

## **Abstract**

### **The Factor Construct of the Barkley Deficits in Executive Functioning Scale and its Measurement Invariance in the Light of Item Response**

#### **Theory and Multi-Groups Confirmatory Factor Analysis Among University Students**

The study aims to verify the factor construct of Barkley Deficits in Executive Functioning Scale (BDEFS) of a sample of university students, and Determination of construct validity evidences for it, It also aims to identify the extent of configural invariance, metric invariance, scalar invariance, and residual invariance of BDEFS) across multiple gender groups of male and female of teacher students and through academic major and their age using MGCFA, and identifying Differential Item Functioning by IRT .And finally, understand the effect of statistical interaction between the gender, the academic major and the Age on the factor construct of BDEFS. The scale was applied to 678 male and female (77.8% female) students from the university, then the data were analyzed using a number of statistical analysis techniques (Exploratory and Confirmatory factor analysis, multiple -group Confirmatory Factor Analysis (MGCFA), Using Mplus and IRT PRO 4.20 to identify Differential Item Functioning by IRT using the Graded response model (GRM). as well as the use of MANOVA analysis. The results revealed a five-factor construct for the scale that is consistent with the original scale. The results of the second question of the study revealed the abundance of evidences of Convergent and Discriminant validity of the test, as well as achieving high levels of reliability of the factor construct in the light of different criteria. The results of the study also revealed the achievement partial invariance. Finally, there was no significant interaction effect between gender and academic major and age on five factor. While the main effect of the academic major factor was found on the Self Restraint factor in favor of literary disciplines, And the main effect of the gender factor was found only on the Self-Regulation of Emotions factor in favor of females.

**Keywords: factor construct - measurement invariance - Barkley Deficits in Executive Functioning Scale (BDEFS) - Item response theory- Multi-group confirmatory factor analysis**