

Product-limit estimators of the survival function for two modified forms of current-status data

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The problem of estimating the distribution of a lifetime that may be left or right censored is considered. Two data structures that extend the classical current-status data framework are introduced and the corresponding product-limit estimators are derived. The strong uniform convergence and asymptotic normality of the product-limit estimators are proved. A bootstrap procedure that can be applied to confidence intervals construction is proposed.

Keywords: bootstrap; current-status data; delta method; left and right censoring; martingales; product-limit estimator; strong convergence; weak convergence