

**Yang, Shie-Shien**

**A smooth nonparametric estimator of a quantile function.** (English) Zbl 0593.62037  
*J. Am. Stat. Assoc.* 80, 1004-1011 (1985).

Summary: A smooth alternative to the conventional sample quantile function as a nonparametric estimator of a population quantile function is proposed. The proposed estimator is essentially a kernel type of estimator and has the same asymptotic distribution as the conventional sample quantile. The mean squared convergence rate of the proposed estimator is also estimated.

Monte Carlo studies are conducted to compare the proposed estimator with the sample quantile and the estimator proposed by *W. D. Kaigh* and *P. A. Lachenbruch* [*Commun. Stat., Theory Methods* 11, 2217-2238 (1982; [Zbl 0499.62034](#))]. The feasibility of using bootstrap techniques to estimate the optimal window width for the proposed estimator is also considered.

**MSC:**

[62G05](#) Nonparametric estimation  
[62G30](#) Order statistics; empirical distribution functions

Cited in **2** Reviews  
Cited in **63** Documents

**Keywords:**

asymptotic properties; population quantile function; mean squared convergence rate; Monte Carlo studies; optimal window width

**Full Text:** [DOI](#)