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# A bootstrap method for comparing correlated kappa coefficients

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## Abstract

Cohen's kappa coefficient is traditionally used to quantify the degree of agreement between two raters on a nominal scale. Correlated kappas occur in many settings (e.g., repeated agreement by raters on the same individuals, concordance between diagnostic tests and a gold standard) and often need to be compared. While different techniques are now available to model correlated  $\kappa$  coefficients, they are generally not easy to implement in practice. The present paper describes a simple alternative method based on the bootstrap for comparing correlated kappa coefficients. The method is illustrated by examples and its type I error studied using simulations. The method is also compared with the generalized estimating equations of the second order and the weighted least-squares methods.

Keywords:

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**Comparing correlated kappas by resampling: Is one level of agreement significantly different from another?**

Source: Journal of Psychiatric Research

**A Coefficient of Agreement for Nominal Scales**

Source: Educational and Psychological Measurement

**A Simple Method for Estimating a Regression Model for  $\kappa$  Between a Pair of Raters**

Source: Journal of the Royal Statistical Society Series A (Statistics in Society)

**An Introduction to the Bootstrap**

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