

Title: Health Status Assessment: Measurement and Inference

Instructor:

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Description: This course will be an introduction to health status assessment focused on measurement and survey design. We will address two central questions: 1) How do we measure health status?; and 2) How do we relate the data to possible inferential populations? Topics will include the fundamentals of study design and theory in health status assessment, internal and external validity, measurement validity, questionnaire construction, scaling and scoring, sampling methodology, uses and limitations of outcomes data, and survey implementation. By the end of the course, students should be able to critique and evaluate existing health status measures and to weigh the costs and benefits of using an “off-the-shelf” measure as compared to designing a new instrument. Throughout the course, students will learn about current data collection efforts at the University of Chicago.

Course time and location:

Tues/Thurs 1:30-2:50; The Population Research Center

Course Prerequisites:

Required: Descriptive and bivariate statistics
Recommended: Multivariate statistics

Required Text:

Aday, LA. Designing and Conducting Health Surveys (3rd Edition). San Francisco: Jossey-Bass Publishers. 2006.

Additional Resources:

Streiner DL, Norman GR. Health Measurement Scales: A Practical Guide to Their Development and Use. Oxford University Press. 2003.

McDowell I and Newell C. Measuring Health: A Guide to Rating Scales and Questionnaires (2nd Edition). New York: Oxford University Press. 1996.

Evaluation:

Class participation:	30%
Midterm:	20%
Presentation:	10%
Final project:	40%

Midterm exam – short answer, take-home exam

Final Project – Students will design and administer a survey, using the SF-8 as the foundation (e.g., adding disease-specific or social support questions to the pre-existing instrument). The final project will entail the following steps: 1) developing the sampling plan; 2) developing the survey questionnaire; 3) pilot testing the survey questionnaire; 4) assessing the reliability and validity of the survey questionnaire; 5) administering the survey questionnaire; 6) analyzing the survey results; and 7) writing up the survey results. Students will present their findings during the last class session. **Students may work in teams.**

Sessions and Readings:

JAN 6 OVERVIEW

McHorney CA. Health status assessment methods for adults: past accomplishments and future challenges. *Annu Rev Public Health*. 1999;20:309-335.

JAN 8 FUNDAMENTALS OF STUDY DESIGN

Aday LA. Designing and Conducting Health Surveys.
Chapter 1. “Thinking about topics for health surveys”
Chapter 2. “Matching the survey design to survey objectives”

Breslow L. Health measurement in the third era of health. *Am J Public Health*. Jan 2006;96(1):17-19.

Patrick DL, Erickson P. Health Status and Health Policy: Allocating Resources to Health Care.
Chapter 4. “Concepts of health-related quality of life”

JAN 13 GENERIC MEASURES

Spilker B (ed). Quality of Life and Pharmacoeconomics in Clinical Trials.
Chapter 34. Ware JE. “The SF-36 Health Survey”

Wang WR, Lopez V, Ying CS, Thompson DR. The psychometric properties of the Chinese version of the SF-36 health survey in patients with myocardial infarction in mainland China. *Qual Life Res*. Nov 2006;15(9):1525-1531.

Haywood KL, Garratt AM, Fitzpatrick R. Quality of life in older people: a structured review of generic self-assessed health instruments. *Qual Life Res*. Sep 2005;14(7):1651-1668.

McDowell I and Newell C. Measuring Health: A Guide to Rating Scales and Questionnaires
Chapter 9. “General Health Status and Quality of Life”

JAN 15 DISEASE SPECIFIC MEASURES

Cagney KA, Wu AW, Fink NE, et al. Formal literature review of quality-of-life instruments used in end-stage renal disease. *Am J Kidney Dis.* Aug 2000;36(2):327-336.

Wu AW, Fink NE, Cagney KA, et al. Developing a health-related quality-of-life measure for end-stage renal disease: The CHOICE Health Experience Questionnaire. *Am J Kidney Dis.* Jan 2001;37(1):11-21.

Bruce B, Fries JF. The Health Assessment Questionnaire (HAQ). *Clin Exp Rheumatol.* Sep-Oct 2005;23(5 Suppl 39):S14-18.

Bruce B, Fries J. Longitudinal comparison of the Health Assessment Questionnaire (HAQ) and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). *Arthritis Rheum.* Oct 2004;51(5):730-737.

JAN 20 INTERNAL AND EXTERNAL VALIDITY

Cook, TD, and DT Campbell. Quasi-Experimentation: Design & Analysis Issues in Field Settings
Chapter 1 “Causal inference and the language of experimentation”
Chapter 2 “Validity”

JAN 22 MEASUREMENT VALIDITY—RELIABILITY, VALIDITY, RESPONSIVENESS I

Patrick DL, Erickson P. Health Status and Health Policy: Allocating Resources to Health Care
Chapter 3 - “Theoretical foundations for health-related quality of life”

Aday LA. Designing and Conducting Health Surveys.
Chapter 3. “Defining and clarifying the survey variables.”

Heinonen H, Aro AR, Aalto AM, Uutela A. Is the evaluation of the global quality of life determined by emotional status? *Qual Life Res.* Oct 2004;13(8):1347-1356.

JAN 27 MEASUREMENT VALIDITY—RELIABILITY, VALIDITY, RESPONSIVENESS II

McDowell I and Newell C. Measuring Health: A Guide to Rating Scales and Questionnaires.
Chapter 2. “The theoretical and technical foundations of health measurement”

Deyo RA, Diehr P, Patrick DL. Reproducibility and responsiveness of health status measures; statistics and strategies for evaluation. *Controlled Clin Trials.* Aug 1991;12:142S-158S.

Fischer D, Stewart AL, Bloch DA, Lorig K, Laurent D, Holman. Capturing the patient's view of change as a clinical outcome measure. *JAMA.* Sep 1999;282(12):1157-62.

JAN 29 QUESTIONNAIRE CONSTRUCTION

Aday LA. Designing and Conducting Health Surveys.

Chapter 8. "General principles for formulating questions"

Chapter 9. "Formulating questions about health"

Chapter 10. "Formulating questions about demographics and behavior"

Chapter 11. "Formulating questions about knowledge and attitudes"

FEB 03 SCALING AND SCORING

Hougaard JL, Keiding H. On the aggregation of health status measures. *J Health Econ.* Nov 2005;24(6):1154-1173.

Fries JF, Bruce B, Cella D. The promise of PROMIS: using item response theory to improve assessment of patient-reported outcomes. *Clin Exp Rheumatol.* Sep-Oct 2005;23(5 Suppl 39):S53-57.

Aday LA. Designing and Conducting Health Surveys.

Chapter 12. "Guidelines for formatting the questionnaire"

Chapter 13. "Monitoring and carrying out the survey"

FEB 05 EX: STUDY DESIGN OF THE HOSPITALIST PROJECT

David Meltzer, MD, PhD

Associate Professor

Medicine, Economics, Harris School of Public Policy

Meltzer D. Hospital care of general medicine patients: the importance of evidence. *J Gen Intern Med.* May 2004;19(5 Pt 1):479-480.

Meltzer D, Manning WG, Morrison J, et al. Effects of physician experience on costs and outcomes on an academic general medicine service: results of a trial of hospitalists. *Ann Intern Med.* Dec 32002;137(11):866-874.

Meltzer D. Hospitalists and the doctor-patient relationship. *J Legal Stud.* Jun 2001;30(2):589-606.

FEB 10 EX: QUESTIONNAIRE CONSTRUCTION IN THE HUTTERITE POPULATION

Lianne Kurina

Assistant Professor

Department of Health Studies

Harkness JA, Van de Vijver FJR, Mohler PP. Cross-Cultural Survey Methods

Chapter 6. "Culture-sensitive context effects: A challenge for cross-cultural surveys"

Chapter 13. "Social desirability in cross-cultural research"

Finch CE, Vaupel JW, Kinsella K (eds). Cells and Surveys: Should Biological Measures be Included in Social Science Research?

Chapter 3. Biological material in household surveys: the interface between epidemiology and genetics.”

Chapter 11. Weinstein M, Willis RJ. “Stretching social surveys to include bioindicators: possibilities for the Health and Retirement Study, Experience from the Taiwan Study of the Elderly.”

FEB 12 EX: SCALING AND SCORING – The NSHAP Study

Journals of Gerontology Special Issue (to be handed out before class)

FEB 17 SAMPLING

Colm O’Muirheartaigh

Professor, Harris School of Public Policy

Vice President for Statistics and Methodology, the National Opinion Research Center

Aday LA. Designing and Conducting Health Surveys.

Chapter 6. “Deciding who will be in the sample” – pp. 112-142..

Chapter 7. “Deciding how many will be in the sample” – pp. 143-176.

Lohr SL. Sampling: Design and Analysis.

Chapter 1. “Introduction”

Chapter 7. “Complex Surveys”

DuMouchel WH, Duncan GJ. Using sample survey weights in multiple regression analyses of stratified samples. *JASA*. 1983;78:535-543.

FEB 19 PLANNING FOR DATA ANALYSIS

Aday LA. Designing and Conducting Health Surveys.

Chapter 4. “Planning the analysis of the survey data”

Chapter 5. “Choosing the method of data collection”

Chapter 14. “Preparing the data for analysis”

Chapter 15. “Planning and implementing the analysis of the data”

FEB 24 MEASUREMENT CHALLENGES IN HEALTH DISPARITIES RESEARCH

Andresen EM, Miller DK. The future (history) of socioeconomic measurement and implications for improving health outcomes among African Americans. *J Gerontol A Biol Sci Med Sci*. Oct 2005;60(10):1345-1350.

Gravlee CC, Dressler WW, Bernard HR. Skin color, social classification, and blood pressure in southeastern Puerto Rico. *Am J Public Health*. Dec 2005;95(12):2191-2197.

Braveman PA, Cubbin C, Egerter S, et al. Socioeconomic status in health research: one size does not fit all. *JAMA*. Dec 2005;294(22):2879-2888.

Clarke PM, Ryan C. Self-reported health: reliability and consequences for health inequality measurement. *Health Economics*. June 2006;15(6):645-652.

LaVeist, TA. Beyond dummy variables and sample selection: what health services researchers ought to know about race as a variable. *Health Services Research*. April 1994; 29:1-16.

Correll, J, Park, B, et al. The police officer's dilemma: Using ethnicity to disambiguate potentially threatening individuals. *Journal of Personality and Social Psychology*. Dec 2002; 83(6): 1314-1329.

FEB 26 THE ROLE OF AGE IN DATA COLLECTION

Hickey A, Barker M, McGee H, O'Boyle C. Measuring health-related quality of life in older patient populations: a review of current approaches. *Pharmacoeconomics*. 2005; 23(10): 971-993.

Park D. Cognition, Aging, and Self-Reports
Chapter 3. "Cognition, Aging, and Self-Reports"

Katz S. The index of activities of daily living. *JAMA*. Sept 1963;185:914-919.

Lawton MP, Brody EM: Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*. 1969; 9:179-186.

MAR 03 EX: THE ROLE OF AGE AND THE NOAH PROJECT

Raudenbush, Stephen and Robert J. Sampson. Ecometrics: Toward a Science of Assessing Ecological Settings, with Application to the Systematic Social Observation of Neighborhoods. *Sociological Methodology*. 1999. 29:1-41.

Haywood KL, Garratt AM, Fitzpatrick R. Quality of life in older people: a structured review of generic self-assessed health instruments. *Qual Life Res*. Sep 2005;14(7):1651-1668.

Martin LG and Soldo BJ (eds.). Racial and Ethnic Differences in the Health of Older Americans. Chapter 4. Smith JP and Kington RS. "Race, socioeconomic status, and health in later life"

MAR 05 LIFE COURSE APPROACHES TO HEALTH STATUS ASSESSMENT

Giele J, Elder G. Methods of Life Course Research.
Chap. 9. Laub JH, Sampson RJ, "Integrating quantitative and qualitative data"

Korn EL, Graubard BI. Analysis of Health Surveys

Chap 7. "Analysis of Longitudinal Surveys"

Lee SJ, Lindquist MS, Segal MR, Covinsky KE. Development and validation of a prognostic index for 4-year mortality in older adults. *JAMA*. Feb 2006; 295(7): 801-808.

MAR 10 NEW APPROACHES IN LARGE-SCALE SURVEY DESIGN

The National Children's Study

MAR 12 STUDENT PRESENTATIONS