

M88-560-01 Survey Methods: Design and Evaluation
Master's Program in Applied Health Behavior Research
Fall 2015, Thursdays 4:30-7pm
Taylor Avenue Bldg.
600 South Taylor Ave., Suite 155 Division of General Medical Sciences

Course Instructor:

Amy McQueen, PhD

Assistant Professor
Campus Box 8005
600 So. Taylor Ave., Suite 155

Email: amcqueen@dom.wustl.edu (Preferred contact mode)

Office hours by appointment

Course Description:

This course will provide a comprehensive introduction to survey methods and psychometrics. It will cover theory as well as practical application. Class time and course assignments will involve many practical hands-on experiences in designing and evaluating survey measures, culminating in a survey incorporating standard and new measures that will be developed by the class, administered by the class to others, and analyzed by each student.

Prerequisites: graduate level courses covering linear regression and research design, or permission from the instructor

Course Materials:

Students will be expected to have purchased the SPSS grad pack software or have access to version 20 or 21 during the course. Bringing laptops to class is encouraged. Students will not be asked to buy a textbook for this course. Readings from book chapters and articles will be assigned to supplement the lecture each week. Electronic copies will be shared via a DropBox file. For students interested in owning useful reference textbooks, the following books are recommended:

- Nunnally JC, Bernstein IH. Psychometric Theory. New York: McGraw-Hill 1994.
- Aday LA, Cornelius LJ. Designing and conducting health surveys: A comprehensive guide. San Francisco, CA: Jossey-Bass 2006.
- Groves RM, Fowler FJ, Couper MP, et al. Survey Methodology. Hoboken, NJ: Wiley 2009.
- Dillman DA, Smyth JD, Christian LM. Internet, mail, and mixed-mode surveys: Tailored design method. Hoboken, NJ: John Wiley & Sons, Inc. 2009.

SPSS Licenses can be purchased for 6 or 12 months from the same site Wash U staff can buy other software at a discount:

https://estore.onthehub.com/WebStore/ProductsByMajorVersionList.aspx?cmi_mnuMain=2ff73789-74c7-e011-ae14-f04da23e67f6&pc=ddc848d8-b4fe-e111-bd05-f04da23e67f6

Learning Objectives:

Upon course completion, students will be able to:

- Recognize the complexity of survey research and measurement evaluation
- Identify and evaluate existing survey measures
- Describe factors involved in the organization and length of survey measures
- Select and justify the most appropriate survey mode, and develop procedures for survey administration
- Recognize the various sources that may contribute to total survey error and methods for reducing them
- Identify reasons and methods for creating and evaluating new survey measures
- Recognize the different reasons for, and potential problems with, using various response scale options
- Propose studies to evaluate the reliability and validity of a measure
- Create codebooks for variables created from quantitative survey measures and qualitative data coding
- Conduct a basic exploratory factor analysis, inter-rater reliability assessment, and response rate calculation

Grading:

20% Class participation

20% Graded Exercises

60% Written Assignments

Grades/sub-grades	4-point scale
A+ (98% to 100%)	4.00
A (93% to 97%)	4.00
A- (90% to 92%)	3.7
B+ (88% to 89%)	3.3
B (83% to 87%)	3.00
B- (80% to 82%)	2.7
C+ (77% to 79%)	2.3
C (73% to 77%)	2.00
C- (70% to 72%)	1.7

Class participation. Students are responsible for reading prior to class and asking questions as needed in person or by email. Students are expected to attend all lectures. The instructor should be notified of all absences in advance when possible and students who must miss more than 3 lectures in the semester may receive a deduction in their final grade. Students are expected to contribute to in-class exercises and discussions including group work. Individual assignments should benefit from the group interaction, but reflect the individual student's own mastery of the material. Thus, individuals within a group may receive different grades for their written work.

Assignments. The goal of these assignments is to allow students some personalization of their experience with several key tasks in survey development and evaluation.

Writing Assignments (100 points each)	Due Date (by noon)
Assignment 1: Format existing items for a survey and describe in written text	9/11
Assignment 2: Written critique of a validated scale	9/25
Assignment 3: Conduct Exploratory Factor Analysis (EFA) in SPSS	11/20
Assignment 4: Propose a new scale and a validation study	12/10 (last class)

Assignments are designed to build upon each other. For Assignment 1, students will each select and format ≤ 10 standard sociodemographic measures from public surveys, 1 standard quality of life (QOL) multi-item scale from the published literature, and 1 additional multi-item scale of their choice. For Assignment 2, each student will evaluate the reliability and validity of a standard QOL measure from the literature. As a class, we will select the best measures for a group survey, add new items reflecting personal values of health we develop, and administer a formatted survey to a convenience sample of people to provide data for conducting an exploratory factor analysis as part of Assignment 3. For Assignment 4, students will propose a new multi-item scale of their own and methods for evaluating it.

Graded Exercises. The goal of these assignments is to allow students to practice skills learned in class and to (independently) demonstrate what they learned from group activities.

Graded Exercises (25 points each)	Due Date (by noon)
A. Written summary of group presentation on survey mode	10/2
B. Interview guide, protocol, & codebook for formative measurement research	10/23
C. Formatted SPSS database for class survey (data for <10 people)	11/2
<i>Others as assigned - TBD</i>	

Individual presentation (10 points – class participation). Each student will present a real-world survey methods example to the class for discussion. Each student will work with the instructor to select the best class date for the discussion.

Course Policies:

Plagiarism reflects unprofessional and unethical behavior and such use will result in an immediate failure for the course. Plagiarism, as defined for this course, results if you take 5 or more consecutive words from a written source (including web pages) without proper citation. You must place the phrase in quotation marks and cite the author, year of publication, and page (or web publication). **Keep in mind, rewording or rephrasing someone else's writing or ideas should also include a reference. Not only is proper referencing ethical, but a regular part of our professional practice.**

Deadlines. There are no alternate assignments that will be given in place of the required assignments described above. Penalties for late work include 10 points deducted from the final grade per day late. Students are advised to communicate with the instructor before an assignment is due to plead their case for an extension or temporary "incomplete" grade. ***This syllabus is subject to change at the discretion of the professor to accommodate instructional and or student needs. It is the student's responsibility to keep abreast of such changes.***

Version 7/30/15
Schedule

Week	Topic	Description	Class Activity	Assignment	Reading for class
1 8/27	Introduction	Overview of class, field, conceptual models	Brainstorm to create conceptual model to identify important factors to survey	<i>Bring existing survey or scale to class 2</i>	
2 9/3	Identify, Evaluate and Select existing items for a survey (standard items and scales); Scales of measurement	Non-scales; national surveys; databases of measures Fixed vs open ended; Response options; Reverse scored items	Identify sources of existing measures Take surveys/scales; Discuss	1. Create/format a brief survey using standard measures and describe in written form (Due 9/11)	Totten article
3 9/10	Introduce latent constructs Measurement reliability	Non-objective measures Reliability (models, methods, measures)	Group evaluate reliability of a published measure; Discuss Select measures for group survey	2. Written evaluation of reliability and validity of a published <u>scale</u> (Due 9/25)	Aday 54-62 Kimberlin article
4 9/17	Measurement validity	Validity (theory, methods, influences, measures) Cross-cultural equivalence	Group evaluate validity of a published measure		Kimberlin article-cont.
5 9/24	Survey Mode Survey Format	Mode of administration (pros/cons) -format, layout, instructions, cost -Missing data, non-response bias, error -Social desirability -Sensitive questions + optimum length, question order	Group vote on class survey measures Group prepare pros/cons of one mode each and present to class; Discuss & vote on class survey mode(s)	<i>A. Individual summary of in-class group assignment in written form (Due 10/2)</i>	Groves Chp 5**Read BEFORE class Aday Chp 12
6 10/1	Field procedures; Interviews	Field administration; interview dynamics; quality control methods (audiorecord, call backs)	Interview demonstration; Discuss Practice administering class survey to others		Aday Chp 13
7 10/8	Adapting existing measures; pre-testing; Developing items/measures	Item creation – content validity Multiple diverse methods for item generation and evaluation	Class brainstorm/focus group to develop a new measure; Class vote on final items for survey	<i>Format and administer class survey to <10 people (due as SPSS database 11/2)</i>	Moorman article-skim Blair Chp 10 Smith-focus on first 3 pages
8 10/15	Qualitative research	Planning cognitive interviews, process evaluation; collecting and analyzing qualitative data		<i>B. Create an Interview guide, protocol, and codebook (Due 10/23)</i>	Blair Methodology Appendix 3

Version 7/30/15

Week	Topic	Description	Class Activity	Assignment	Reading for class
9 10/22	Data management and quantitative analysis	Aggregate measures, scoring, dealing with missing data, implications for analyses Creating codebooks	Code surveys SPSS demonstration	<i>C. Individual codebook and labeled SPSS database (Due <u>Monday</u> 11/2)</i>	Aday Chp 14
10 10/29	Longitudinal surveys Methods – diary, Ecological Momentary Assessment Attrition/Bias	Formatting measures to assess change over time, choosing time points, reliability, validity-response shift, Incentives, rapport, communication, Burden, recall, errors, satisficing			
11 11/5	Item Response Theory, classical test theory, generalizability theory, factor analysis	Introduce measurement theories and selected analytic methods; computer adaptive testing (PROMIS)	Exploratory Factor Analysis (EFA) demonstration	3. Annotate EFA output and write up results (Due 11/20)	Costello article
12 11/12	Sampling & weights; response rates; power analysis	Theory, methods, limitations, reporting (AAPOR)	Calculation from word problems		Aday Chp 6 Groves Chp 6
13 11/19	Ethics	Diagnostic measures, conceptual equivalence when comparing groups, sensitive data	Hypothetical cases/vignettes	4. Propose new scale and evaluation plan (Due <u>Thursday</u> 12/10)	Groves Chp 11
14 11/26	NO CLASS – THANKSGIVING HOLIDAY				
15 12/3	Observation/Abstraction forms; inter-rater reliability	Codebooks/Protocols; Kappa & other statistics	Paired ratings & kappa calculation group work		
12/10	Exam week - No class			Final assignment due	

Italicized assignments reflect graded exercises or class participation.