

6-17-2016

## Biostatistics News

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### Recommended Citation

Georgia Southern University, "Biostatistics News" (2016). *Biostatistics News (through 6/2018)*. 37.  
<https://digitalcommons.georgiasouthern.edu/biostat-news-online/37>

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# Georgia Southern Examines a More Efficient Logistic Analysis

June 17, 2016



Logistic regression is the most popular technique available for modeling dichotomous-dependent variables. It has intensive application in the field of social, medical, behavioral and public health sciences.

In this paper Georgia Southern University Faculty propose a more efficient logistic regression analysis based on moving extreme ranked set sampling (MERSSmin) scheme with ranking based on an easy-to-available auxiliary variable known to be associated with the variable of interest (response variable). The paper demonstrates that this approach will provide more powerful testing procedure as well as more efficient odds ratio and parameter estimation than using simple random sample (SRS).

Theoretical derivation and simulation studies will be provided. Real data from 2011 Youth Risk Behavior Surveillance System (YRBSS) data are used to illustrate the procedures developed in this paper.

“[More efficient logistic analysis using moving extreme ranked set sampling](#),” was published in the Journal of Applied Statistics on May 8, 2016.

Dr. Hani Samawi, professor of biostatistics at the Jiann-Ping Hsu College of Public Health Georgia Southern University (JPHCOPH) was the lead author. Dr. Haresh Rochani and Dr. Daniel Linder, assistant professors at JPHCOPH were co-authors.

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