APYN study

Procedure:

(i) First run the "code-for-APYN-imputation.m", which reads the data in "apyn_data.csv" and generates outputs saved in "output/apyndata-output.mat".

(ii) Then run the "code-for-APYN-analysis.m" , which loads the datasets saved in "output/apyndata-output.mat" and implements the multiple imputation inference.

(iii) Finally run the file "apyn-plots.R" to generate the plots shown in the paper

Uploaded files:

1) apyn_data.csv

This is the real data used in the paper.

2) code-for-APYN-imputation.m

The file provides codes to run the MCMC procedure for the semi-parametric AN on the Associate Press Yahoo News data. And multiple datasets after imputation are saved. The output is saved as "output/apyndata-output.mat"

3) code-for-APYN-analysis.m

The file analyzes the output generated by the imputation

and first load “output/apyndata-output.mat”. This file provides codes to analyze the multiply imputed datasets for multiple imputation inference---marginal probabilities and conditional probabilities inside subgroups--- and posterior predictive check.

4) apyn-plots.R

This file provides R codes to make the figures on the real data analysis.

Simulation study

Procedure:

(i) First run “simulation-datageneration-Amelia.R” to simulate the incomplete data. This file also includes codes using Amelia for imputation.

(ii) Then use “code-for-simulation-imputation.m” to run the proposed semiparametric AN model on the incomplete data and the output is saved in “output/simumlation-an.data”.

(iii) Finally, run the code “simulation-plots.R” to generate the plots in the paper, which reads the outputs from the first two files.

Uploaded files:

1) simulation-datageneration-Amelia.R

This files provides R codes to simulate the data for the replication process, as well as the codes to run Amelia for multiple imputation.

2) code-for-simulation-imputation.m

The file provides the codes to run the MCMC procedure for the semi-parametric AN model to impute the missing values in the simulated datasets.

3) simulation-plots.R

This file provides the codes to make Figure 1 and 2 for simulation studies.