

The “deltaR” package: a flexible way to compare regression models on independent samples using a bootstrap approach

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A frequently asked question in the social and behavioral sciences concerns the statistical comparison of different regression models performed on independent samples. This comparison may be useful to: (1) directly compare the goodness of fit of one or more models in independent samples; (2) explore the behavior of different models in different groups in order to conduct more complex analyses (e.g., multigroup analyses).

The aim of this paper is to present a flexible method to test the difference between explained variance (ΔR -squares) of two multiple linear regression models in two independent samples. The method is based upon a stratified, non-parametric bootstrap approach.

The consistency and efficiency of “deltaR” is illustrated via Monte Carlo simulations, and a case study based on real data will be presented. The discussion will focus on the usefulness of this method, with a special emphasis on its applications in the social and behavioral sciences.