

THE APPLICATION OF THE BOOTSTRAP METHOD IN ANTHROPOLOGY

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We proposed to accomplish an introduction, theoretically moderate, and as much as possible more practical, to the bootstrap resampling method. We tried to limit our theoretical argumentation, the main idea being that by means of a practical example we would clarify the concept. The method was applied to evidence sexual dimorphism on a sample of 305 adolescents, 17 years old boys and girls, from the "Matei Basarab" College in Bucharest. The bootstrap may be a useful tool for anthropological research when facing problems relating the size of the sample, the research method assumptions or representativity of the selected sample. The paper addresses mainly to the researchers in anthropology familiar with the statistical methods currently used.

1. INTRODUCTION

Anthropological research is to a large extent based upon the accuracy of the statistical analysis results of the data collected from a basic sample, randomly drawn from a "target" population. Traditional, classical tests, frequently used in anthropological research such as t-Student, correlations, linear regression, may reveal significant differences between the investigated groups, identify links, factors or effects. They provide **power** and accuracy to the research when the researcher has the **chance** to discover a significance level lower than 0.05. Such a result gives us a first order accuracy and makes the research legitimate the extent of the result over the entire target population. Practically, the confidence interval may indicate an effect if the analyzed statistical parameter measures the differences between groups, situations, etc. From this point of view in statistics a confidence interval containing the "0" value makes the analyzed parameter statistically insignificant, because this may mean anything (the parameter is positive, is negative or is even 0). In this circumstance, the respective parameter cannot be extrapolated to the entire population.

There are very few researchers interested in the result obtained from a sample, if the conclusions of this result cannot be extended to the entire population