

**Order Preserving Property of Total Time on Test
Statistic and Its Applications in Reliability**

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Some of the well known properties of the estimators are unbiasedness, consistency and asymptotic normality. Recently, Balakrishnan and Mi (2001) introduced a new property known as the order preserving property of estimators and proved that under certain conditions, the maximum likelihood estimator possesses this property. In this paper we show that certain functions of order statistics, considered as an estimator possesses this property. We also show that the total time on test statistic from any life distribution satisfies this property. We further show that most of the commonly used estimators in exponential distributions under Type I censoring and Type II progressive censoring, also possess this desirable property.

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