

Design and Implementation of Web Surveys

Summer Institute in Survey Research Techniques

June 7-11, 2021

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Date: June 7-11, 2021
Time: 9:00-1:00PM, Monday-Friday

Short Course Description:

This course introduces students to the design and implementation of online survey data collection instruments. The course is both hands-on and conceptual. It begins by discussing what is unique about web surveys and when their use is most appropriate, followed by an introduction to survey errors that can affect the quality of web survey data. Small groups of students will each develop a research problem and a questionnaire to address their problem, designed for online administration. They will pretest the question wording, program the questionnaire using a web survey development platform (no programming experience is required), and assess users' (respondents') experience while interacting with the web-based instrument. Students will also develop basic plans for data collection and analysis. Finally, each group will present its problem, online questionnaire, evaluation, and plans to the rest of the class.

Course Prerequisites:

- Some familiarity with survey research.
- Plans to use a web survey in a project is helpful but certainly not essential.

Course and Learning Objectives:

By the end of the course participants will:

- have an understanding of what should go into creating a web-based questionnaire
- be able to weigh the pros and cons of different web questionnaire features
- have implemented a functioning web survey instrument
- be able to evaluate survey questions and their usability in an online questionnaire

Organizational Structure of the Course:

Each day will consist of about 4 hours of lecture and discussion on various aspects of Web survey design. After each lecture, groups of students are expected to complete hands-on tasks (labs) related to their group project. The instructors will provide feedback on participants' projects--including the topic, the questions, and the design of the web survey.

If you are taking this course for a grade, your grade will be based on a final report about your group project that is due by Tuesday, June 15th.

Software and Hardware Requirements:

We will conduct all sessions via Zoom. Participants should join with a laptop/desktop computer (rather than a mobile device) with a camera. Participants will develop a web survey instrument using the Qualtrics platform. If students do not have access to an institutional Qualtrics account, they should register for a free account at <https://www.qualtrics.com/free-account/> prior to the start of the course.

Long Course Description:

This course introduces students to the design and implementation of online survey data collection instruments with a focus on maximizing the quality of the data they are used to collect. The course is both hands-on and conceptual.

Lectures and class discussion will focus on the scientific literature and what is known about designing and implementing effective web surveys, which is relevant regardless of the software being used. The course begins by discussing what is unique about web surveys and when their use is most appropriate, followed by an introduction to survey errors that can affect the quality of web survey data. We will discuss what decisions researchers need to make when selecting sampling strategies for web surveys and what influence these decisions have on errors of representation (such as coverage bias).

Next, the course covers some of the considerations for writing survey questions and designing their visual display to minimize measurement errors. We will introduce and discuss some of the interactive features possible in online questionnaires (e.g., progress indicators and prompts for speeding). We introduce some of the techniques required for programming questionnaires (such as skip patterns) and evaluating questionnaires (e.g., logic checks and measuring user experience). We will address the role of the different devices that different respondents might use when completing web surveys (especially computers vs. smartphones) and what implications the device might have on the design of the questionnaire. The course will also cover issues of recruiting participants for web surveys, focusing on strategies that maximise participation.

Finally, we will discuss data preparation and processing steps that are needed before one can analyse web survey data. We will emphasize the importance of ethical considerations researchers must weigh when designing and implementing online survey data collection.

Each day after class, students will work in their groups on their group projects. Students will first define a research problem and identify the target population of interest for their study. They will then formulate survey questions to address their research problem. Students will program them in an interactive online questionnaire using the web survey development platform Qualtrics (no programming experience is required), and they will have the chance to assess users' (respondents') experience while interacting with the web-based instrument. Students will also develop basic plans for data collection and analysis. Finally, each group will present to the rest of the class its research problem, the online questionnaire developed to collect data relevant to the problem, its plans to evaluate the online questionnaire and preliminary evaluation results, and next steps.

Day-to-day Schedule and Literature:

Date	Topic(s)
June 7	Introduction to web surveys (Conrad); Samples and representation (Antoun); Lab 1 (Identify research question and target population)
	<p><u>Required reading (to be read before the session):</u></p> <ul style="list-style-type: none"> Couper, M. P. and Miller, P. V. (2008). Web survey methods: Introduction. <i>Public Opinion Quarterly</i>, 72, 831-835. <p><u>Recommended reading (suggested, yet do not have to be read before the session):</u></p> <ul style="list-style-type: none"> Tourangeau, R. Conrad, F., & Couper M. (2013). Chapter 2: Sampling and coverage issues for web surveys. <i>The Science of Web Surveys</i>. New York: Oxford University Press, 11-35
June 8	Writing effective survey questions (Keusch); Lab 2 (Formulate survey questions); Interactivity in web surveys (Conrad); Visual aspects of web survey design (Conrad)
	<p><u>Required reading:</u></p> <ul style="list-style-type: none"> Tourangeau, R. Conrad, F., & Couper M. (2013). Chapter 4: Introduction to measurement and design in web surveys. <i>The Science of Web Surveys</i>. New York: Oxford University Press, 57-76. <p><u>Recommended reading:</u></p> <ul style="list-style-type: none"> Couper, M. P., Kennedy, C., Conrad, F. G., & Tourangeau, R. (2011). Designing input fields for non-narrative open-ended responses in web surveys. <i>Journal of Official Statistics</i>, 27, 65-85. Tourangeau, R., Conrad, F.G., & Couper, M.P. (2013). Chapter 5: The web as a visual medium (p. 77-98) AND Chapter 6: Interactive features and measurement

	error (p. 99-128). <i>The Science of Web Surveys</i> . New York: Oxford University Press.
June 9	<p>Group presentations of questionnaires; Programming the questionnaire (Antoun); Paradata (Keusch); Questionnaire evaluation and user experience (Conrad); Lab 3 (Program questionnaire in Qualtrics)</p> <p><u>Required reading:</u></p> <ul style="list-style-type: none"> Toepoel, V. (2016). Chapter 9: Programming the survey. <i>Doing Surveys Online</i>. London: Sage, 136-159. <p><u>Recommended reading:</u></p> <ul style="list-style-type: none"> Antoun, C., Katz, J., Argueta, J. & Wang L. (2017). Design heuristics for effective smartphone questionnaires. <i>Social Science Computer Review</i>, 36, 557-574. Callegaro, M., Lozar Manfreda, K., & Vehovar, V. (2015). Chapter 5.3: Web survey software. <i>Web Survey Methodology</i>. London: Sage, 215-226. Geisen, E. & Romano Bergstrom J. (2017). Chapter 1: Usability and usability testing. <i>Usability Testing for Survey Research</i>. Cambridge: Morgan Kaufmann, 1-20. McClain, C. A., Couper, M. P., Hupp, A. L., Keusch, F., Peterson, G., Piskorowski, A. D., & West, B. T. (2019). A typology of web survey paradata for assessing total survey error. <i>Social Science Computer Review</i>, 37, 196-213.
June 10	<p>Lab 4 (Evaluate questionnaire); Recruiting participants (Antoun); Monitoring data collection (Keusch); Lab 5 (Develop recruitment plan)</p> <p><u>Required reading:</u></p> <ul style="list-style-type: none"> Callegaro, M., Lozar Manfreda, K., & Vehovar, V. (2015). Chapter 2.5.5-2.5.8: Nonresponse Strategy (p 149-159) AND Chapter 3: Fielding (p 165-174). <i>Web Survey Methodology</i>. London: Sage. <p><u>Recommended reading:</u></p> <ul style="list-style-type: none"> Keusch, F. (2015). Why do people participate in Web surveys? Applying survey participation theory to Internet survey data collection. <i>Management Review Quarterly</i>, 65, 183-216. Toepoel, V. (2016). Chapter 10: Fieldwork. <i>Doing Surveys Online</i>. London: Sage, 165-174.
June 11	<p>Data preparation and processing (Antoun); Ethical considerations (Conrad); Final group presentations</p> <p><u>Required reading:</u></p> <ul style="list-style-type: none"> Toepoel, V. (2016). Chapter 11: Processing and cleaning the data. <i>Doing Surveys Online</i>. London: Sage, 175-191. Singer, E., & Couper, M.P. (2010). Ethical considerations in Internet surveys. In Das, M., Esther, P., & Kaczmirek, L. (Eds.) <i>Social and Behavioral Research and the Internet: Advances in Applied Methods and Research Strategies</i>. New York: Routledge: 133-162. <p><u>Recommended reading:</u></p> <ul style="list-style-type: none"> Callegaro, M., Lozar Manfreda, K., & Vehovar, V. (2015). Chapter 4.1: Data preparation. <i>Web Survey Methodology</i>. London: Sage, 176-185.

Preparatory Reading:

- Groves, R. M., Fowler Jr, F.J., Couper, M.P., Lepkowski, J.M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology*. Hoboken: John Wiley & Sons.
- Krosnick, J. & Presser, S., (2010). Question and questionnaire design. In Marsden, P.V., & Wright, J.D. (Eds.). *Handbook of survey research*. Bingley: Emerald Group Publishing, 263-314.
- Qualtrics. (n.d.). Survey Platform Overview. <https://www.qualtrics.com/support/survey-platform/survey-module/survey-module-overview/>