gesis Leibniz Institute for the Social Sciences

8th GESIS Summer School in Survey Methodology Cologne, August 2019

Syllabus for Course 09: "Questionnaires for Cross Cultural Surveys"

Instructors:	Prof. Dr. Michael Braun	Brita Dorer	Dr. Katja Hanke
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Date: 19.-23. August 2019
Time: 09:00-13:00, 14:00-16:00
Course starts Monday morning at 09:00

About the Instructors:

Michael Braun is Senior Project Consultant at the department Survey Design and Methodology (SDM) at GESIS – Leibniz-Institute for the Social Sciences and Adjunct Professor at the University of Mannheim. He is specialized in cross-cultural survey methodology and analysis. Moreover he is an expert in both, the design and the analysis of large-scale comparative surveys using state-of-the-art statistical methods. He has worked substantively on international comparisons in the fields of migration and the family.

Brita Dorer is a researcher at GESIS – Leibniz Institute for the Social Sciences specialized in the field of questionnaire translation. She is heading the translation team of the European Social Survey (ESS). Her scientific interests are the evaluation and quality enhancement of questionnaire translation and adaptation, translatability of source questionnaires / advance translations, adaptation versus close translation; translation process research. She holds a degree in English, French and Italian translation studies from Johannes-Gutenberg-University Mainz, FTSK Germersheim, where she also worked as a freelance lecturer for English-to-German and French-to-German translation. Before becoming a scientist, she had worked full-time as a translator for more than 10 years. She has been involved in translating survey questionnaires into German, such as ESS, ISSP, PIAAC and SHARE, both as translator and as reviewer/methodologist. Winter semester 2018/2019: freelance lecturer for 'mixed methods in translation research' for the Faculty of Translation and Interpreting, University of Geneva, Switzerland.

Katja Hanke is a senior researcher and project consultant at the department Survey Design and Methodology (SDM) at GESIS – Leibniz-Institute for the Social Sciences. She is specialized in the field of cross-cultural research methods and cross-cultural psychology. She is an expert in measurement invariance testing. She has been involved and working on cross-cultural comparative studies in the fields of intergroup/intercultural relations and acculturation research.

Selected Publications:

- Braun, Michael, Dorothée Behr, and Juan Díez Medrano. 2018. "What do respondents mean when they report to be "citizens of the world"? Using probing questions to elucidate international differences in cosmopolitanism." *Quality & Quantity* 2018 (52(3)): 1121-1135. doi: dx.doi.org/10.1007/s11135-017-0507-6.
- Braun, Michael, Dorothée Behr, and Lars Kaczmirek. 2013. "Assessing cross-national equivalence of measures of xenophobia: evidence from probing in web surveys." *International Journal of Public Opinion Research* 25 (3): 383-395. doi: dx.doi.org/10.1093/ijpor/eds034.
- Braun, Michael, and Timothy P. Johnson. 2018. "How should immigrants adapt to their country of residence? A mixed methods approach to evaluate the international applicability of a question from the German General Social Survey (ALLBUS)." In *Cross-cultural Analysis: Methods and Applications*, edited by Eldad Davidov, Peter Schmidt, Jaak Billiet, and Bart Meuleman, 615-632. London; New York: Routledge.
- Jong, Julie de, Brita Dorer, Sunghee Lee, Ting Yan, and Ana Villar. 2018. "Overview of Questionnaire Design and Testing." In *Advances in Comparative Survey Methods: Multinational, Multiregional and Multicultural Contexts (3MC)*, edited by Timothy Johnson, Beth-Ellen Pennell, Ineke Stoop, and Brita Dorer, Wiley Series in Survey Methodology. New York: John Wiley & Sons.

- Dorer, Brita. 2015. "Carrying out 'advance translations' to detect comprehensibility problems in a source questionnaire of a cross-national survey." In *Translation and Comprehensibility*, edited by Karin Maksymski, Silke Gutermuth, and Silvia Hansen-Schirra, TransÜD 72, 77-112. Berlin: Frank & Timme.
- Dorer, Brita. 2016. "(Co-author of different chapters under 'Translation' and 'Adaptation')." In *Guidelines for Best Practice in Cross-Cultural Surveys*, Ann Arbor MI: Survey Research Center, Institute for Social Research, University of Michigan. www.ccsg.isr.umich.edu.
- Boer, Diana, Katja Hanke, and Jia He 2018. "On detecting systematic measurement error in cross-cultural research: A review and critical reflection on equivalence and invariance tests". *Journal of Cross-Cultural Psychology 2018 49*(5): 713-734. https://doi.org/10.1177/0022022117749042
- *Vauclair, Christine-Melanie, Diana Boer, and Katja Hanke 2018.* "Teaching Psychological Measurement: Taking into Account Cross-Cultural Comparability and Cultural Sensitivity". In *Culture across the Curriculum: A Psychology Teacher's Handbook*, edited by Kenny D. Keith, 157-176. Cambridge: Cambridge University Press.
- Hanke, Katja, James H. Liu, Chris G. Sibley, Dario Paez, et al. 2015."'Heroes' and 'Villains' of World History across Cultures". *PLoS ONE 2015 10*(2), e0115641. doi:10.1371/journal.pone.0115641

Short Course Description:

Cross-cultural surveys are increasingly being set up in numerous disciplines and around the globe. They allow testing for the generality of hypotheses across cultures and systematic research into institutional and other contextual differences. While it is essential to have a sound knowledge of survey methodology in general when setting up these surveys, there are additional methodological aspects to take into account in order to collect and to analyze cross-culturally comparable data. This course focuses on what it means to develop and evaluate questionnaires for use in comparative research, assess the comparability of the used measurements employing for example measurement invariance tests and using the resulting data for substantive analyses.

It is organized around the following themes: measurement in comparative surveys, developing questionnaires for cross-cultural surveys, measuring background variables and their harmonization, best-practice in questionnaire translation and adaptation as well as translation assessment, and using quantitative (e.g. multigroup confirmatory factor analyses) and qualitative approaches (e.g. web probing) to test for cross-cultural comparability of measures (i.e. invariance) and to find out the reasons behind non-invariance.

Class hours will be a mixture of lectures, short practical exercises and discussions. During the study hours outside class, students will work on their own projects (if applicable) and/or gain hands-on experience in designing source questions, translating and reviewing translations, harmonizing variables, as well as measurement invariance testing, with support from the instructors.

Keywords:

International/intercultural comparative research; questionnaire design; translation and adaptation; assessing questionnaire translation; testing for measurement invariance across countries/cultures; R

Course Prerequisites:

- interest in the impact of linguistic, cultural and institutional contexts on cross-cultural survey research;
- knowledge of at least one language besides English to be able to benefit from the practice sessions regarding translation;
- knowledge of general questionnaire design principles is highly desirable;
- basic statistics or software knowledge is useful, but not mandatory.

Target Group:

Participants will find the course useful if:
- they are involved in developing a source questionnaire (attitude, personality, behavior items, background variables) for several cultures and/or countries;
- they want to understand the implications of questionnaire design and translation as well as variable harmonization for the comparability of cross-cultural survey data;
- they organize questionnaire translation and assessment or translate and review translated questionnaires themselves;
- they have data from several cultures/countries and want to establish measurement invariance for the used instruments.

Course and Learning Objectives:

By the end of the course participants will:
- be aware of cross-cultural requirements during source questionnaire development to ensure comparability;
- be familiar with best-practice in carrying out questionnaire translation and assessment;
- become knowledgeable about the invariance framework and the meaning of bias and equivalence;
- understand the issues of equivalence and bias for cross-cultural comparative research;
- have the ability to critically evaluate research involving more than one cultural group and identify strengths and weaknesses of the design, results and interpretation of the study;
- be able to conduct tests of invariance in order to establish comparability of instruments across cultures/countries using R;
- be knowledgeable about probing techniques useful to locate the reasons for non-invariance.

Organizational Structure of the Course:

The course is structured around 4 hours of classroom instruction and 2 extra hours of individual and group work, either on student's own projects or on assignments given by the course instructors. The assignments may include:
- operationalizing a theoretical concept and developing source questionnaire items suitable for a cross-cultural survey;
- translating and assessing questionnaire items by different methods (e.g. individually vs. in a team);
- discussing translation and harmonization resources;
- performing statistical tests of invariance using R;
- background reading.

The instructors will be available during two hours outside of classroom instruction to answer questions, consult on individual projects, help with assignments or guide group work. Students who wish to bring their own projects to the course will be asked to submit information on their project to the instructors prior to the course.

Software and Hardware Requirements:

Course participants will need to bring a laptop computer with an installed web browser for performing the practical exercises for this course. R and RStudio can be downloaded and installed free of charge: www.rstudio.com/; www.r-project.org/. R Packages needed: lavaan, semTools

Long Course Description:

Cross-cultural surveys are increasingly being set up in numerous disciplines and around the globe. They allow testing for the generality of hypotheses across cultures and systematic research into institutional and other contextual differences. While it is essential to have a sound knowledge of survey methodology in general when setting up these surveys, there are additional methodological aspects to take into account in order to collect and to analyze cross-culturally comparable data. This course focuses on what it means to develop questionnaires for use in comparative research and using the resulting data for substantive analyses.

What will be covered?
The course consists of six parts: 1) measurement in comparative surveys, 2) developing questionnaires for cross-cultural surveys, 3) measurement and harmonization of background variables, 4) best practice in questionnaire translation and translation assessment, 5) translation support, resources and tools, and 6) using quantitative (e.g. multigroup confirmatory factor analyses) and qualitative approaches (e.g. web probing) to test for cross-cultural comparability of measures and to find out the reasons behind non-invariance.

The course will start with introducing key terminology (concept, construct, indicator) as well as different measurement approaches to comparability and equivalence, such as "*asking the same questions*" (ASQ) across countries or cultures and its counterpart "*asking different questions*" (ADQ). After this general introduction, the methods and techniques available for designing source questionnaires for a comparative study will be introduced. The focus will be on the importance of a multi-cultural, multi-step development approach (e.g., intercultural design teams, pretesting, piloting). It is now widely accepted that comparable data, based on comparable questionnaire translations, require a source questionnaire that adequately takes into account the different linguistic and cultural contexts of the participating cultures and/or countries of a study. How to measure and harmonize background variables – many of which cannot be "simply" translated – will also be covered. Examples are educational attainment, status in employment, marital status – and even age.

Students will be introduced to the field of questionnaire translation. To begin with, the importance of assessing and/or improving the translatability of a source questionnaire under linguistic aspects will be discussed, and some methods presented that are being used, such as advanced translation or translatability assessment. Then, students will learn about the do's and don'ts in questionnaire translation and become sensitive towards how particular translation versions can impact on measurement. Specific aspects discussed include translating meaning to produce functionally equivalent items; finding a balance between fidelity and freedom in translation, scale translation or adaptation. The different translation and assessment methods currently used in survey translation will be presented and discussed, such as single translation, back translation or team translation. The students will learn about their respective advantages and disadvantages. Special emphasis will be placed on the TRAPD model (Harkness, 2003), which includes parallel translation, review and adjudication stages, pretesting and thorough documentation. The different translation and harmonization resources and support types will be presented, such as checklists, survey-specific and item-specific translation instructions, general web resources, dictionaries, electronic translation tools, and the importance of pretesting translations discussed.

Finally, using quantitative (e.g. multigroup confirmatory factor analyses) and qualitative approaches (e.g. web probing) to test for cross-cultural comparability of measures and to find out the reasons behind non-invariance will be covered. Students will get an introduction to the invariance framework as well as the concepts of bias and equivalence. After understanding the conceptual issues, the confirmatory factor analysis (CFA) framework will be introduced. The CFA approach is the most common procedure that is used to test for measurement invariance. After a brief introduction into R Studio students will work with exemplary data and learn how to test for measurement invariance. During the exercises students can use their own data, if they have such data, or use more exemplary data. While the quantitative methods mostly allow for the detection of non-invariance (that is the lack of cross-cultural comparability) only, qualitative techniques, such as web probing, can be used to get at the underlying reasons for non-invariance. To further this aim, probing questions are included in web surveys. Examples from different substantive areas are presented.

Any remaining time will allow deepening and further discussing course topics of special interest to participants.

How will it be covered?
Class hours will be a mixture of lectures, short practical exercises and discussions. During the study hours outside class, students will work on their projects (if applicable) and/or gain hands-on experience in designing source questions, translating and reviewing translations, and testing for invariance. The following studies will be used as examples in the course: European Social Survey, International Social Survey Program, European Values Study, World Value Survey. Furthermore, students' own projects or plans can serve as case studies. It is expected that participants engage with the course literature before and during the course (see reading list).

What will not be covered?
Many aspects in cross-cultural surveys can impact on data comparability. Besides substantive questionnaire issues, that is sampling, field work, choice of survey mode, survey climate in a country, etc. these aspects will not be dealt with in this course. Neither is technical design (format, scales, layout, and other visual aspects of the presentation or context) of survey questions covered in this course.

Day-to-day Schedule and Literature:

Day	Topic(s)
1	Introduction to the course Measurement in comparative surveys: Overview (Michael Braun) ▪ Introducing key concepts concerning comparability and equivalence: concept, construct, indicator, item; emic and etic concepts; asking the same questions (ASQ), asking different questions (ADQ); translation, adaptation Developing questionnaires for cross-cultural surveys (Michael Braun) ▪ Different types and methods of questionnaire design: adopt, adapt, new; sequential, parallel, simultaneous design; international cooperation, pretesting, etc.
	<u>Compulsory reading (have to be read before the session):</u> ▪ Chapters 1-3 In J. A. Harkness, M. Braun, B. Edwards, T. P. Johnson, L. Lyberg, P. Ph. Mohler, B.-E. Pennell & T. W. Smith (Eds.). *Survey Methods in Multicultural, Multinational, and Multiregional Contexts*. Hoboken, NJ Wiley. <u>Suggested reading (suggested, yet do not have to be read before the session):</u> ▪ Johnson, T. P. (1998). Approaches to equivalence in cross-cultural and cross-national survey research. *ZUMA Nachrichten Spezial* 3:1–40. ▪ Smith, T. (2004). Developing and evaluating cross-national survey instruments. In *Methods for Testing and Evaluating Survey Questionnaires*, edited by S. Presser, J. M. Rothgeb, M. P. Couper, J. T. Lessler, E. Martin, J. Martin, & E. Singer, 431-452. Hoboken, NJ: Wiley.
2	Measurement and harmonization of background variables (Michael Braun) ▪ What are "background variables" and why do we need them? ▪ Input and output harmonization (ex-ante and ex-post) Best practice in questionnaire translation and translation assessment I (Brita Dorer) ▪ Translation-oriented questionnaire design, such as translatability assessment, advance translation ▪ Do's and don'ts in questionnaire translation / theoretical explanations and practical examples
	<u>Compulsory reading:</u> ▪ European Social Survey (2018). *ESS Round 9 Translation Guidelines*. London: ESS ERIC Headquarters. ▪ Behr, D. & Shishido, K. (2016). The translation of measurement instruments for cross-cultural surveys. In *The SAGE Handbook of Survey Methodology*, edited by C. Wolf, D. Joye, T.W. Smith, & Yang-chi Fu, 269-287. London: Sage. ▪ Jong, J. de, Dorer, B., Lee, S., Yan, T., & Villar, A. (2018). Overview of Questionnaire Design and Testing. In *Advances in Comparative Survey Methods: Multinational, Multiregional and Multicultural Contexts (3MC)*, edited by T. Johnson, B.-E. Pennell, I. Stoop, & B. Dorer, Wiley Series in Survey Methodology. New York: John Wiley & Sons. ▪ Harkness, J. A. (2003). Questionnaire Translation. In *Cross-Cultural Survey Methods*, edited by J. A. Harkness, F. van de Vijver & P. Ph. Mohler. Hoboken, NJ: Wiley. ▪ Harkness, J. A., Villar, A. & Edwards, B. (2010). Translation, Adaptation, and Design. In *Survey Methods in Multinational, Multiregional, and Multicultural Contexts*, edited by J. A. Harkness, M. Braun, B. Edwards, T. P. Johnson, L. Lyberg, P. Ph. Mohler, B.-E. Pennell & T. W. Smith, 117-140. Hoboken, NJ: Wiley. <u>Suggested reading:</u> ▪ Cross-Cultural Survey Guidelines, Chapters on Translation and Adaptation: http://ccsg.isr.umich.edu/index.php/chapters/translation-chapter

3	Best practice in questionnaire translation and translation assessment II (Brita Dorer) ▪ Single translation, team approach, pretesting, back translation, shared languages ▪ Selecting and briefing translators Translation support, resources and tools (Brita Dorer) ▪ Checklists, survey-specific and item-specific translation instructions, general web resources, dictionaries or electronic translation tools
4	Invariance framework, bias and equivalence (Katja Hanke) ▪ Levels of measurement invariance: When do we need which level? ▪ Basic of Bias and Equivalence ▪ Introduction to CFA
	Compulsory reading: ▪ Boer, D., Hanke, K., & He, J. (2018). On detecting systematic measurement error in cross-cultural research: A review and critical reflection on equivalence and invariance tests. *Journal of Cross-Cultural Psychology* 49: 713-734. https://journals.sagepub.com/doi/10.1177/0022022117749042 ▪ Hu, L. & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling* 6: 1–55. https://doi.org/10.1080/10705519909540118. ▪ Vandenberg, R. J. and Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods* 3: 4–69. Suggested reading: ▪ Van de Vijver, F. & Leung, K. (1997). *Methods and Data Analysis for Cross-cultural Research*. Thousand Oaks, CA: Sage. ▪ Van De Schoot, R., Schmidt, P., De Beuckelaer, A., Lek, K., & Zondervan-Zwijnenburg, M. (2015). Editorial: Measurement Invariance. Frontiers in Psychology. https://doi.org/10.3389/fpsyg.2015.01064
5	Testing for measurement invariance using R (Katja Hanke) ▪ Introduction to R ▪ Data analysis practice Web probing (Michael Braun)
	Suggested reading: ▪ Miller, K., Fitzgerald, R., Padilla, J.-L., Willson, S., Widdop, S., Caspar, R., Dimov, M., Gray, M., Nunes, C., Prüfer, P., Schöbi, N., & Schoua- Glusberg, A. (2011). Design and analysis of cognitive interviews for comparative multinational testing. *Field Methods* 23: 379–396. ▪ Behr, D., Braun, M., Kaczmirek, L., & Bandilla, W. (2014): Item comparability in cross-national surveys: results from asking probing questions in cross-national web surveys about attitudes towards civil disobedience. *Quality & Quantity* 48: 127-148.