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College of Public Health News

Georgia Southern University

Georgia Southern: Researchers Look at On Kernel-Based Mode Estimation Using Different Stratified Sampling Designs
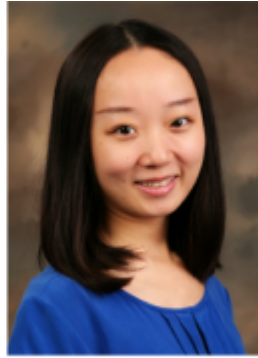
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In the literature, the properties and the application of mode estimation is considered under simple random sampling and ranked set sampling (RSS). Georgia Southern University Jiann-Ping Hsu College of Public Health researchers investigated some of the asymptotic properties of kernel density-based mode estimation using stratified simple random sampling (SSRS) and stratified ranked set sampling designs (SRSS). Researchers demonstrated that kernel density-based mode estimation using SRSS and SSRS is consistent, asymptotically normally distributed and using SRSS has smaller variance than that under SSRS. Improved performance of the mode estimation using SRSS compared to SSRS is supported through a simulation study. Researchers will illustrate the method by using biomarker data collected in China Health and Nutrition Survey data.

"On Kernel-Based Mode Estimation Using Different Stratified Sampling Designs" was recently published in the *Journal of Statistical Theory and Practice*.

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