IMPROVING INFERENCES BASED ON SURVEY DATA COLLECTED USING MIXED-MODE DESIGNS

Dissertation Chairs: Michael R. Elliott, Trivellore E. Raghunathan
Committee: Jacqui Smith, James Wagner, and Tuba Suzer-Gurtekin

Wenshan Yu is a PhD candidate in the Program in Survey and Data Science at the University of Michigan. She holds an MA in Survey Methodology from the University of Michigan. Her primary research interests include mixed-mode design and analysis, data quality, and survey methodology.

Mixed-mode designs have become increasingly common in survey data collection. However, different modes may have different measurement properties, which need to be accounted for when analyzing mixed-mode data. This dissertation investigates the presence of mode effects in means and interviewer variances in both cross-sectional and longitudinal studies, and it develops methods to incorporate mode effects when making inferences. Specifically, Study 1 proposes three approaches to detect and address potential mode effects in cross-sectional data. We applied this work to analyze data collected from a randomized mixed-mode (face-to-face [FTF] versus telephone [TEL]) experiment conducted in Wave 6 of the Arab Barometer Study (ABS). Study 2 examines whether interviewer variances remain consistent across different modes (e.g., FTF versus TEL) in two mixed-mode studies (the ABS and the Health and Retirement Study [HRS] 2016), representing different interviewer assignment schemes. Study 3 investigates mode effects in a longitudinal study when different mixed-mode designs are used across waves. This study focused on the 2016 and 2018 waves of the HRS, motivated by the introduction of a sequential WEB-TEL mixed-mode design in the HRS 2018, in contrast to the standard FTF and TEL modes used in the HRS 2016.