

Data Collection Methods

Fall 2009

Course Numbers and Class Time

University of Michigan: SURVMETH 623

University of Maryland: SURV 623

Mondays, 3:00 – 5:40 PM (UMi: 300 Perry; UMd: 1208 LeFrak; CB: room T10)

Instructors: Mick P. Couper and Frederick Conrad

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Overview and Goals of Course

This course will present research work which attempts to understand the effect of data collection decisions on survey errors. This is not a “how-to-do-it” course on data collection, but instead presents material that reviews effects of survey design decisions on data quality. It is designed 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 computer assisted, 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. We will also briefly examine data collection issues specific to establishment and longitudinal surveys.

Office Hours and Access to Instructor

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 will travel to College Park on designated days. 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 weekly 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 24% and the remaining exercises 12% each.
- 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 instructor.

Course Outline and Readings

September 7: No class (Labor Day)

September 14: Overview of course; introduction to errors in surveys; methods of data collection (Couper and Conrad)

Readings:

Groves, R.M. *et al.* (2009), "Methods of Data Collection." Chapter 5 in *Survey Methodology*, New York: Wiley.

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.

September 21: Major modes of data collection (Conrad)

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.

Tucker, C., and Lepkowski, J.M. (2008), "Telephone Survey Methods: Adapting to Change." In J.M. Lepkowski *et al.* (eds.), *Advances in Telephone Survey Methodology*. New York: Wiley, pp. 3-26.

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

September 28: Other data collection modes; mode comparisons (Couper)

Exercise 1 Handed Out

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.

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.

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.

October 5: Mode of data collection and survey errors (Couper)

Readings:

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

Elliott, M.N., Zaslavsky, A.M., Goldstein, E., Lehrman, W., Hambarsoomians, K., Beckett, M.K., Giordano, L. (2009), "Effects of Survey Mode, Patient Mix, and Nonresponse on CAHPS® Hospital Survey Scores." *Health Services Research*, 44 (2): 501-518.

Link, M.W., and Mokdad, A.H. (2006), "Can Web and Mail Survey Modes Improve Participation in an RDD-Based National Health Surveillance?" *Journal of Official Statistics*, 22 (2): 293-312.

October 12: Computer assisted interviewing (Couper)

Exercise 1 Due

Readings:

Couper, M.P. (2008), "Technology and the Survey Interview/Questionnaire." In F.G. Conrad and M.F. Schober (eds.), *Envisioning the Survey Interview of the Future*. New York: Wiley, pp. 58-76.

Nicholls, W.L., Baker, R.P., and J. Martin (1997) "The Effect of New Data Collection Technologies on Survey Data." In L.E. Lyberg *et al.* (eds.), *Survey Measurement and Process Quality*, New York: Wiley, pp. 221-248.

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

October 19: Computer assisted interviewing (continued) (Couper)
Exercise 2 Handed Out

Readings:

Kreuter, F., Presser, S., and Tourangeau, R. (2008), "Social Desirability Bias in CATI, IVR, and Web Surveys: The Effects of Mode and Question Sensitivity." *Public Opinion Quarterly*, 72 (5): 847-865.

Steiger, D.M., and Conroy, B. (2008), "IVR: Interactive Voice Response." In E.D. de Leeuw, J.J. Hox, and D.A. Dillman (eds.), *International Handbook of Survey Methodology*. New York: Lawrence Erlbaum, pp. 285-298.

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

October 26: Respondent selection; the role of the interviewer in survey data collection (Conrad)

Readings:

Biemer, P.P., and Lyberg, L. E. (2003), "Errors Due to Interviewers and Interviewing." Chapter 5 in *Introduction to Survey Quality*, Hoboken, NJ: Wiley, pp. 149-187.

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

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

November 2: Interviewer effects; interviewer training (Conrad)
Exercise 2 Due

Readings:

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

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.

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.

November 9: Interviewer evaluation; interviewing style (Conrad)
Exercise 3 Handed Out

Readings:

Tarnai, J., and Moore, D. L. (2008), "Measuring and Improving Telephone Interviewer Performance and Productivity." Chapter 17 in J. M. Lepkowski, *et al.* (eds.) *Advances in Telephone Survey Methodology*, Hoboken, NJ: Wiley, pp. 359-384.

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, pp. 279-301.

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

November 16: Nonresponse error; response rates (Couper)

Readings:

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

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.

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.

November 23: Nonresponse error; nonresponse reduction (Couper)

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.

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.

De Leeuw, E.D. (2001), "Reducing Missing Data in Surveys: an Overview of Methods." *Quality & Quantity*, 35: 147-160.

November 30: Establishment surveys (Conrad)

Readings:

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.

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.

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.

December 7: Longitudinal surveys (Conrad)

Exercise 4 Due

Readings:

Kalton, G., and Citro, C. (1993), "Panel Surveys: Adding the Fourth Dimension." *Survey Methodology*, 19 (2): 205-215.

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

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.

December 14: Final exam (in class)