gesis Leibniz Institute for the Social Sciences

# 10th GESIS Summer School in Survey Methodology

## [2nd Virtual GESIS Summer School]

28 July – 20 August 2021

## Syllabus for Course 2: Questionnaire Design


Lecturer: Prof. Dr. Marek Fuchs
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Date: 02-06 August 2021
Time: 09:00-13:00 + 14:00-16:00 + 16:00-17:00 individual counseling by appointment
Time zone: CEST/CEDT, course starts Monday at 09:00 am
Venue: Online via Zoom

## About the Instructor:

*Prof. Dr. Marek Fuchs* is full professor for social science research methods at Darmstadt University of Technology, Germany. He obtained his PhD from Kassel University in 1993 and conducted post-doctoral work at the University of Michigan, Ann Arbor (USA). Since then, he has been the principal investigator of several large scale surveys. His methodological research is particularly concerned with methodological aspects of survey measurement. Over the course of the past 25 years, he has published on laboratory and field-experimental studies concerning questionnaire design for face-to-face surveys, telephone surveys and self-administered surveys (paper & pencil as well as web and mobile web surveys). He has a long-standing experience in teaching courses on survey methodology at the PhD and Master levels to an international audience.

## Selected Publications:


- Baier, Tobias; Fuchs, Marek (2020). Prevalence of page switching in mixed-device web surveys and associated data quality. Survey Methods: Insights from the Field, Special issue: 'Advancements in Online and Mobile Survey Methods'. Retrieved from https://surveyinsights.org/?p=13446
- Kunz, Tanja; Fuchs, Marek (2019): Using Experiments to Assess Interactive Feedback That Improves Response Quality in Web, pp. 247-274 in: Lavrakas, Paul; Traugott, Michael W.; Kennedy, Courtney; Holbrook, Allyson L.; Leeuw, Edith D. de and West, Brady T. (Eds.): Experimental Methods in Survey Research: Techniques that Combine Random Sampling with Random Assignment. New York: Wiley.
- Kunz, Tanja; Fuchs, Marek (2018): Dynamic instructions in check-all-that-apply questions. Social Science Computer Review, 37(1), 104-118.
- Busse, Britta; Fuchs, Marek (2015): Telephone Surveys Using Mobile Phones, pp. 51-66 in: Engel, Uwe; Jann, Ben; Lynn, Peter; Scherpenzel, Annette; Sturgis, Patrick (Hrsg.), Improving Survey Methods. Lessons from Recent research. New York, Routledge.
- Emde, Matthias; Fuchs, Marek (2012). Exploring Animated Faces Scales in Web Surveys: Drawbacks and Prospects. Survey Practice, (February 2012).
- Fuchs, Marek (2009). Asking for Numbers and Quantities. Visual Design Effects in Paper&Pencil Surveys. International Journal of Public Opinion Research, 21(1), 65-84.
- Fuchs, Marek (2009). Gender-of-Interviewer Effects in a Video-Enhanced Web Survey. Results from a Randomized Field-Experiment. Social Psychology, 40(1), 37-42.

## Short Course Description:

Briefly speaking, the quality of survey answers provided by respondents can only be as good as the questions being asked. Thus, an effective questionnaire is a key component of a survey contributing to overall data quality. In addition to an overview of theoretical principles underlying questionnaire design this course particularly aims at providing evidence-based practical advice on how to design good survey questions and questionnaires. Based on field-experimental studies evaluating various aspects of questionnaire design participants will acquire state of the art knowledge concerning questionnaire design. The course offers the opportunity to apply these competencies under the supervision of the lecturer in exercises and assignments. The course will strengthen the, participants' ability to design effective survey questions and to integrate them into a meaningful questionnaire.

## Keywords:

Questionnaires, survey research, measurement

## Course Prerequisites:

Basic knowledge in quantitative social science research methods is required; basic knowledge concerning survey design and data quality is advisable. Participants not familiar with the total survey error framework are encouraged to consider the preparatory reading mentioned at the end of this syllabus. There are no statistical prerequisites.

## Target Group:

Participants will find the course useful if:

- plan to or are about to conduct a survey;
- would like to supplement their initial experience in designing questionnaires with practical advice based on a sound theoretical basis concerning the underlying mechanisms.

## Course and Learning Objectives:

By the end of the course participants will:

- have an overview concerning the various components of survey data quality in general and questionnaire quality in particular;
- understand the cognitive processes underlying survey measurement for the various survey modes;
- be able to design simple survey questions of various types, to conduct a pre-test and to combine them in an integrated survey instrument.

## Organizational Structure of the Course:

This is a five-day course with a total amount of 30 hours of virtual class time. Participants can expect a mix of interactive teaching (4hours per day), exercises, and opportunity for individual consultation (2 hours per day). Participants can either bring their own project that they want to use for the assignments on or they are provided with literature from two substantive areas to choose a topic for their assignments. Additional time of 1-2 hours a day has to be scheduled for preparation, further reading, and desk work.

## Software and Hardware Requirements:

Course participants will need a laptop computer for performing the practical exercises in this course. The laptop should have the following software installed: Office package

## Long Course Description:

In traditional textbooks questionnaire design is typically treated as an "art". Designing questions and questionnaires is broadly described as an important step when planning a survey however little advice is provided on how to phrase individual questions and response options and how to design a good questionnaire as a whole. The rules and instructions given in such texts are either too specifically concerned with particular substantive questions—

and accordingly those rules cannot be generalized to other questions—or the advice given is too broad and general and it is left to the reader to apply the general rules to specific survey questions.

This course on questionnaire design will avoid this dilemma. Instead of providing general or specific rules on how to design a good survey question and a questionnaire as a whole, the course will approach the science of questionnaire design by means of two strategies: On the one hand basic concepts relevant to survey measurement will be discussed (e.g. mode differences, question-answer-process, satisficing, social desirability) in order to make participants aware of the mechanisms underlying survey measurement. On the other hand, participants will be introduced to results of field-experimental studies testing various aspects of a survey question and a questionnaire as a whole (e.g. question wording, response order, visual design of a question). The discussion of these studies will highlight the implication of various design aspects of a survey question for the answers provided by respondents.

Thus, the lectures provide scientific background knowledge and educate participants in their professional reasoning when designing survey questions and questionnaires. Based on the theoretical concepts and experiments discussed in the lectures, participants will be guided and supported in designing of topical survey questions during practical sessions and by means of assignments. The work on the questions starts with a discussion of the indicators to be measured and continues with the development of corresponding survey questions (including the most prevalent question types). Finally, the questions will be tested. In addition, the instructor will be available for questions and discussion of individual projects (1 hours a day). Participants should be prepared to spend an additional 1-2 hours a day for preparatory work, reading, and desk research. Participants will be using Office software for their assignments; no specialized software package is necessary.

The example questions discussed in the course will mainly be taken from surveys of individuals and households. The course is not restricted to a specific survey mode.

## Day-to-day Schedule and Literature:

| Day | Topic(s) |
|---|---|
| 1 | **Lecture 1:**<br>Round of introduction (participants and lecturer)<br>Administrative issues<br>Presentation of research questions for the assignments<br>Quick introduction to the Total Survey Error framework<br>Translating theoretical concepts into proper indicators<br>**Practical session 1:**<br>Exercise on the development and selection of an indicator<br>**Lecture 2:**<br>Survey modes<br>**Lecture 3:**<br>Question answer process<br>Components of questions, types of questions<br>**Group Assignment 1:**<br>Finding indicators for your research question<br>**Individual counseling by appointment 1** |
| | <u>Compulsory reading:</u><br>▪ Hox, J. J. (1997). From theoretical concept to survey question. In L. Lyberg, P. Biemer, M. Collings, E. De Leeuw, C. Dippo, N. Schwarz & D. Trewin (Eds.), Survey measurement and process quality (pp. 47-69). New York: John Wiley & Sons.<br><br><u>Suggested reading:</u><br>▪ de Leeuw, E. D., & Hox, J. J. (2015). Survey mode and mode effects. In U. Engel, B. Jann, P. Lynn, A. C. Scherpenzeel, & P. Sturgis (Eds.), Improving Survey Methods. Lessons from Recent Research (pp. 22-34). New York: Routledge |

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| | Literature for the assignment:<br>▪ Keywords "Construct" and "Construct Validity" in: Lavrakas, P. J. (Ed.). (2008). Encyclopedia of survey research methods (Vol. 1). Los Angeles: Sage. |
| 2 | **Lecture 4:**<br>Attitude questions (rating vs ranking)<br>Wording of attitude questions and response categories<br>**Practical session 2:**<br>Exercise on designing attitude questions<br>Discussion of Assignments<br>**Lecture 5:**<br>Matrix Questions<br>**Lecture 6:**<br>Response errors in attitude questions<br>**Group Assignment 2:**<br>Designing a matrix question<br>**Individual counseling by appointment 2** |
| | Compulsory reading:<br>▪ Krosnick, J. A., Judd, C. M., & Wittenbrink, B. (2005). The Measurement of Attitudes. In D. Albarracin, B. T. Johnson & M. P. Zanna (Eds.), The Handbook of Attitudes (pp. 21-76). Mahwah, NJ: Erlbaum.<br><br>Literature for the assignment:<br>▪ Keywords "Attitude Measurement" and "Likert Scale" in: Lavrakas, P. J. (Ed.). (2008). Encyclopedia of survey research methods (Vol. 1). Los Angeles: Sage. |
| 3 | **Lecture 7:**<br>Behavioral frequency questions<br>Exercise on designing behavioral frequency questions<br>**Practical session 3:**<br>Discussion of Assignments<br>**Lecture 8:**<br>Questions on facts<br>**Lecture 9:**<br>Open-ended and closed-ended questions<br>**Group Assignment 3:**<br>Developing an open-ended and closed ended question<br>**Individual counseling by appointment 3:** |
| | Compulsory reading:<br>▪ Schwarz, N., & Oyserman, D. (2001). Asking Questions About Behavior: Cognition, Communication, and Questionnaire Construction. American Journal of Evaluation, 22(2), 127-160.<br>▪ Heerwegh, D., & Loosveldt, G. (2011). Assessing mode effects in a national crime victimization survey using structural equation models: Social desirability bias and acquiescence. Journal of Official Statistics, 27(1), 49-63.<br><br>Literature for the assignment:<br>▪ Friborg, O., & Rosenvinge, J. H. (2013). A comparison of open-ended and closed questions in the prediction of mental health. Quality & Quantity, 47, 1397-1411. |
| 4 | **Lecture 10:**<br>Dealing with social desirability and asking sensitive questions<br>Exercise on designing a sensitive question<br>**Practical session 4:**<br>Discussion of Assignments<br>**Lecture 11:**<br>Multiple response questions<br>Response order effects<br>**Lecture 12:**<br>Pre-test methods |

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| | **Group assignment 4:**<br>Conducting a pre-test<br>**Individual counseling by appointment 4:** |
| | Compulsory reading:<br>▪ Keyword "Sensitive Topics" in: Lavrakas, P. J. (Ed.). (2008). Encyclopedia of survey research methods (Vol. 2). Los Angeles: Sage.<br><br>Suggested reading:<br>▪ Callegaro, M., Murakami, M. H., Tepman, Z., & Henderson, V. (2015). Yes–no answers versus check-all in self-administered modes. A systematic review and analyses. International Journal of Market Research, 57(2), 203-223.<br>▪ Tourangeau, R., & Rasinski, K. A. (1988). Cognitive processes underlying context effects in attitude measurement. Psychological Bulletin, 103(3), 299-314.<br><br>Literature for the assignment:<br>▪ Willis, G. B. (2016). Questionnaire pretesting. In C. Wolf, D. Joye, T. W. Smith, & Y.-c. Fu (Eds.), The SAGE Handbook of Survey Methodology (pp. 359-381). Longon: SAGE Publications Ltd. |
| 5 | **Lecture 13:**<br>Surveys on mobile devices<br>Mixed-mode surveys and uni-modal design<br>Exercise on designing uni-modal questions<br>**Practical session 5:**<br>Discussion of Assignments<br>**Lecture 14:**<br>Question order effects<br>**Lecture 15:**<br>From questions to a questionnaire<br>Split questionnaire design<br>**Individual counseling by appointment 5:** |
| | Compulsory reading:<br>▪ Dillman, D. A., & Messer, B. L. (2010). Mixed-mode surveys. In P. V. Marsden & J. D. Wright (Eds.), Handbook of survey research (pp. 551-574). Bringley: Emerald.<br><br>Suggested reading:<br>▪ Andreadis, I., & Kartsounidou, E. (2020). The impact of splitting a long online questionnaire on data. Survey Research Methods, 14(1), 31-42<br>▪ Lugtig, P., & Toepoel, V. (2016). The use of PCs, smartphones, and tablets in a probability-based panel survey: Effects on survey measurement error. Social Science Computer Review, 34(1), 78-94. |

## Preparatory reading:

Fuchs, M. (2008). Total survey error (TSE). In P. J. Lavrakas (Ed.), Encyclopedia of Survey Research Methods (Vol. 2, pp. 896-902). Thousand Oaks: Sage.

## Additional Recommended Literature:

This article offers a comprehensive overview concerning the design of attitude and behavior questions: Schaeffer, N. C., & Presser, S. (2003). The science of asking questions. Annual Review of Sociology, 29, 65-88.

The following textbooks offer a comprehensive introduction to the cognitive processes underlying survey measurement:

- Sudman, S., Bradburn, N., & Schwarz, N. (2010). Thinking about answers. The application of cognitive processes to survey methodology (2 ed.). San Francisco: Jossey-Bass.
- Tourangeau, R., Rips, L., & Rasinski, K. (2000). The psychology of survey response. Cambridge: Cambridge University Press.