\documentclass[12pt,a4paper]{article}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\usepackage{lineno}

\linenumbers

\usepackage{apacite}

\bibliographystyle{apacite}

\usepackage{har2nat} % author et al. in-text citation format

\setcitestyle{aysep={}} % removes comma between author (et al.) and year in in-text citation

\sloppy

\usepackage{sectsty}

%\usepackage{hyperref}

\sectionfont{\fontsize{15}{15}\selectfont}

\usepackage[margin=1in]{geometry}

\usepackage{setspace}

\doublespacing % double spaced

\usepackage{xcolor}

\usepackage{graphicx} % Including figure files

\usepackage{amsmath} % Advanced maths commands

\usepackage{amssymb} % Extra maths symbols

\usepackage{bm}

\usepackage[utf8]{inputenc}

\usepackage{mathpazo} % plus minus sign

\usepackage{physics} % abs

\DeclareMathOperator{\EX}{\mathbb{E}}% expected value

\usepackage{textcomp}

\usepackage{titlesec}

\titleformat{\subsection}

{\fontsize{14}{14}\bfseries}{\thesubsection}{1em}{} %% subsection format

\usepackage{babel}

\usepackage{csquotes}

\usepackage{lineno} % \linenumbers

%\linenumbers % line number

%\modulolinenumbers[5] % keep line number every nth line

%%%%%%%%%%%%%%%%%%%%%%%% Tables

\let\savedMakeRobust\MakeRobust

%\usepackage{ulem}

\usepackage{siunitx} %

\usepackage[labelsep=period]{caption} % dot instead of colon between Table X and title

\usepackage{booktabs} % for better looking tables

\usepackage{siunitx} % for units of measure and data in tables

\usepackage[section]{placeins}

\usepackage{multirow}

\usepackage{caption}

\usepackage[labelfont={bf}]{caption} %% bold table/figure captions

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\renewcommand{\thetable}{S\arabic{table}}

\begin{document}

%%%%%%%%% Table S1.

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\begin{table\*}[ht]

\begin{center}

\caption{Comparison of the variability of empirical ML estimates $\bm{\tilde{\theta}}$ from empirical data sampled with different $n$ values. Instead of deriving $\bm{\hat{\theta}}$ from a single (almond) dataset, we iteratively sample ($10^4$ times) $\bm{\tilde{p}}$ from a product multinomial with input $\bm{\hat{p}}$ (i.e. treated as known population proportions) and tested chosen $n$ value, and per each iteration we derive $\bm{\tilde{\theta}}$ ML estimates of $\bm{\hat{\theta}}$ and corresponding Wald confidence intervals of $\bm{\hat{\theta}}$ from the Hessian matrix.}

%\label{table:prod\_multinom\_before\_pool}

\setlength{\tabcolsep}{10pt} % Default value: 6pt

\renewcommand{\arraystretch}{1.5} % Default value: 1

\begin{tabular}{lllll}

%\toprule

\hline

& \multicolumn{4}{c}{True sample size $n$}\\

\cmidrule{2-5} & 50 & 150 & 250 & 500 \\

%\midrule

\toprule

mean($\tilde{a}\_1$) & 695.54073& 695.65269& 695.60218& 695.58277 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{11}} )$ & $\pm$ 8.17112& $\pm$ 4.72359& $\pm$ 3.65994& $\pm$ 2.58823 \\

$\tilde{a}\_1$ empirical coverage of 95\si{\%} CI & 94.84& 95.00& 95.16& 95.18 \\

mean($\tilde{a}\_2$) & 769.74950& 769.80461& 769.75212& 769.73440 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{22}} )$ & $\pm$ 8.61470& $\pm$ 4.97883&$\pm$ 3.85836& $\pm$ 2.72896 \\

$\tilde{a}\_2$ empirical coverage of 95\si{\%} CI & 94.70& 94.73& 94.89& 94.77 \\

mean($\tilde{a}\_3$) & 816.26883& 816.25789& 816.23719& 816.22629 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{33}} )$ & $\pm$ 7.82495& $\pm$ 4.52385& $\pm$ 3.50579& $\pm$ 2.47949\\

$\tilde{a}\_3$ empirical coverage of 95\si{\%} CI & 95.02& 95.01& 94.96 & 94.66 \\

mean($\tilde{a}\_4$) & 919.19294& 919.11557& 919.03054& 919.06322 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{44}} )$ & $\pm$ 10.22141& $\pm$ 5.90681& $\pm$ 4.57643& $\pm$ 3.23628 \\

$\tilde{a}\_4$ empirical coverage of 95\si{\%} CI & 94.84& 95.10& 93.98& 94.99 \\

mean($\tilde{a}\_{r-1}$) & 953.03190& 953.03091 & 952.97243& 952.96517 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{r-1r-1}} )$ & $\pm$ 9.42821& $\pm$ 5.44798&$\pm$ 4.22180& $\pm$ 2.98584\\

$\tilde{a}\_{r-1}$ empirical coverage of 95\si{\%} CI & 94.87& 94.94& 94.87 & 94.78 \\

mean($\tilde{\nu}$) & 1.07785& 1.08263& 1.08393& 1.08462 \\

$\pm$ mean$(\text{z}\_{0.025}\sqrt{\tilde{\text{v}}\_{rr}} )$ & $\pm$ 0.18979& $\pm$ 0.10988&$\pm$ 0.08517& $\pm$ 0.06025 \\

$\tilde{\nu}$ empirical coverage of 95\si{\%} CI & 94.54& 94.56& 94.29& 95.08 \\

%\bottomrule

\hline

\end{tabular}

\end{center}

\end{table\*}

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\end{document}