

Single Stage Simultaneous Selection of Extreme Populations under Heteroscedasticity

Shu-Fei Wu

Tamkang University

R.O.C.

Abstract

For some special purposes, experimenters sometimes want to identify the worst and best populations (extreme populations) at the same time. Mishra and Dudewicz [6] and Mishra [5] proposed subset selection and indifference-zone approaches for the above goal respectively. Misra and Dhariyal [7] proposed the simultaneous confidence intervals (SCI) for all distances from the worst and best populations when the unknown scale parameters are equal. When the unknown scale parameters are unequal, Mishra and Dudewicz [6] proposed a two-stage procedure. However, the single-stage procedures for this problem have not yet studied, it is the purpose of this paper to propose the single stage simultaneous confidence intervals (SCI) for all distances from the worst and best populations, subset selection and indifference-zone approaches for extreme populations under heteroscedasticity. A numerical example in Bishop and Dudewicz [1] is given to illustrate the single-stage procedures. A better performance is shown for this example.

Keywords: Single Stage Procedure, Simultaneous Confidence Intervals, Subset Selection, Indifference-Zone Approach.