

The goodness of fit indexes RMSEA and SRMR using ULS and RULS in Structural Equation Modeling: a review of its cut-off point

Wednesday 23 July 2025 10:15 (15 minutes)

The use of Likert scales in the field of social research is becoming more and more common every day, it is necessary to investigate which is the most appropriate methodology to carry out the analysis of the data obtained. If they are ordinal, they should be treated as such, however, they are frequently analyzed considering them as continuous variables. One of the most widely used techniques to obtain construct validity evidence through internal structure of the nomological models, is Confirmatory Factor Analysis. Using simulation studies in which four factors have been manipulated (number of factors, number of items response categories, skewness and sample size) our objective is twofold: firstly, when ordinal variables are used, analyze the type I error and power of the most common fit indices, such as RMSEA and SRMR obtained using ULS and RULS estimation methods; and secondly, using Receiver Operating Characteristic Curve (ROC) review the cut-off points of RMSEA and SRMR. It is found that, depending on the estimation method chosen, the type I error and power differ, as well as the values reported by RMSEA and SRMR. RULS seems to obtain better results regardless of experimental factors manipulated. Finally, it is found that it would be convenient to review the cut-off points for these global fit indices recommended by the literature.

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Session Classification: Symposium : "Intervention programs evaluation: effect size, moderator variables and methodological quality"