EXPERIMENTAL COMPARATION OF GUTTMAN KAISER, PLUM BRANDY, SCREE AND PARALLEL ANALYSIS - MONTE CARLO CRITERIONS IN EXPLORATORY FACTOR ANALYSIS VIA SELECTED KINESIOLOGICAL RESEARCH

Abstract

The aim of this study is to compare experimentally four different criteria for choosing number of principal components in exploratory factor analysis (EFA): Guttman-Kaiser (GK), Plum-Brandy (PB), Scree Plot (SP) and Parallel analysis - Monte Carlo (PAMC) via selected kinesiological research. Results clearly indicate that usage different extraction methods will, in general, give different number of latent dimensions. In accordance with obtained results, it is obvious that scientist or researcher in field of kinesiology have to be completely aware of advantages and problems in usage of each abovementioned FA extraction method criteria. Further researches of this type should be focused on analytical and experimental comparisons of results obtained by different criteria but on the sets of measured variables of well known latent structure.

Key words: *factor analysis, number of factors, criteria, comparison*