Web Survey Methodology

2 credits/4 ECTS

Nejc Berzelak

Video lecture by
Nejc Berzelak

June 3 – July 22, 2025

Short Course Description

The course provides the fundamental knowledge required to develop, implement and manage high-quality web surveys. The lectures elaborate essential aspects of all stages of the web survey process: questionnaire design, sampling, recruitment of participants, data collection and post-fielding activities.

Course Objectives

By the end of the course, students will…

- be able to assess whether a web survey is the appropriate data collection method for a specific research project;
- be able to manage the entire process of web survey development and implementation; ● have the knowledge to design methodologically sound online questionnaires; ● have a better understanding of online panels, how to use them and how to evaluate their quality; ● know where to find answers to questions related to web surveys and online data collection; ● learn which aspects of web surveys still require more research;
- learn how to program and field a web survey.

The last two weeks of the course are reserved for the students to program and field (to other students or persons they know) a web survey using a web survey platform. The students can choose one of three software tools that will be offered for this task.

Prerequisites

SURV 400 Fundamentals of Surveys and Data Science or permission from instructor due to demonstrated basic knowledge of the survey methodology.

Class Structure and Course Concept

This is an online course using a flipped classroom design. It covers the same material and content as an on-site course but runs differently. In this course, you are responsible for watching video-recorded [1]

lectures and reading the required literature for each unit prior to participating in mandatory weekly one-hour online meetings where students have the chance to discuss the materials from a unit with the instructor. Although this is an online course where students have more freedom in when they engage with the course materials, students are expected to spend the same amount of time overall on all activities in the course – including preparatory activities (readings, studying), in-class-activities (watching prerecorded videos, attending the live online meetings), and follow-up activities (working on assignments and exams) – as in an on-site course. As a rule of thumb you can expect to spend approximately 3h/week on in-class-activities and 9 hours per week on out-of-class activities (preparing for class, readings, assignments, projects, studying for quizzes and exams). Therefore, the workload in all courses will be approximately 12h/week. Please note that the actual workload will depend on your personal knowledge.

Mandatory Weekly Online Meetings

Online Meeting: Tuesdays at 1 PM EDT / 7 PM CEST

Meetings will be held online through Zoom. Follow the link to the meeting sessions on the course website on https://umd.instructure.com/. If video participation via Internet is not possible, arrangements can be made for students to dial in and join the meetings via telephone.

In preparation for the weekly online meetings, students are expected to watch the lecture videos and read the assigned literature before the start of the meeting. In addition, students are encouraged to post questions about the materials covered in the videos and readings of the week in the forum before the meetings (deadline for posting questions is two days before the online meetings, i.e. on Sunday each week).

Students have the opportunity to use a different Zoom meeting room to connect with peers outside the scheduled weekly online meetings (e.g., for study groups). Detailed information is posted on the course page in Canvas. Students are encouraged to post the times that they will be using the room to the course website forum to avoid scheduling conflicts. Students are not required to use Zoom and can use other online meeting platforms, such as Microsoft Teams, Google Hangout or Skype.

Grading

Grading will be based on:

- 6 homework assignments (worth 60%)
- Participation in the weekly online meetings (10% of grade): engagement in discussions during the meetings and submission of questions to the weekly discussion forums
- Final exam: Web survey programming assignment (30% of grade)

Each assignment will be due three days after the corresponding online meeting. Deadline is on each Friday starting with 6 June 2025 5:30 PM EDT / 11:30 PM CEST. Exact dates are indicated in the syllabus and on the Canvas page. Extensions will be granted sparingly and are at the instructor's discretion.

[2]*A+ 100 - 97*
A 97 - 93

[2] Web Survey Methodology | Summer 2025 | Section 1

A- 93 - 90
B+ 90- 87
B 87 - 83
B- 83 - 80

Etc.

The grading scale is a base scale recommended by both universities. Variations for grading on a scale are at the discretion of the instructor.

The final grade will be communicated under the assignment "Final Grade" in the Canvas course. Please note that the letter grade written in parentheses in Canvas is the correct final grade. The point-grade displayed alongside the letter grade is irrelevant and can be ignored.

Technical Equipment Needs

The learning experience in this course will mainly rely on the online interaction between the students and the instructors during the weekly online meetings. Therefore, we encourage all students in this course to use a web camera and a headset. Decent quality headsets and web cams are available for less than $20 each. We ask students to refrain from using built-in web cams and speakers on their desktops or laptops. We know from our experience in previous online courses that this will reduce the quality of video and audio transmission and therefore will decrease the overall learning experience for all students in the course. In addition, we suggest that students use a wire connection (LAN), if available, when connecting to the online meetings. Wireless connections (WLAN) are usually less stable and might be dropped.

Mannheim Business School would also like to officially inform you that, in order to facilitate your participation in this course, your personal data will be processed by and on systems run by MBS and our subcontractors. You can find detailed information in our privacy policy and information for data subjects here.

Long Course Description

Web surveys appeared soon after the web was launched, at the beginning of the 1990s, and today they are the prevailing mode of survey data collection. With them, it has become technically very easy to create a survey, almost as simple as writing and sending an email. However, conducting web surveys raises numerous practical and conceptual questions: Is a web survey suitable for my research problem? How do I recruit respondents from the general population? Can I generalize the obtained results if survey participants come from online social media? How many people can I expect to answer my survey? Which strategy will assure sufficient cooperation? How long can a web questionnaire be? Should respondents be forced to answer every question? How do I select the right web survey software? How do I adapt to respondents answering from a smartphone?

Competent responses to these and many other questions about the application of web surveys require the understanding of many specific technical and methodological aspects and issues. This course comprehensively addresses them for all stages of the web survey process, relying on evidence-based [3] knowledge and experiences from scientific research and case studies. A special attention is devoted to the most contemporary developments and challenges in the field, particularly online panels and data

[3] Web Survey Methodology | Summer 2025 | Section 1

collection on mobile devices.

The course provides students with the state-of-the-art knowledge required to apply web surveys from the research idea to the final steps of data collection. To give students practical skills that they can apply right after the class, a web survey programming exercise is a part of the final grade. Thanks to the cooperation of various software providers, students will be able to gain a hands-on experience with powerful software tools used in survey industry.

As part of the course, students are expected to program a survey of medium complexity using one of the offered software tools. Students will be provided with a temporary login to the full version of the software during the course.

It is important to choose one of the offered survey platforms early during the course so everything that is being taught can be "translated" into the survey platform of choice. The deadline to choose the software tool will be communicated during the lectures.

Readings

Primary readings will be from the book:

- Callegaro, Lozar-Manfreda & Vehovar (2015). *Web Survey Methodology*, London: Sage. The book is available open access from the SAGE website.

It is also highly recommended that students obtain a copy of the following book as selected chapters are among the required readings:

- Dillman, Smyth and Christian (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*, 4th Edition. Hoboken, NJ, US: Wiley. Link to the book page

Lists of required and recommended readings during the course are provided below for each session.

Academic Conduct

Clear definitions of the forms of academic misconduct, including cheating and plagiarism, as well as information about disciplinary sanctions for academic misconduct may be found at

https://www.president.umd.edu/sites/president.umd.edu/files/documents/policies/III-100A.pdf (University of Maryland)

Knowledge of these rules is the responsibility of the student and ignorance of them does not excuse misconduct. The student is expected to be familiar with these guidelines before submitting any written work or taking any exams in this course. Lack of familiarity with these rules in no way constitutes an [4] excuse for acts of misconduct. Charges of plagiarism and other forms of academic misconduct will be dealt with very seriously and may result in oral or written reprimands, a lower or failing grade on the assignment, a lower or failing grade for the course, suspension, and/or, in some cases, expulsion from

[4] Web Survey Methodology | Summer 2025 | Section 1

the university.

Accommodations for Students with Disabilities

In order to receive services, students at the University of Maryland must contact the Accessibility & Disability Service (ADS) office to register in person for services. Please call the office to set up an appointment to register with an ADS counselor. Contact the ADS office at 301.314.7682; https://www.counseling.umd.edu/ads/.

Course Evaluation

In an effort to improve the learning experience for students in our online courses, students will be invited to participate in an online course evaluation at the end of the course. Participation is entirely voluntary and highly appreciated.

Sessions

Week 1: Basics of the web survey mode

Topics covered:

- Key concepts and characteristics
- History, development and applications of web surveys
- Advantages and limitations of web surveys
- Internet non-coverage problem
- Choosing between web and alternative survey modes
- Web surveys in mixed-mode designs

Video lecture: available on Tuesday, 27 May 2025

Online meeting: Tuesday, 3 June 2025, 1 PM EDT / 7 PM CEST

Assignment 1:

- Released: Tuesday, 27 May 2025
- Due: Friday, 6 June 2025, 5:30 PM EDT 11:30 PM CEST

Required readings:

From Sage textbook:

- Chapter 1: Survey Research and Web Surveys
- [5] Chapter 2.1: Mode elaboration

Additional required readings:

- Couper, M. P. (2017). New developments in survey data collection. *Annual Review of*

[5] Web Survey Methodology | Summer 2025 | Section 1

Sociology, 43(1), 121–145

- De Leeuw, E. (2018). Mixed-mode: Past, present, and future. *Survey Research Methods*, 12(2), 75–89. Available from https://ojs.ub.uni-konstanz.de/srm/article/view/7402

Recommended readings (not mandatory):

- De Leeuw, E. & Toepoel, V. (2018). Mixed-mode and mixed-device surveys. In *The Palgrave handbook of survey research* (pp. 51–61). New York: Palgrave. Available from: https://www.researchgate.net/publication/321973068_Mixed-Mode_and_Mixed-Device_Surveys

Week 2: Web questionnaire design

Topics covered:

- Response process and measurement errors in web surveys
- Basics of writing web survey questions
- Question types and visual presentation of web questionnaires
- Response validation and item nonresponse
- Dynamic and interactive questionnaire features
- Graphics and multimedia
- Questionnaire testing and evaluation

Video lecture: available on Tuesday, 3 June 2025

Online meeting: Tuesday, 10 June 2025, 1 PM EDT / 7 PM CEST

Assignment 2:

- Released: Tuesday, 3 June 2025
- Due: Friday, 13 June 2025, 5:30 PM EDT / 11:30 PM CEST

Required readings:

From Sage textbook:

- Chapter 2.3: Questionnaire preparation
- Chapter 2.4: Technical preparation

Additional required readings:

- Tourangeau, R, Conrad, F. G. & Couper, M. P. (2014). *The science of web surveys*. Chapter 5. The web as a visual medium. Oxford: Oxford University Press.

Recommended readings (not mandatory):

- Dillman, D. A., Smyth, J. D. & Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method,* 4th Edition. Chapter 6: Aural versus visual design of questions and questionnaire. http://bcs.wiley.com/hebcs/Books?action=resource&bcsId=9087&itemId=1118456149&resourceId=36465&chapterId=103120 (Link to color pictures of chapter)

Week 3: Further topics in data collection

Topics covered:

- Response process monitoring using paradata
- Variety of devices for survey participation and device effects
- Questionnaire optimization for mobile devices
- Mobile apps for web surveys and integration of sensor data collection
- New technological advances in web surveys

Video lecture: available on Tuesday, 10 June 2025

Online meeting: Tuesday, 17 June 2025, 1 PM EDT / 7 PM CEST

Assignment 3:

- Released: Tuesday, 10 June 2025
- Due: Friday, 20 June 2025, 5:30 PM EDT / 11:30 PM CEST

Required readings:

From Sage textbook:

- Chapter 5.1: Smartphones, tablets and other devices[7]

Additional required readings:

- 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. *Social Science Computer Review, 37, 196-213.*
- Keusch, F. & Conrad, F. G. (2021). Using smartphones to capture and combine self-reports and passively measured behavior in social research. *Journal of Survey Statistics and Methodology*, smab035. https://doi.org/10.1093/jssam/smab035

Recommended readings (not mandatory):

- Callegaro, M. (2013). Paradata in web surveys. In F. Kreuter (Ed.*), Improving surveys with paradata: Analytic use of process information* (pp. 261–279). Hoboken, NJ: Wiley. Available from https://www.researchgate.net/publication/300663661_Paradata_in_Web_Surveys
- Mavletova, A. & Couper, M. P. (2015). A meta-analysis of breakoff rates in mobile web surveys. In D. Toninelli, R. Pinter & P. de Pedraza (Eds.), Mobile research methods: Opportunities and challenges of mobile research methodologies (pp. 81–98). London: Ubiquity Press. Available from https://www.ubiquitypress.com/site/chapters/e/10.5334/bar.f/

Week 4: Sampling and online panels

Topics covered:

- Probability and non-probability sampling for web surveys
- Intercept web surveys
- Convenience samples of internet users
- Probability and non-probability online panels
- Development and maintenance of online panels
- Choosing between online panels and other sample types

[7] Web Survey Methodology | Summer 2025 | Section 1

Video lecture: available on Tuesday, 17 June 2025

Online meeting: Thursday, 26 June 2025, 1 PM EDT / 7 PM CEST

Assignment 4:
● Released: Tuesday, 17 June 2025

● Due: Friday, 27 June 2025, 5:30 PM EDT / 11:30 PM CEST

Required readings:

From Sage textbook:

● Chapter 2.2: Sampling

Additional required readings:

● Callegaro, M., Baker, R. P., Bethlehem, J., Göritz, A. S., Krosnick, J. A. & Lavrakas, P. J. [8](2014). Online panel research: History, concepts, applications and a look at the future. In M. Callegaro, R. P. Baker, J. Bethlehem, A. S. Göritz, J. A. Krosnick & P. J. Lavrakas (Eds.), Online panel research: A data quality perspective (pp. 1–22). Chichester, UK: Wiley. Available from https://research.google/pubs/pub42493/

● Corness, C., Blom, A., Dutwin, D., Krosnick, J. A., Legleye, S., Pasaek, J., Pennay, D., Philips, B., Sakshaug, J., Struminskaya, B., Wenz, A. & de Leeuw, E. (2019). A review of conceptual approaches and empirical evidence on probability and nonprobability sample survey research. Journal of Survey Statistics and Methodology, 8(1), 4–36. Available from https://doi.org/10.1093/jssam/smz041

Recommended readings (not mandatory):
● Henning, J. (2013). Improving the representativeness of online surveys. Alert Magazine, (4), 26-30,78. Available from https://bluebook.insightsassociation.org/Alert/Alert_Qtr4_2013.pdf
● Fricker, R. D. J. (2017). Sampling methods for online surveys. In N. G. Fielding, R. M. Lee & G. Blank (Eds.), The SAGE handbook of online research methods (2nd ed., pp. 162–183). London:

Sage. Available from http://faculty.nps.edu/rdfricke/docs/Online-sampling-chpt-second-Edition.pdf

● Brigham, N., Fallig, M., & Miller, C. (2014). The impact of survey routers on sampling and surveys: Unraveling the mysteries of survey-router design and deployment. Journal of Advertising Research, 54(4), 381–387.

Week 5: Sampling and online panels

Topics covered:

- Probability and non-probability sampling for web surveys
- Intercept web surveys
- Convenience samples of internet users
- Probability and non-probability online panels
- Development and maintenance of online panels
- Choosing between online panels and other sample types

Video lecture: available on Tuesday, 24 June 2025

Online meeting: Tuesday, 1 July 2025, 1 PM EDT / 7 PM CEST

Assignment 3:

- Released: Tuesday, 24 June 2025
- Due: Friday, 4 July 2025, 5:30 PM EDT / 11:30 PM CEST (To be confirmed)

Required readings:

From Sage textbook:

- Chapter 2.2: Sampling

Additional required readings:

- Callegaro, M., Baker, R. P., Bethlehem, J., Göritz, A. S., Krosnick, J. A. & Lavrakas, P. J. (2014). Online panel research: History, concepts, applications and a look at the future. In M. Callegaro, R. P. Baker, J. Bethlehem, A. S. Göritz, J. A. Krosnick & P. J. Lavrakas (Eds.), *Online panel research: A data quality perspective* (pp. 1–22). Chichester, UK: Wiley. Available from https://research.google/pubs/pub42493/
- Corness, C., Blom, A., Dutwin, D., Krosnick, J. A., Legleye, S., Pasaek, J., Pennay, D., Philips, B., Sakshaug, J., Struminskaya, B., Wenz, A. & de Leeuw, E. (2019). A review of conceptual approaches and empirical evidence on probability and nonprobability sample survey research. *Journal of Survey Statistics and Methodology*, 8(1), 4–36. Available from https://doi.org/10.1093/jssam/smz041

Recommended readings (not mandatory):

- Henning, J. (2013). Improving the representativeness of online surveys. *Alert Magazine*, (4), 26-30,78. Available from https://bluebook.insightsassociation.org/Alert/Alert_Qtr4_2013.pdf
- Fricker, R. D. J. (2017). Sampling methods for online surveys. In N. G. Fielding, R. M. Lee & G. Blank (Eds.), *The SAGE handbook of online research methods* (2nd ed., pp. 162–183). London: Sage. Available from http://faculty.nps.edu/rdfricke/docs/Online-sampling-chpt-second edition.pdf
- Brigham, N., Fallig, M., & Miller, C. (2014). The impact of survey routers on sampling and surveys: Unraveling the mysteries of survey-router design and deployment. *Journal of Advertising Research*, 54(4), 381–387.

Week 6: Survey recruitment and nonresponse reduction strategies

Topics covered:

- Approaches to recruitment of survey participants
- Survey access management and participation monitoring
- Theories of nonresponse
- Strategies for increasing participation willingness
- Response rate calculations and reporting
- Nonresponse bias assessment and mitigation

Video lecture: available on Tuesday, 1 July 2025

Online meeting: Tuesday 8, July 2025 1 PM EDT / 7 PM CEST

- Assignment 5 Released: Tuesday, 1 July 2025
- Due: **Friday, 11 July 2025**, 5:30 PM EDT / 11:30 PM CEST

Required readings:

[10]From Sage textbook:

- Chapter 2.5: Nonresponse strategy
- Chapter 3: Fielding

Additional required readings:

- AAPOR Survey refusals task force report (2014): *Current knowledge and considerations regarding survey refusals* (pages 33-44: Who refuses?). Available from https://www.aapor.org/Education-Resources/Reports/Current-Knowledge-and-Considerations Regarding-Sur.aspx

Recommended readings (not mandatory):

- Dillman, D. A., Smyth, J. D. & Christian, L. M. (2014). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method,* 4th Edition. Chapter 2: Reducing People's Reluctance to Respond to Surveys.

Week 6: Web survey management and data quality assurance

Topics covered:

- Fielding the survey and data collection monitoring
- Data preparation, exporting and documentation
- Data quality assessment and treatment of low-quality responses
- Choosing online panel providers and evaluating the quality of online panels
- Mode effects and other considerations with mode transitions
- Balancing criteria of survey quality and survey costs

[10] Web Survey Methodology | Summer 2025 | Section 1

Video lecture: available on Tuesday, 8 July 2025

Online meeting: Tuesday, 15 July 2025, 1 PM EDT /7 PM CEST

- Assignment 6 Released: Tuesday, 8 July 2025
- Due: Friday, 18 July 2025, 5:30 PM EDT / 11:30 PM CEST[11]

Required readings:
From Sage textbook:
- Chapter 4: Post fielding
- Chapter 2.6 General management
- Chapter 6.2 Web surveys within the project management framework

Additional required readings:
- MacInnis, B., Krosnick, J. A., S. Ho, A. & Cho, M.-J. (2018). The accuracy of measurements with probability and nonprobability survey samples. Replication and extension. *Public Opinion Quarterly*, 82(4), 707-744.

Recommended readings (not mandatory):
- Callegaro, M., Villar, A., Yeager, D. S. & Krosnick, J. A. (2014). A critical review of studies investigating the quality of data obtained with online panels. In M. Callegaro, R. P. Baker, J. Bethlehem, A. S. Göritz, J. A. Krosnick & P. J. Lavrakas (Eds.), *Online panel research. A data quality perspective* (pp. 23–53). Chichester, UK: Wiley. Available from https://static.googleusercontent.com/media/research.google.com/en//pubs/archive/42494.pdf
- Blom, A. G., Bosnjak, M., Cornilleau, A., Cousteaux, A.-S., Das, M., Douhou, S. & Krieger, U. (2016). A Comparison of Four Probability-Based Online and Mixed-Mode Panels in Europe. *Social Science Computer Review*, 34(1), 8–25.
- Kennedy, C., Mercer, A., Keeter, S., Hatley, N., McGeeney, K. & Gimenez, A. (2016, May 2). *Evaluating online nonprobability surveys. Vendor choice matters; widespread errors found for estimates based on blacks and Hispanics.* Available from https://www.pewresearch.org/methods/2016/05/02/evaluating-online-nonprobability-surveys/

Week 7 & 8: Web survey programming

Topics covered:
- Web survey software
- Basics of web survey programming
- Individual work on the final assignment

Video lecture: available on Tuesday, 15 July 2025

Online meeting: Tuesday, 22 July 2025, 1 PM EDT / 7 PM CEST

[11] Web Survey Methodology | Summer 2025 | Section 1

Required readings:
[12]From Sage textbook:

- Chapter 5.3 Web survey software

From Wiley textbook:

- Chapter 9: Web questionnaires and implementation.
- Supplementary material of Chapter 9 on the student companion website: http://bcs.wiley.com/hebcs/Books?action=chapter&bcsId=9087&itemId=1118456149&chapterId=103123

Recommended readings (not mandatory):

- Macer, T. (2014). Online panel software. In M. Callegaro, R. P. Baker, J. Bethleem, A. S. Göritz, P. J. Lavrakas & J. A. Krosnick (Eds.), *Online panel research. A data quality perspective* (pp. 413–440). Chichester: Wiley.
- Kaczmirek, L. (2017). Online survey software. In N. G. Fielding, R. M. Lee & G. Blank (Eds.), *The SAGE handbook of online research methods* (2nd ed., pp. 203–219). London: Sage.

Final assignment (web survey programming)

Released: Tuesday, 22 July 2025
Due: Friday, 25 July 2025, 5:30 PM EDT / 11:30 PM CEST

[12] Web Survey Methodology | Summer 2025 | Section 1