Replication of "Does Conjoint Analysis Mitigate Social Desirability Bias?"

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***Political Analysis*, forthcoming**

Description

- How can we elicit honest responses in surveys? Conjoint analysis has become a popular tool to address social desirability bias (SDB), or systematic survey misreporting on sensitive topics. However, there has been no direct evidence showing its suitability for this purpose. We propose a novel experimental design to identify conjoint analysis's ability to mitigate SDB. Specifically, we compare a standard, fully randomized conjoint design against a partially randomized design where only the sensitive attribute is varied between the two profiles in each task. We also include a control condition to remove confounding due to the increased attention to the varying attribute under the partially randomized design. We implement this empirical strategy in two studies on attitudes about environmental conservation and preferences about congressional candidates. In both studies, our estimates indicate that the fully randomized conjoint design could reduce SDB for the average marginal component effect (AMCE) of the sensitive attribute by about two-thirds of the AMCE itself. While encouraging, we caution that our results are exploratory and exhibit some sensitivity to alternative model specifications, suggesting the need for additional confirmatory evidence based on the proposed design.

About data

- This project includes two studies—a two-wave `study1` and a single-wave `study2`.

Figures in the article

- Figure 1: an image only (not in this replication package)
- Figure 2: `./study1/figures/AMCEs_Yes.pdf`
- Figure 3: `./study2/figures/AMCEs_study2_merged.pdf`
- Figure C.1: `./study1/figures/AMCEs_No.pdf`
- Figure D.1: `./study2/figures/results_with_various_cf_parameters.pdf`
- Figure D.2: `./study2/figures/estimates_by_size_SDB_prone_group.pdf`
- Figure D.3: `./study2/figures/figures/meta-learner_estimates.pdf`
- Figure D.4: `./study2/figures/AMCEs_study2_no.pdf`

Files included in this package:

- `README.md`
- `REAME.pdf` – generated by `README.md`
- `horiuchi-markovich-yamamoto.Rproj` (for RStudio)
- `master.R` – a master file that sources all other scripts. (Please be careful when you run this script at it will take a long time.)
- renv (folder)
  - Files generated by the `renv` package (version 0.13.2-67)

  - See https://rstudio.github.io/renv/index.html.

- `renv.lock`
  - A file generated by the `renv` package (version 0.13.2-67)

- study1
  - data (folder)
    - Data used for replication of Study 1
  - documents (folder)
    - Documents relevant to Study 1 (survey instruments, php files, a Javascript file)
  - figures (folder)
    - All files are generated by the scripts for Study 1
  - functions (folder)
    - Functions used for Study 1
  - output (folder)
    - All files are generated by the scripts for Study 1
  - scripts
    - R scripts for complete replication and some additional analysis for Study 1

- study2
  - data (folder)
    - Data used for replication of Study 2
  - documents (folder)
    - Documents relevant to Study 1 (survey instruments, php files)
  - figures (folder)
    - All files are generated by the scripts for Study 2
  - functions (folder)
    - Functions used for Study 2
  - output (folder)
    - All files are generated by the scripts for Study 2
  - scripts
    - R scripts for complete replication and some additional analysis for Study 2

Remarks:

- If you use RStudio, click `horiuchi-markovich-yamamoto.Rproj` to launch RStudio and set the working directory automatically.
- If you do not use RStudio, manually set the working directory, which is the folder that includes `horiuchi-markovich-yamamoto.Rproj`.
- The following scripts (particularly, the "step07" script) take a very long time to complete (e.g., about 5.5 hours with MacBook Pro 2019, 2.5 GHz 8-Core Intel Core i9, 32 GB 2667 MHz DDR4). Please be patient!
  - study2/scripts/step03_identify_SDBprone_respondents.R
  - study2/scripts/step06_get_estimates_by_parameters.R
  - study2/scripts/step07_get_estimates_by_meta_learners.R

Program:

- R (version 4.0.4)

Additional programs required:

- `tidyverse` (version 1.3.1)
- `stargazer` (version 5.2.2)
- `broom` (version 0.7.6)
- `lmtest` (version 0.9-38)
- `multiwayvcov` (version 1.2.3)
- `ggthemes` (version 4.2.4)
- `estimatr` (version 0.30.2)
- `grf` (version 1.2.0)
- `causalToolbox` (version 0.0.2.000)
- `Rforestry` (version 0.9.0.40)

Process of replication:

- If you use RStudio, install `renv` (a package to create reproducible environments). Then, type `renv::restore()` to restore a project's dependencies from a lockfile.
- If you do not use RStudio, install the packages manually.
- Then, for each study, run the scripts sequentially.

Most recent date of successful replication August 16, 2021