

## **Data Collection Methods**

### **Summer Institute in Survey Research Techniques June 2010**

#### **Course Numbers and Class Time**

University of Michigan: SURVMETH 623  
University of Maryland: SURV 623  
Daily, 1:00 – 3:00 PM

#### **Instructors:**

##### **Frederick Conrad**

4025 Institute for Social Research  
Tel: (734) 936-1019  
Fax: (734) 764-8263  
email: fconrad@isr.umich.edu

##### **Philip Brenner**

4055 Institute for Social Research  
Tel: (734) 615-5099  
Fax: (734) 764-8263  
email: pbrenner@isr.umich.edu

#### **Grader:**

##### **Chan Zhang**

email: chanzh@umich.edu

#### **Overview and Goals of Course**

This course will present research conducted to increase our understanding of data collection decisions affect survey errors. This is not a “how-to-do-it” course on data collection, but instead reviews the literature on survey design decisions and data quality in order to sensitize students to alternative design decisions and their impact on the data obtained from surveys.

The course will review alternative modes and methods of data collection used in surveys. It concentrates on the impact modes of data collection have on the quality of survey data, including measurement error properties, levels of nonresponse and coverage error. Methods of data collection will focus on advances in computer assisted methodology and comparisons among various methods (e.g. telephone versus face to face, paper versus web versus computer-assisted interviews, interviewer administered versus self-administered). The statistical and social science literature on interviewer effects will also be examined, including literature related to the training and evaluation of interviewers. With respect to nonresponse, we will review the literature on the reduction of nonresponse and the impact of nonresponse on estimation.

#### **Office Hours and Access to Instructors**

This course will be taught using compressed video technology, allowing two-way interaction between College Park and Ann Arbor. The instructors are based in Ann Arbor, but may travel to College Park for some classes. Office hours are available by appointment; students are encouraged to communicate by e-mail and telephone as needed.

#### **Readings**

Required readings for each week are listed below. The readings will be available online for downloading and printing by students. The URL will be provided in class.

## Evaluation

Grading will be based on:

- Participation in class discussion and submission of daily questions via e-mail demonstrating understanding of the required readings (10% of grade).
- Four short exercises (3-5 pages each) reviewing specific aspects of the material covered (60% of grade). Exercise 1 will be worth twice as much as the remaining exercises in the assignment total.
- A final in-class exam (30% of grade)

Dates of when exercises will be handed out and when they are due are indicated in the syllabus. Late assignments will not be accepted without prior arrangement with the instructors.

## Course Outline and Readings

### June 7: Overview of course; introduction to errors in surveys; methods of data collection (Conrad and Brenner)

Readings:

Groves, R.M. *et al.* (2004), "Methods of Data Collection." Chapter 5 in *Survey Methodology*, New York: Wiley.

Recommended:

Biemer, P.P. and Lyberg, L.E. (2003), "The Survey Process and Data Quality." Chapter 2 in *Introduction to Survey Quality*, New York: Wiley, pp. 26-62.

### Module A: Modes of Data Collection

### June 8: Major modes of data collection (Brenner)

Readings:

Biemer, P.P. and Lyberg, L.E. (2003), "Data Collection Modes and Associated Errors." Chapter 6 in *Introduction to Survey Quality*, New York: Wiley.

Recommended:

Dillman, D.A. (1991), "The Design and Administration of Mail Surveys." *Annual Review of Sociology*, 17: 225-249.

Groves, R.M. (1990), "Theories and Methods of Telephone Surveys." *Annual Review of Sociology*, 16: 221-240.

### June 9: Mode choice; Other data collection modes; Mixed mode studies (Brenner)

Readings:

Béland, Y., and St-Pierre, M. (2008), "Mode Effects in the Canadian Community Health Survey: A Comparison of CATI and CAPI." In J.M. Lepkowski et al. (eds.), *Advances in Telephone Survey Methodology*. New York: Wiley, pp. 297-314.

Recommended:

Fowler, F.J., Roman, A.M. and Di, Z.X. (1998), "Mode Effects in a Survey of Medicare Prostate Surgery Patients." *Public Opinion Quarterly*, 62 (1): 29-46.

Silberstein, A.R. and Scott, S. (1991), "Expenditure Diary Surveys and Their Associated Errors." Chapter 16 in P.P. Biemer *et al.* (eds.), *Measurement Errors in Surveys*, New York: Wiley, pp. 303-326.

### **June 10: Mode comparisons (Brenner)**

- **Exercise 1 Handed Out**

Readings:

DeLeeuw, E. D. (2005). "To Mix or Not to Mix Data Collection Modes in Surveys." *Journal of Official Statistics*, 21(2), 233-255.

Recommended:

De Leeuw, E.D. and van der Zouwen, J. (1988), "Data Quality in Telephone and Face to Face Surveys: A Comparative Meta-analysis." Chapter 18 in R.M. Groves *et al.* (eds.), *Telephone Survey Methodology*, New York: Wiley.

### **June 11: Mode comparisons continued, Mode and collecting sensitive information (Brenner)**

Readings:

Tourangeau, R. and Smith, T.W. (1996), "Asking Sensitive Questions: The Impact of *Data Collection Mode, Question Format, and Question Context.*" *Public Opinion Quarterly*, 60: 275-304.

## **Module B: Interviewers**

### **June 14: The role of the interviewer in survey data collection; Respondent selection (Conrad)**

Readings:

Gaziano, C. (2005), "Comparative Analysis of Within-Household Respondent Selection Techniques." *Public Opinion Quarterly*, 69 (1): 124-157.

Recommended:

Moore, J.C. (1988), "Self/Proxy Response Status and Survey Response Quality: A Review of the Literature." *Journal of Official Statistics*, 4: 155-172.

Collins, M. (1980), "Interviewer Variability: A Review of the Problem." *Journal of the Market Research Society*, 22 (2): 77-95.

### **June 15: Interviewer effects (Conrad)**

Readings:

O'Muircheartaigh, C., and Campanelli, P. (1998), "The Relative Impact of Interviewer Effects and Sample Design Effects on Survey Precision." *Journal of the Royal Statistical Society Series A*, 161 (1): 63-77.

Recommended:

Davis, R. E., Couper, M. P., Janz, N. K., Caldwell, C. H., and Resnicow, K. (2009). "Interviewer Effects in Public Health Surveys." *Health Education Research*.

Johnson, T.P., Fendrich, M., Shaligram, C., Garcy, A., and Gillespie, S. (2000), "An Evaluation of the Effects of Interviewer Characteristics in an RDD Telephone Survey of Drug Abuse." *Journal of Drug Issues*, 30 (1): 77-102.

Groves, R.M. and Magilavy, L.J. (1986), "Measuring and Explaining Interviewer Effects in Centralized Telephone Facilities." *Public Opinion Quarterly*, 50 (2): 251-266.

### **June 16: Interviewing style (Conrad)**

- **Exercise 1 Due**
- **Exercise 2 Handed Out**

#### Readings:

Conrad, F.G., and Schober, M.F. (2000), "Clarifying Question Meaning in a Household Telephone Survey." *Public Opinion Quarterly*, 64, 1-28.

#### Recommended:

Dykema, J., Lepkowski, J.M., and Blixt, S. (1997), "The Effect of Interviewer and Respondent Behavior on Data Quality: An Analysis of Interaction Coding in a Validation Study." Chapter 12 in L.E. Lyberg *et al.* (eds.), *Survey Measurement and Process Quality*, New York: Wiley, pp. 287-310.

### **June 17: Interviewer training and evaluation (Conrad)**

#### Readings

Groves, R.M., and McGonagle, K. (2001), "A Theory-Guided Interviewer Training Protocol Regarding Survey Participation." *Journal of Official Statistics*, 17: 249-266.

#### Recommended:

Forsman, G., and Schreiner, I. (1991), "The Design and Analysis of Reinterview: An Overview." Chapter 15 in P.P. Biemer *et al.* (eds.), *Measurement Errors in Surveys*, New York: Wiley

### **June 18: Open Class, Discussion (Conrad)**

## **Module C: Computer Assisted Data Collection**

### **June 21: Computer assisted interviewing: Major distinctions, impact on data quality (Brenner)**

- **Exercise 2 Due**

#### Readings:

Couper, M.P. (2005), "Technology Trends in Survey Data Collection." *Social Science Computer Review*, 23 (4): 486-501.

#### Recommended:

Couper, M.P., and Nicholls II, W.L. (1998), "The History and Development of Computer Assisted Survey Information Collection." Chapter 1 in M.P. Couper *et al.* (eds), *Computer Assisted Survey Information Collection*, New York: Wiley, pp. 1-21.

Nicholls, W.L., Baker, R.P. and J. Martin (1997) "The Effect of New Data Collection Technologies on Survey Data." Chapter 9 in L.E. Lyberg *et al.* (eds.), *Survey Measurement and Process Quality*, New York: Wiley.

### **June 22: CAI Cost issues; Web Surveys and Error (Brenner)**

- **Exercise 3 Handed Out**

Readings:

Couper, M.P. & Miller, P. V. (2008). "Web Survey Methods: Introduction." *Public Opinion Quarterly*, 72: 831-835.

Couper, M.P. (2000), "Web Surveys: A Review of Issues and Approaches." *Public Opinion Quarterly*, 64: 464-494.

Recommended:

Ramos, M., Sedivi, B.M., and Sweet, E.M. (1998), "Computerized Self-Administered Questionnaires (CSAQ)." Chapter 20 in M.P. Couper *et al.* (eds.), *Computer Assisted Survey Information Collection*, New York: Wiley, pp. 389-408.

**June 23: Computer Assisted Data Collection: Implementation and Design Issues (Conrad)**

Readings:

Couper, M.P., Traugott, M. & Lamias, M. (2001), "Web Survey Design and Administration." *Public Opinion Quarterly*, 65: 230-253.

**Module D: Nonresponse error**

**June 24: Nonresponse error; response rates (Conrad)**

Readings:

Groves, R.M., and Couper, M.P. (1998), "A Conceptual Framework for Survey Participation." Chapter 2 in *Nonresponse in Household Interview Surveys*, New York: Wiley, pp. 25-46.

Recommended:

Groves, R.M. (2006), "Nonresponse Rates and Nonresponse Error in Household Surveys." *Public Opinion Quarterly*, 70 (5): 646-675.

Beatty, P. and Herrmann, D. (2002), "To Answer or Not to Answer: Decision Processes Related to Survey Item Nonresponse." Chapter 5 in R.M. Groves *et al.* (eds.) *Survey Nonresponse*, New York: Wiley, pp. 71-86.

De Leeuw, E., and de Heer, W. (2002), "Trends in Household Survey Nonresponse: A Longitudinal and International Perspective." Chapter 3 in R.M. Groves *et al.* (eds.) *Survey Nonresponse*, New York: Wiley, pp. 41-54.

**June 25: Nonresponse error; nonresponse reduction (Conrad)**

- **Exercise 3 Due**
- **Exercise 4 Handed Out**

Readings:

Keeter, S., Kennedy, C., Dimock, M., Best, J., and Craighill, P. (2006), "Gauging the Impact of Growing Nonresponse on Estimates from a National RDD Telephone Survey." *Public Opinion Quarterly*, 70 (5): 759-779.

Recommended:

Keeter, S., Miller, C., Kohut, A., Groves, R., Presser, S. (2000) "Consequences of Reducing Nonresponse in a National Telephone Survey." *Public Opinion Quarterly*, 64: 125-148.

Groves, R.M., and Couper, M.P. (1998), "How Survey Design Features Affect Participation." Chapter 10 in *Nonresponse in Household Interview Surveys*, New York: Wiley, pp. 269-293.

Groves, R. M., Singer, E. & Corning, A. (2000). Leverage-saliency theory of survey participation: description and an illustration. *Public Opinion Quarterly*, 64, 299-308.

Redline, C., and Dillman, D. (2002), "The Influence of Alternative Visual Designs on Respondents' Performance with Branching Instructions in Self-Administered Questionnaires." Chapter 12 in R.M. Groves *et al.* (eds.) *Survey Nonresponse*, New York: Wiley, pp. 179-195.

## **Module E: Variations on a theme**

### **June 28: Establishment surveys (Conrad)**

#### Readings:

Edwards, W.S., and Cantor, D. (1991), "Toward a Response Model in Establishment Surveys." Chapter 12 in P.P. Biemer *et al.* (eds.), *Measurement Errors in Surveys*, New York: Wiley, pp. 211-233.

#### Recommended:

Biemer, P.P., and Fecso, R.S. (1995), "Evaluating and Controlling Measurement Error in Business Surveys." Chapter 15 in B. Cox *et al.* (eds.), *Business Survey Methods*, New York: Wiley.

Willimack, D., Nichols, E., and Sudman, S. (2002), "Understanding Unit and Item Nonresponse in Business Surveys." Chapter 14 in R.M. Groves *et al.* (eds.) *Survey Nonresponse*, New York: Wiley, pp. 213-228.

### **June 29: Longitudinal surveys (Brenner)**

#### Readings:

Lynn, P. (2009), "Methods for Longitudinal Surveys." Chapter 1 in P. Lynn (ed.) *Methodology of Longitudinal Surveys*. Chichester, UK: Wiley, pp. 1-20.

#### Recommended:

Kalton, G., Kasprzyk, D., and McMillen, D. (1989), "Nonsampling Error in Panel Surveys." In D. Kasprzyk *et al.* (eds.), *Panel Surveys*, New York: Wiley.

Lepkowski, J., and Couper, M.P. (2002), "Nonresponse in the Second Wave of Longitudinal Household Surveys." Chapter 17 in R.M. Groves *et al.* (eds.), *Survey Nonresponse*, New York: Wiley, pp. 259-273.

Moore, J., Bates, N., Pascale, J., and Okon, A. (2009), "Tackling the Seam Bias through Questionnaire Design." Chapter 5 in P. Lynn (ed.) *Methodology of Longitudinal Surveys*. Chichester, UK: Wiley, pp.73-92.

### **June 30: Study day**

- **Exercise 4 Due**

### **July 1: Final Exam**