Survey Data Reduction and Analysis
PA 588 Syllabus
Spring 2005
Revised 01-12-05

Class Meeting: Wednesdays, 3-5:50pm
Room 2113 ADH

Instructors: Richard T. Campbell, Ph.D.
Institute for Health Research and Policy
1747 W. Roosevelt Road (West Campus)
Chicago, IL 60608
312-413-0480
E-mail: dcamp@uic.edu

Timothy P. Johnson, Ph.D.
Survey Research Laboratory
Room 629
CUPPA Hall (East Campus)
412 S. Peoria Street
Office: 312-996-5310
Residence: 630-469-8649 (between 9-10pm please)
E-mail: timj@uic.edu

Office Hours: By appointment.

Required Texts:

1. Lee and Forthofer (2005) Analyzing Complex Survey Data, Second Edition. Note: this book has not yet been published but is available, with the author’s permission, on the course Blackboard site.


4. Other readings as assigned.
Course Overview and Objectives:

The purpose of this course is to provide an overview of current methods and issues in regards to the theory and logic of data editing, imputation, weighting, and special considerations in the analysis and reporting of data from complex sample surveys. Specific objectives include the following:

1. To develop an understanding of and appreciation of the complexities involved in the analysis of survey data.
2. To develop problem-solving skills relevant to the proper analysis of survey data.
3. To acquire experience using one or more of the available software packages that are appropriate for the analysis of complex survey data.

Because this course is concerned with current issues in survey analysis, the schedule and assignments may be revised as the course progresses and new material becomes available.

Course Blackboard Web Site

Note that a Blackboard web site has been established for the course. Class assignments and background materials will be posted at this site on a periodic basis throughout the 8-week course. You should plan to visit the site every few days to check for relevant announcements and/or the availability of new materials.

General Requirements and Grading:

1. Class attendance is *strongly* encouraged. Active involvement in class is also expected. If your final grade is borderline, my subjective assessment of your class participation may be used to make final adjustments.

2. It is essential that you do the assigned readings before they are discussed in class. Many of the writing assignments (see below) will be based on the reading assignments.

3. The computer software employed in many class examples is Stata, although some parallel examples will be available in SAS. Both Stata and SAS are available on computers in the SPH and CUPPA computer labs and you should have free access to this software. Stata and SAS can also be purchased at discounted student rates. For SAS, contact consult@uic.edu. Stata is directly available from Stata Corporation at: www.stata.com/info/order/new/edu/gradplans/gp3-order.html.
4. Final grades will be based on four class assignments, class participation and the final exam.

**Examination:** There will be a final exam in this class. It goes without saying that cheating will not be tolerated and that all relevant University policies apply. Examinations will be open book.

**Class Schedule and Reading Assignments:**

**Week 1 (1/12/05)**
- **Topics:** Overview of issues in survey data analysis; Data reduction logic and methods
- **Readings:**
  - ICPSR (2002) *Guide to Social Science Data Preparation and Archiving* (link to document available on Blackboard site)

**Week 2 (1/19/05)**
- **Topics:** Introduction to missing data issues – Handling missing data properly; EM Estimation of Missing Data – Single imputation approaches
- **Readings:**
  - Allison, *Missing Data*, chapters 104 (on Blackboard)

**Week 3 (1/26/05)**
- **Topics:** Multiple Imputation – Why multiple imputation is important
- **Readings:**
  - Allison, *Missing Data*, chapters 5-8 (on Blackboard)

**Week 4 (2/2/05)**
- **Topics:** Review of sample designs; Examples of complex survey data sets; Software for survey data analysis – SAS, STATA, SUDAAN, SPSS, BRRS
- **Readings:**
  - Lee & Forthofer, chapters 1-2 (on Blackboard)
  - *Getting Started with STATA* (on Blackboard)
  - *SAS Procedures for Analysis of Sample Survey Data* (on Blackboard)

**Week 5 (2/9/05)**
- **Topics:** Basic issues in weighting – Purposes of weights, advantages and disadvantages; Complex topics in weighting – model-based inference
- **Readings:**
Week 6 (2/16/05)

- **Topics**: Estimating design effects and variances
- **Readings**:
  - Lee & Forthofer, chapters 4-6 (on Blackboard)

Week 7 (2/23/05)

- **Topics**: Analysis of subsets of cases – Design effects must be considered when selecting subsets for analysis; Repeated cross sectional surveys – Trends of over time from surveys with constant frame; Special issues in longitudinal surveys; Combining multiple surveys
- **Readings**:

Week 8 (3/2/05)

- Review and Final Exam
Bibliography of Additional Recommended Readings (not required):


