

Evaluation of Analysis Methods and Product Strategies on Estimation of Latent Interaction and Quadratic Effects

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In conducting empirical research, researchers are often interested in nonlinear relationships. Thus, accurately estimating latent interaction and quadratic effects is of great importance. This research aims to evaluate latent interaction and quadratic effects by means of the Monte Carlo method. Performances of all possible combinations of four product indicator based analysis methods with three product strategies are examined. The four approaches used in this study include the centered constrained approach, Jaccard and Wan's procedure, the partially constrained approach, and the unconstrained approach, while the three product strategies are one pair, matched pairs, and all pairs. The results indicate that different approaches and product strategies have little effect on the estimates, but the partially constrained approach and the unconstrained approach (except for the one-pair strategy) produce fewer fully proper solutions, more bias and greater root mean square error for smaller sample sizes or poor reliability of the indicators.

Keywords: *latent interaction effect, latent nonlinear effect, structural equation modeling*

