessing JD and Forister JG** (Editors). Jones and Bartlett Learning, 2013.

Designing and Conducting Mixed Methods Research, **John W. Creswell and Vicki L. Plano Clark**, Sage Publications, 2011.

Multivariate Data Analysis, Fifth Edition, **Hair JF, Anderson RE, Tatham RL, Black WC**. Prentice Hall: Upper Saddle River, New Jersey, 1998.

Psychometric Theory. Third Edition, **Nunnally JC, Bernstein IH**. McGraw-Hill:New York, 1994.

Meta-Analysis, Decision Analysis, and Cost-Effectiveness Analysis, **Petitti DB**. Oxford University Press:New York, 2000.

Design and Analysis of Group-Randomized Trials, **Murray DM**. Oxford University Press:New York, 1998.

The Practice of Social Research. 9<sup>th</sup> Edition. **Babbie E**. Wadsworth Thomson Learning:Belmont CA, 2001.

A Beginners Guide to Structural Equation Modeling. **Schumacker RE and Lomax RG**. Lawrence Erlbaum Associates: Mahwah, New Jersey, 1996.

### **COURSE DESCRIPTION:**

This course is designed to build on the research skills obtained in fundamental research methods and statistics courses. This course facilitates an assimilation and application of fundamental research methods with the goal of performance mastery at the doctoral level.

Behavioral and community health research is defined in this course as research on educational and related processes to improve health of individuals and communities. Because both quantitative and qualitative research methods are integral to understanding complex behavioral problems, the course content will be examined

through the framework of mixed methods. Nevertheless, quantitative research methods will be the major focus. We will discuss methods and problems that are commonly encountered in Behavioral and Community Health research, and examine related research literature. Students will be made aware of complex behavioral research issues and where to go for further information. Students will also examine an existing research data set, develop an analytic plan, conduct data analysis, and write a report on findings. It will be assumed that students already have basic computer and statistical skills. Students are encouraged to consult with statistical experts during some phases of the data analysis as the instructor is not a statistician. The course assignments are aimed at helping students gain confidence in their skills regarding research design, data management, data analysis, and reporting on research findings. Oral and written research communication skills will be developed.

### **COURSE OBJECTIVES:**

Upon completion of this course, students will be able to:

1. Create a database and code data.
2. Develop an efficient and effective system for managing data and data analysis files that adhere to IRB principles and protocols.
3. Evaluate the appropriateness of survey questions and survey administration techniques.
4. Identify a research question, and choose variables that can be used to examine the question.
5. Review the literature to identify and support the articulation of a behavioral and community health question that warrants an investment in research.
6. Describe, critique, and examine various research study designs, and related limitations and potential biases.
7. Create a construct measure from multiple items and assess its reliability and validity.
8. Articulate Behavioral and Community Health theory both graphically and in text that best captures the phenomenon to be examined.
9. Design and execute the statistical analysis that best answers the research question accounting for the limitations of the data.
10. Provide accurate tables and figures, as well as written text, to describe analytical results.
11. Provide a logical interpretation of the analytical results.
12. Provide an appropriate description of the implications, limitations, and knowledge gaps that remain based the interpretation of findings.
13. Identify appropriate report dissemination outlets and the requirements for reporting through those outlets.

### **PHD COURSE COMPETENCIES**

<b>Core Competencies</b>	<b>How evaluated/measured</b>
Analyze and refine existing health behavior theory.	Students use an existing survey data set to empirically examine health behavior theory.

Use appropriate theory to describe, explain, predict, and/or change a particular health problem within a given population and context.	Students use an existing survey data set to empirically examine health behavior theory.
Identify causes of the social and behavioral factors that affect the health of individuals and populations.	Students use an existing survey data set to empirically examine health behavior theory.
Specify multiple targets and levels of intervention for social and behavioral science programs and/or policies.	Students review recent articles on the state of health behavior theory.
Be conversant about current health behavior theories and theory-based research.	Students discuss the theoretical framework for the empirical secondary data analysis.
Conduct univariate and multivariate data analysis including statistical comparisons and predictions.	Students use an existing data set to empirically examine health behavior theory.
Conduct advanced statistical analyses including longitudinal, multilevel and survival data.	
Create reliable and valid measurement tools.	Students use an existing data set to empirically examine the psychometrics of multi-item scales.
Apply the steps involved in examining a conceptual model.	Students use an existing data set to empirically examine health behavior theory.
Assess limitations of the internal and external validity of research.	Students describe the limitations of the internal and external validity of their own secondary data analysis.
Critically appraise reports of research and evaluation.	Students conduct a literature review and critically examine the methods of studies.
Identify sources and processes for research funding.	Students identify potential funders for the topic of their secondary data research.
Develop expertise in an area of independent research interest.	
Present clear, engaging, and informative oral research reports.	Students present their secondary data research to the class.
Apply the steps involved in independent research.	Students work through all aspects of a secondary data analysis leading to a draft manuscript.

## REQUIRED COURSE ASSIGNMENTS:

*All assignments are due at the beginning of class on the due date unless otherwise specified or prearranged with the instructor.*

- A. Create a code book, enter data, clean data, create an SPSS database, and code variables (5 points)
1. Create a code book, scan, and upload to ELMS to turn in on paper.
  2. Enter the surveys into an Excel spreadsheet twice.
  3. Count the number of keying errors.
  4. Correct the errors.
  5. Create the SPSS variable data entry spreadsheet and upload the Excel data into the spreadsheet.
  6. Upload the entered SPSS data file to ELMS.
  7. Describe the following in an uploaded file:
    - a) Describe the number and type of keying errors into Excel. Describe what process you would use for ensuring reliable data entry. Describe the potential limitations of your process.
    - b) List all coding decisions that you had to make during your data entry and describe your rationale for the decisions. Be sure to describe decisions related to missing data
- B. Describe your approach to data management. (5 points) How do you propose handling data for this class?
- a. Method for storing hard-copy consent forms and surveys
  - b. Method for naming different versions of variables and working digital data files
  - c. Location and system for storing original, archival, backup and working digital data files
  - d. Protocol for sharing digital de-identified data files
  - e. Protocol for destroying hard copy surveys, as well as original, archival, backup and working digital data files
  - f. Protocol for protecting the privacy of student working data files while they are in use
  - g. Protocol for sharing de-identified dataset
- C. Present your theory for your study in a figure and describe it in text. (5 points) .
1. Describe the construct measured by each of your study variables.
  2. Describe the limitations and strengths of these measures of these constructs.
  3. Describe whether and how your variables/constructs do or do not relate to one or more established theories.
  4. Describe how your constructs relate to each other: What predicts what and how (fully, partially, directly, indirectly)?
  5. In a figure, show in a diagram how your variables/constructs relate to each other.
  6. What would you call your diagram and why? (Theory, model, framework,

conceptual model, analytical model, theoretical model)

7. State the hypotheses that will test the proposed mechanism for differences (or variation) in your outcome variable.

- D. Construct an integrative literature review to introduce your research question and analysis. (5 points) Construct an integrative literature review to introduce your research question and analysis as part of an article for submission to a peer-review journal. Your introduction should provide the background needed to understand the issue being addressed in the paper, the latest thinking on the issue, how this paper builds on past thinking, and the significance of the paper.(5 points)
1. Describe the search software you use to search for peer-reviewed scientific articles.
  2. Describe the steps you take to ensure a thorough search.
  3. Describe how you focus your search on the most relevant articles and how you select articles for inclusion in your literature review.
  4. Describe how you save article information for inclusion in your literature review.
  5. Describe how you create a reference list.
  6. Provide a detailed paragraph by paragraph outline of your introduction section for your article. Filling in the outline, provide your literature review. (After I grade this assignment, the outline will be deleted leaving your actual introduction to your article. I want to see how you structure your introduction and what you want to convey in your outline.) At least one article should be cited for each outline entry but this need not be your final, completed literature review.
  7. Provide citations in your text and a reference list using APA format.
- E. Describe your key research question, as well as key variables and their distributions. (5 points) Students will describe at least three variables that they plan to examine to answer a research question. Note: At least one variable must be measured by more than one item for the purposes of this academic exercise. Provide your SPSS output. In text format, describe your:
1. Research question and hypothesis
  2. Independent variable item(s)
  3. Dependent variable item(s)
  4. Mediating/moderating variable(s) item(s) and/or covariate(s)
  5. Variable item(s) that will be your multi-item scale
  6. Distribution of each item: frequency distribution, mean and standard deviation, median, mode, range, outliers, missing data
  7. Coding and level of measurement of all items
- F. Describe how you are handling missing data. (5 points) For each of your study variables, describe:
1. How many data are missing.
  2. How concerned you are regarding the missing and your justification for your level of concern.

3. Your suspected reasons for the missing data and why you suspect the reason (skipped, uninterpretable, outlier, loss to follow-up, illogical, questionable for a particular reason, etc.).
4. How you will handle missing data.
5. The strengths and limitations of your approach.
6. For the variable that has the most missing data, describe: Whether the missing data are MCAR, MAR, or MNAR and how you make this determination.

G. Create a multi-item scale and analyze its reliability and validity. (5 points)

Students will create a scale to measure a construct from multiple items. They will assess the reliability and validity of the measure, and provide the description of how the variable distribution is to be interpreted.

1. State which items form your initial set for your psycho-behavioral scale.
2. From your factor analysis, describe your scree plot of Eigenvalues and which Eigenvalues you will extract for factors.
3. State the total variance explained by your extracted factors (chosen Eigenvalues).
4. Describe your decisions in conducting a rotated factor matrix.
5. What SPSS methods did you use to conduct you rotated factor matrix?
6. Which items loaded highly on which factors? What was your factor loading threshold for assignment to a factor?
7. What will you do with items that loaded highly on more than one factor or that did not load on any factor?
8. Ultimately, how many factors do you have as part of your scale? What do you think each factor represents?
9. Describe your Inter-item correlation matrix and what you learn from it.
10. Describe the Item-to-total correlations and what you learn from them.
11. Describe your Cronbach's alphas when items are removed and what you learn from them.
12. Describe your Split-half reliability and/or Test-Retest stability analysis of your items and what you learn.
13. Which items are in your final scale? Which items are in your subscales if you have any?
14. What is your final Cronbach's alpha for your scale and any subscale?
15. Describe the mathematical equations for your multi-item scale score (must be a summative type scale)
16. Provide the univariate statistics (mean and standard deviation, median, mode, possible range, actual range) for your final multi-item scale scores.
17. Describe the final conceptual description of your scale and interpretation of your scale scores over their distribution (i.e. What does an increasing score mean?).
18. Conduct your convergent and discriminant validity analysis. Does your analysis support the validity of your scale?
19. Submit your SPSS output.

H. Develop an Analysis Plan. (5 points) Students will use the Fink textbook and their

favorite biostatistics text to describe how they plan to analyze their variables to address their research question. In text format:

1. Describe the primary research question and the hypotheses you will test.
2. Describe your IV, DV, and other variables (moderating, mediating, covariates):
  - a) the name you have assigned to the variable,
  - b) the question(s) and response option(s) from which the variable is derived,
  - c) your final coding of the variable,
  - d) the number of missing values and any imputation technique, and
  - e) your Cronbach alpha if the variable is a multi-item scale.
3. Describe the level of measurement of each variable. Provide a cut and paste from SPSS regarding the frequency distribution of nominal, ordinal, and continuous variables.
4. For continuous variables:
  - a) describe your rationale for whether they can be treated as parametric, normally distributed variables, and
  - b) define their possible range and actual range, mean, standard deviation, median, and mode.
5. Describe the statistics you will use with specific variables for the three phases of your study analysis and what you hope to learn:
  - a. Descriptive statistics
  - b. Bi-variable statistics
  - c. Multi-variable statistics
6. Describe the power of your multivariable statistical analysis.

I. Describe the methods of your study. (5 points) Describe the following in text format:

1. Indicate whether IRB approval was obtained
2. Setting characteristics and other relevant background
3. Participant eligibility criteria and recruitment methods including response rate
4. Study design
5. Description of intervention if there was one
6. Data collection methods (who did what, when, where, how to collect the data)
7. Description of key variables (questions asked, response options, recoding, final variable: psychometrics, distribution, missing)
8. Analysis plan. (The statistics and statistical software you are using at each step of your analysis, the statistical parameters that you are examining and reporting at each step, and how you will determine statistical significance)

J. Analyze a data set to answer a research question regarding your scale, and present the results in tables and figures (5 points) Following APA guidelines (<https://owl.english.purdue.edu/owl/resource/560/19/>):

1. Present all your sample demographics and univariate data analysis results in a table.

2. Present one univariate variable analysis results in a figure.
  3. Present all your bivariate data analysis results in a table.
  4. Present one bivariate data analysis results in a figure.
  5. Present your multivariate data analysis results in a table.
- K. Present your results briefly in text format. (5 points) Text results should provide a concise description of your results and clearly describe for the reader what you observed in your analyses. Too little information and the reader does not learn understand your key findings. Too much information and your editor wants to you move ancillary and details into your tables and figures. Using examples and following the author guidelines for reputable journals, present your results, appropriately referring to your tables and figures.
- L. Describe your conclusions and "take away" messages of the study (5 points) Be sure that are you communicating your conclusions in a way that accurately portrays your level of confidence.
1. How do you interpret the results of your analyses?
  2. What is the significance of the findings?
  3. How do they confirm or refute prior similar studies?
  4. What is your level of confidence in your findings?
  5. What population might your findings generalize to?
- M. Describe your study's limitations (5 points)
- Limitations of your internal validity:
1. Measurements
  2. Study design
  3. Data collection
  4. Intervention (if applicable)
  5. Participation and sample size
  6. Missing data
  7. Other?
- Limitations in regard to the external validity:
1. Sampling and sample
  2. Setting of your study
  3. Feasibility
  4. Repeatability
  5. Acceptability
  6. Other?
- N. Describe recommendations for future research and implications. (5 points) Address recommendations for future research and implications of the study for future research or practice.
- O. Describe considerations regarding the best venue for disseminating your findings to academic and other audiences. (5 points) Describe:

1. Four criteria for choosing the best peer reviewed journals for your study,
  2. Your top three choices of peer reviewed journals for your study, and
  3. Four steps you will take once your article is drafted to give it the best chance of being accepted for peer review.
- P. Develop a manuscript following publication guidelines. (25 points) Following the guidelines for authors of a specified journal of your choice, compile your prior assignments into a referenced paper as if you were going to submit the paper for publication. Please note: Your manuscript must include all the appropriate components of a publishable paper but need not be deemed “publishable” in terms of length or significance.
1. Title page
  2. Abstract
  3. Introduction
  4. Methods
  5. Results
  6. Discussion and Conclusions
  7. References

## **COURSE POLICIES**

Official graduate course policies will be followed and can be found at <https://academiccatalog.umd.edu/graduate/policies/academic-record/#text>

Official graduate course policies should be reviewed and they address:

- Academic Integrity
- Honor Pledge
- Penalties for Violations of Academic Integrity
- Criteria for Courses to be Accepted for Graduate Credit
- Incomplete Grades

**Please note Dr. Boekeloo’s specific expectations below:**

### **Electronics in the classroom:**

The classroom time is reserved for face-to-face verbal and visual communication among the students and instructor only. Digital communication, scanning of social media, or other electronics use that is not directly associated with the classroom learning is not acceptable. The student distracted by electronics not only hurts their own learning but other students and the instructor are also adversely affected by non-class related electronics use.

### **Email – The Official University Correspondence:**

Students are responsible for keeping their email address up to date or for redirecting or forwarding email to another address. Failure to check email, errors in forwarding email, and returned email (from “full mailbox” or “unknown user” errors for example), will not excuse a student from missing University announcement, messages, deadlines, etc. Email addresses can be quickly and easily updated at [www.my.umd.edu](http://www.my.umd.edu) or in-person at the Student Service Counter on the first floor of the Mitchell Building. For technical support for University email: [www.helpdesk.umd.edu](http://www.helpdesk.umd.edu) or call 301-405-1400.

**Absence Policy:**

Class attendance is expected. Lateness is distracting to everyone in the class and should be avoided whenever possible. The instructor cannot repeat class content to students independently outside of class and students who miss class are likely to underperform.

**Late work and incomplete assignments:**

Work is due as assigned for equity reasons and for functioning of the course. Prior written (e-mail) approval from the instructor is needed for work to be accepted after the due date and time, or to be accepted in incomplete form, for full credit. If submission of late or incomplete work is requested before the due date and time but the instructor has not responded with approval by this time, acceptance of late work at full credit will be at the instructor's discretion. If prior approval is not requested before the due date and time by email, the grade will be reduced by one full letter grade, and each subsequent day that the assignment is late, it will be reduced another full grade level. No assignment will be accepted for any credit after 48 hours without approval of the instructor.

**Course Evaluations:**

The University is committed to the use of student course evaluations for improving the student experience, course and curriculum delivery, and faculty instruction. Your evaluations help instructors improve their courses, help deans and department chairs decide on merit pay for faculty, renewal of contracts, and support tenure and promotion decisions, and help current and future students decide on classes.

**Copyright Notice:**

Class lectures and other materials are copyrighted by me, the course instructor. This includes all tangible course materials, including but not limited to written or recorded lecture, PowerPoint presentations, handouts, tests, and other assignments. These materials **may not** be reproduced (e.g. students may not copy and distribute these materials) for anything other than personal use without my explicit written permission. Tape recordings may be made and used for personal reference or to assist another student only with my written permission.

<b>Evaluated Assignments</b>	<b>Grading</b>
<u>Assignment Points</u>	<u>Approximate Grading- Interpretation</u>
A through O            5 pts each, 75 pts total	<u>Subject to Change</u>
<u>P: Final Paper</u> 25 pts	97% A+
TOTAL                        100 pts	93% A
 <u>Grading Rubric for Assignments A-O</u>	90% A-
5 pts=Was done on time, included all requested	87% B+
components, and all components were logical and	83% B
thoughtful/thorough (not overly simple, superficial, illogical)	80% B-
 <u>Grading Rubric for Final Paper</u>	77% C+
<i>Actual significance of the paper will not be considered in</i>	73% C
<i>the grading of the paper. The paper need not be significant</i>	70% C-
<i>or of a particular length but must be meet the following</i>	67% D+
<i>criteria:</i>	63% D
5 pts=Format consistent with chosen journal	60% D-
5 pts=Introduction includes components of a publishable	Below 60% F
paper	
5 pts=Methods include all components of a publishable	
paper	
5 pts=Results include all components of a publishable paper	
5 pts=Conclusions include all components of a publishable	
paper	

**COURSE SCHEDULE:**

Date Topic	Preparatory Readings for Class	Assignments Due at Class Time	Class Activities
1: 8/27/18  Review Competency Assessment, Orientation to Class and Data Set, Questionnaire design and administration	--Syllabus --Competency Self-Assessment  Campbell, M., Fitzpatrick, R., Haines, A., Kinmonth, A. L., Sandercock, P., Spiegelhalter, D., & Tyrer, P. (2000). Framework for design and evaluation of complex interventions to improve health. <i>BMJ: British Medical Journal</i> , 321(7262), 694.  Rattray, Janice, and Martyn C. Jones. "Essential elements of questionnaire design and development." <i>Journal of clinical nursing</i> 16.2 (2007): 234-243.  Sirken, Monroe G., et al. "Changing Methods of NCHS Surveys: 1960—2010 and Beyond." <i>Morbidity and mortality weekly report. Surveillance summaries (Washington, DC: 2002)</i> 60 (2011): 42-48  Beebe TJ, McAlpine DD, Ziegenfuss JY, Jenkins S, Haas L, Davern ME. Deployment of a Mixed-Mode Data Collection Strategy Does Not Reduce Nonresponse Bias in a General Population Health Survey. <i>Health services research</i> . 2012 Aug 1;47(4):1739-54.		--Introductions --Syllabus --Orientation to Study --Study Design --Study Questionnaire <b>Please inform the instructor if you cannot bring a laptop to the next class with a current version of SPSS.</b>
9/3/18	<b>NO CLASS—LABOR DAY</b>		
2: 9/10/18  Statistical software, data collection, data entry, data cleaning, data file, variable coding, variable distributions	How to Manage, Analyze, and Interpret Survey Data Second Edition. Arlene Fink, University of California at Los Angeles, The Langley Research Institute. SAGE Publications, 2003.	Identify 3 interesting topics for discussion from readings	4-4:50 --Discuss readings 5-5:50 --Discuss next assignment 6-6:45 --Class activity
3: 9/17/18  IRB, Authorship, Managing, storing, sharing, and	Managing and Sharing Data, UK Data Archive, 2011.  Bauchner, H., Golub, R. M., & Fontanarosa, P. B. (2016). Data sharing: an ethical and scientific imperative. <i>Jama</i> , 315(12), 1238-	Identify 3 interesting topics for discussion from readings  <b>Assignment A:</b>	4-4:50 --Discuss next assignment 5-5:50 --Discuss readings

<p>archiving confidential data</p>	<p>1240.</p> <p>Welfare, Laura E., and Corrine R. Sackett. "The Authorship Determination Process in Student-Faculty Collaborative Research." <i>Journal of Counseling &amp; Development</i> 89.4 (2011): 479-487.</p> <p>Flicker, S., Travers, R., Guta, A., McDonald, S., &amp; Meagher, A. (2007). Ethical dilemmas in community-based participatory research: Recommendations for institutional review boards. <i>Journal of Urban Health</i>, 84(4), 478-493.</p>	<p>Create a code book, enter data, clean data, create an SPSS database, and code variables</p>	<p>6-6:45 --Class activity</p>
<p>4: 9/24/18</p> <p>Importance of theory, how to use theory, how to create theory, how to test theory, how to explain theory. Theories, their histories, constructs, strengths and limitations.</p>	<p>Kobrin S, Ferrer R, Meissner H, Tiro J, Hall K, Shmueli-Blumberg D, Rothman A. Use of Health Behavior Theory in Funded Grant Proposals: Cancer Screening Interventions as a Case Study. <i>Annals of Behavioral Medicine</i>. 2015 Dec 1;49(6):809-18.</p> <p>Brase, Gary L. "Behavioral science integration: A practical framework of multi-level converging evidence for behavioral science theories." <i>New Ideas in Psychology</i> 33 (2014): 8-20.</p> <p>Livingood, William C., et al. "Applied social and behavioral science to address complex health problems." <i>American journal of preventive medicine</i> 41.5 (2011): 525-531.</p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment B:</b> Describe your plan for filing, storing, sharing, and archiving of your study data</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Discuss today's topic and readings. 6-6:45 Discuss next assignment.</p>
<p>5: 10/1/18</p> <p>Writing a strong introduction and literature review, listing references. Reasons for literature review, types of literature review, approaches to literature review, characteristics of a good literature review. Critiquing literature reviews.</p>	<p>Wolfswinkel JF, Furtmueller E, Wilderom CP. Using grounded theory as a method for rigorously reviewing literature. <i>European Journal of Information Systems</i>. 2013 Jan 1;22(1):45-55.</p> <p>Whittemore, Robin, and Kathleen Knafl. "The integrative review: updated methodology." <i>Journal of advanced nursing</i> 52.5 (2005): 546-553.</p> <p>Pluye, Pierre, et al. "A scoring system for appraising mixed methods research, and concomitantly appraising qualitative, quantitative and mixed methods primary studies in Mixed Studies Reviews." <i>International</i></p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment C:</b> Describe the theory you are examining in your analysis</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment</p>

	journal of nursing studies 46.4 (2009): 529-546.		
6: 10/15/18  Developing research questions, Exploring the data, Opportunities and pitfalls of exploratory data analysis, Exploring the literature, Identifying a theoretical framework, Identifying key study variables, Explaining significance and innovation	Behrens JT. Principles and procedures of exploratory data analysis. <i>Psychological Methods</i> . 1997 Jun;2(2):131.  Glass, Thomas A., and Matthew J. McAtee. "Behavioral science at the crossroads in public health: extending horizons, envisioning the future." <i>Social science &amp; medicine</i> 62.7 (2006): 1650-1671.	Identify 3 interesting topics for discussion from readings  <b>Assignment D:</b> Provide an introduction and list of references for your paper	4-4:50 --Discuss assignment 5-5:50 --Explore today's topics 6-6:45 --Discuss readings
7: 10/18/18  Handling missing data and loss to follow-up	Schafer, Joseph L., and John W. Graham. "Missing data: our view of the state of the art." <i>Psychological methods</i> 7.2 (2002): 147.  Sullivan TR, Salter AB, Ryan P, Lee KJ. Bias and Precision of the "Multiple Imputation, Then Deletion" Method for Dealing With Missing Outcome Data. <i>American journal of epidemiology</i> . 2015 Sep 15;182(6):528-34.  Sax, Linda J., Shannon K. Gilmartin, and Alyssa N. Bryant. "Assessing response rates and nonresponse bias in web and paper surveys." <i>Research in higher education</i> 44.4 (2003): 409-432.	Identify 3 interesting topics for discussion from readings  <b>Assignment E:</b> Describe your research question and key study variables and their distributions	4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment
8: 10/22/18  Study internal and external reliability, Measurement reliability and validity, Single versus multi-item measurement of subjective constructs, Summative and Guttman scales, and creating an Index	Diamantopoulos A, Sarstedt M, Fuchs C, Wilczynski P, Kaiser S. Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. <i>Journal of the Academy of Marketing Science</i> . 2012 May 1;40(3):434-49.  McArdle, John J. "Latent variable modeling of differences and changes with longitudinal data." <i>Annual review of psychology</i> 60 (2009): 577-605.  Hinkin, Timothy R. "A brief tutorial on the development of measures for use in survey questionnaires."	Identify 3 interesting topics for discussion from readings  <b>Assignment F:</b> Describe how you will handle missing data	4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment

	<p>Organizational research methods 1.1 (1998): 104-121.</p> <p>Measurement in Health Behavior, CK Di Lorio, Jossey-Bass, 2005.</p> <p>Psychometric Theory. Third Edition, Nunnally JC, Bernstein IH.</p>		
<p>9: 10/29/18</p> <p>Developing the best analysis plans to assess your questions, hypotheses, study design, and variable characteristics</p>	<p>Ioannidis JP, Greenland S, Hlatky MA, Khoury MJ, Macleod MR, Moher D, Schulz KF, Tibshirani R. Increasing value and reducing waste in research design, conduct, and analysis. <i>The Lancet</i>. 2014 Jan 17;383(9912):166-75.</p> <p>Ferguson, Christopher J., Claudia San Miguel, and Richard D. Hartley. "A multivariate analysis of youth violence and aggression: the influence of family, peers, depression, and media violence." <i>The Journal of pediatrics</i> 155.6 (2009): 904-908.</p> <p>Sánchez-Ortiz, V. C., et al. "A randomized controlled trial of internet-based cognitive-behavioural therapy for bulimia nervosa or related disorders in a student population." <i>Psychological medicine</i> 41.02 (2011): 407-417</p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment G:</b> Describe your multi-item composite scale</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment <b>Mid-term review of course</b></p>
<p>10: 11/5/18</p> <p>Writing strong methods: Subject selection, recruitment and characteristics, Study design, Data Collection, Variables, Data Analysis</p>	<p>Schulz, Kenneth F., Douglas G. Altman, and David Moher. "CONSORT 2010 statement: updated guidelines for reporting parallel group randomised trials." <i>BMC medicine</i> 8.1 (2010): 18.</p> <p>Crozby Text, Appendix A Writing Research Reports</p> <p>Chapter 8, Methodology and Appendix B, Research Worksheets. <u>Introduction to Research and Medical Literature for Health Professionals</u>, Third Edition, Blessing JD and Forister JG (Editors). Jones and Bartlett Learning, 2013.</p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment H:</b> Describe your analysis plan</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment</p>
<p>11: 11/12/18</p> <p>APHA</p> <p>No Class:</p> <p>Independent Work</p>	<p>--Qualifying Exam Practice Questions: Theory, Methods, Statistics</p> <p>--Work on course assignments including final oral presentation</p> <p>--Obtain assistance from other students and/or a statistician</p> <p>--Evaluate one's own work in regard to publication possibilities</p>		

<p>12: 11/19/18</p> <p>Results tables and figures, Writing results in the text</p>	<p>Durbin, C.G., 2004. Effective use of tables and figures in abstracts, presentations, and papers. <i>Respiratory care</i>, 49(10), pp.1233-1237.</p> <p>Blessing and Forister Textbook, Chapter 15, The Results Section</p> <ul style="list-style-type: none"> <li>• Tables and figures</li> </ul> <p>Crozby Text, Appendix A Writing Research Reports</p> <ul style="list-style-type: none"> <li>• Discussion of the Results</li> </ul> <p>Chapter 15, The Results Section and Appendix B, Research Worksheets. <u><a href="#">Introduction to Research and Medical Literature for Health Professionals</a></u>, Third Edition, Blessing JD and Forister JG (Editors). Jones and Bartlett Learning, 2013.</p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment I:</b> Describe the methods of your study</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment</p>
<p>13: 11/26/18</p> <p>Writing the discussion and conclusions of your study, Study Limitations, Recommendations for future research, and implications for research and practice</p>	<p>Blessing JD and Forister JG Text, Chapter 16 The Discussion Section and Appendix B:</p> <ul style="list-style-type: none"> <li>• Implications</li> <li>• Limitations</li> <li>• Discussion</li> <li>• Recommendations</li> <li>• Conclusions</li> </ul> <p>Blessing and Forister Textbook, Chapter 18, Writing and Publishing</p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment J:</b> Provide results tables and figures</p> <p><b>Assignment K:</b> Provide the text for your results</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment</p>
<p>14: 12/3/18</p> <p>Grantsmanship, Peer Review, Ethics of publishing, Steps to publishing your paper</p>	<p>International Committee of Medical Journal Editors. Uniform requirements for manuscripts submitted to biomedical journals: Writing and editing for biomedical publication International Committee of Medical Journal Editors Updated October 2005 (<a href="http://www.icmje.org">www.icmje.org</a>). <i>Indian J Pharmacol</i> [serial online] 2006 [cited 2016 Aug 22];38:149-62. Available from: <a href="http://www.ijp-online.com/text.asp?2006/38/2/149/24628">http://www.ijp-online.com/text.asp?2006/38/2/149/24628</a></p>	<p>Identify 3 interesting topics for discussion from readings</p> <p><b>Assignment L:</b> Provide your discussion and conclusions</p> <p><b>Assignment M:</b> Describe your study's limitations</p> <p><b>Assignment N:</b> Describe recommendations and implications</p>	<p>4-4:50 --Discuss last assignment 5-5:50 --Explore today's readings and topics 6-6:45 --Discuss next assignment</p>
<p>15: 12/10/18</p> <p>Presentations of Final Papers, Complete Competency Post-</p>		<p>Identify 3 interesting topics for discussion from readings</p>	<p>4-6:30 --10 minute presentations and 5 minute group discussion</p>

test, Compare Competency Pre-/Post-test, and Wrap Up		<b>Assignment O:</b> Describe publication venues and formatting requirements for your study	of your results, discussion, and conclusions  6:30-6:45 --Review, summary, final thoughts about course
12/17/18 Final Paper		<b>Assignment P:</b> <b>Final paper due by Close of Business in Dept of B&amp;CH mailbox(4:30pm)</b>	