1.3.4: Missing Data and Sampling Weights

(Asynchronous-Online)

Session Objectives

1. Identify and summarize missing data.
2. Learn methods to handle missing data according to variable type.
3. Use a survey sampling weight to generate more representative descriptive and inferential statistical values (brief intro)
4. Discuss potential bias when removing missing observations without careful examination.

key points 1. R packages that support missing data examination 2. Mean/median imputation for continuous variables 3. What to do with missing observations for categorical variables 4. Ways to examine potential differences between complete and missing observations in association between certain independent and dependent variables a. What to do if such association significantly differs between complete and missing observations 5. R packages for complex survey data (e.g., survey package) a. R codes to generate weighted descriptive statistics and contingency tables, as well as to develop weighted linear models

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0. Prework - Before You Begin

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4. Discuss potential bias when removing missing observations without careful examination.

References

R Core Team. 2024. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Other Helpful Resources

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