Conference Name: Annual Conference on Business, Economics Research and AI, 18-20 November 2026, Bangkok
Conference Dates: 18-Nov-2026 to 20-Nov-2026
Conference Venue: Oakwood Suites Tiwanon Bangkok, 229 Thanon Krungthep-Nonthaburi, Bang Khen, Bangkok 11000, Thailand
Appears in: PEOPLE: International Journal of Social Sciences (ISSN 2454-5899)
Publication year: 2026

Mayoo & Lawson, 2026
Volume 2026, pp. 814-815
DOI- https://doi.org/10.20319/icssh.2026.814815
This paper can be cited as Mayoo, C. & Lawson, N. (2026). Adjusted Hájek Estimator under Unequal Probability Sampling: Theoretical Analysis. Annual Conference on Business, Economics Research and AI, 18-20 November 2026, Bangkok. Proceedings of Social Science and Humanities Research Association (SSHRA), 2026, 814-815

ADJUSTED HÁJEK ESTIMATOR UNDER UNEQUAL PROBABILITY SAMPLING: THEORETICAL ANALYSIS

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Abstract

A new adjusted Hajek estimator is proposed under unequal probability sampling when nonresponse occurs in the response variable. We considered data missing at random nonresponse. The new estimator is adjusted from the ratio estimator which considered data missing completely at random which is a strong assumption and does not tend to usually occur in the real world. The new estimator is in the form of a ratio estimator and the bias is investigated to assess the performance of this new estimator.

Keywords:
Hájek Estimator, Unequal-Probability Sampling, Missing at Random, Missing Completely at Random