



Methodological Assessment of Quasi-Experimental Designs in Tanzanian Secondary Schools Systems

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Abstract

Quasi-experimental designs are increasingly used in educational research to evaluate the impact of interventions without random assignment, particularly in contexts where external factors influence outcomes. A comprehensive search strategy was employed using databases such as PubMed and Scopus. Studies were selected based on predefined inclusion criteria focusing on quasi-experimental methodologies applied to Tanzanian secondary schools systems. The review identified multiple studies employing various quasi-experimental designs, including regression discontinuity and difference-in-differences approaches. However, methodological inconsistencies in data collection and analysis were noted across the reviewed studies. While some quasi-experimental designs showed promising results in terms of efficiency gains, significant heterogeneity in study design and implementation rendered generalizability challenging. Future research should prioritise harmonizing methodologies to ensure robust comparison and interpretation of findings. Standardization of data collection protocols is also recommended to enhance comparability across studies. The empirical specification follows $Y = \beta_{0+\beta} X + \text{varepsilon}$, and inference is reported with uncertainty-aware statistical criteria.

Keywords: African education, quasi-experimental design, randomized controlled trials, educational impact assessment, methodological evaluation, resource allocation studies, stratified sampling

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