

Confirmatory Factor Analysis of the BDEFS-CA in a Canadian Sample of Children with and without ADHD



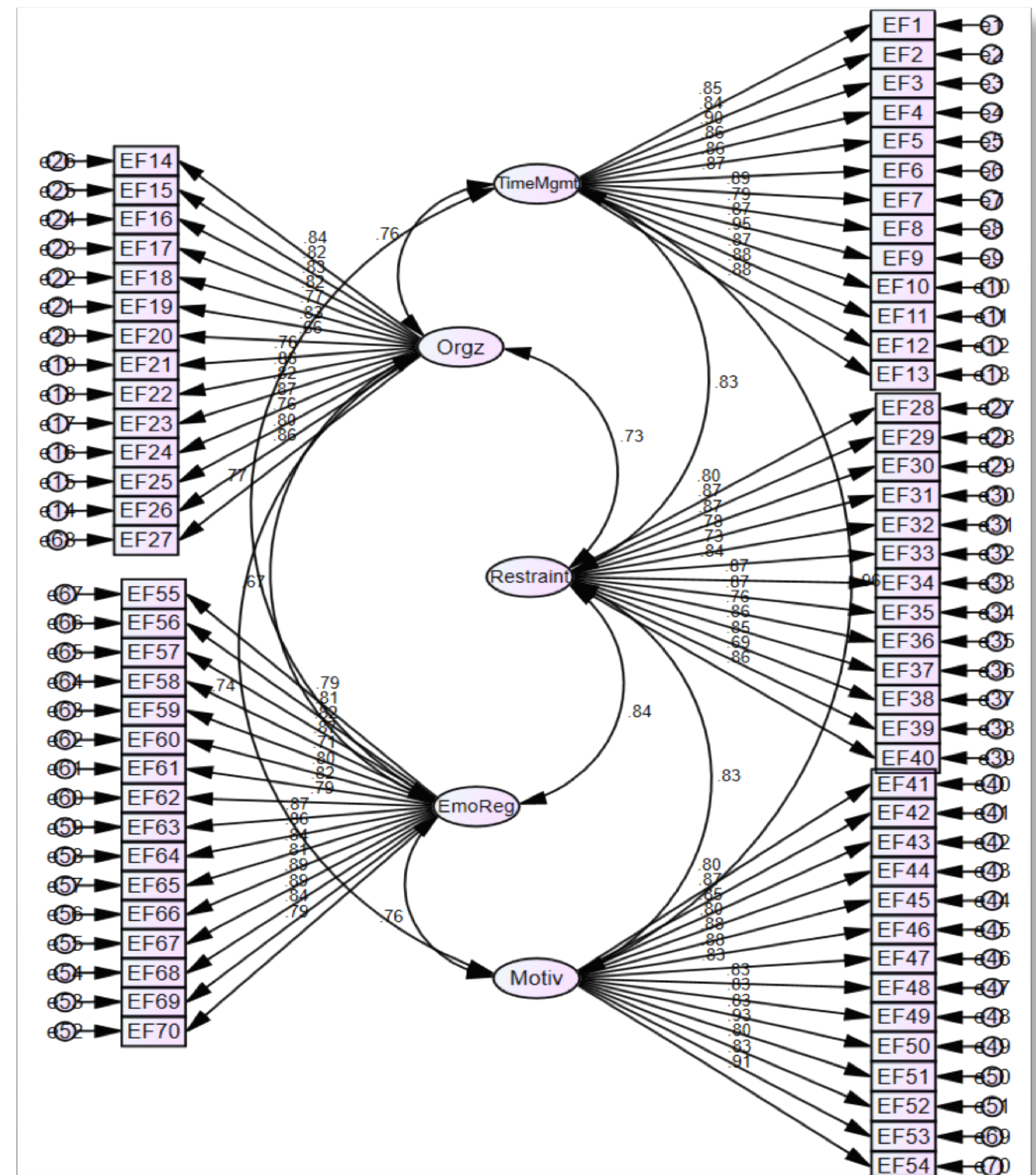
University of Windsor



Amanda M. O'Brien, Lynette R. Kivisto, Shanna Deasley, & Joseph E. Casey
Department of Psychology, University of Windsor

Introduction

- The Barkley Deficits in Executive Functioning Scale – Children and Adolescents (BDEFS-CA) is a 70-item downward extension of the adult version (BDEFS) with the same 5 scales: Self-Management to Time, Self-Organization, Self-Restraint, Self-Motivation, and Self-Regulation of Emotions.
- There have been no published studies regarding the validity of the BDEFS-CA since the original factor analysis used to develop the pediatric version.
- The present study examined the construct validity of the BDEFS-CA by using confirmatory factor analysis (CFA) to replicate its five factor structure.



Participants & Methods

- Parents of children aged 8- to 14-years ($N = 100$, $M_{age} = 11.34$, 29% female) completed the BDEFS-CA long form as part of a larger study examining fine motor control in children with ($n = 50$) and without ($n = 50$) ADHD.
- CFA of the five-factor structure was performed using LISREL.

CFA Fit Indices	Statistic	Criteria
χ^2/df	2.20*	< 3 (Ullman, 2001)
SRMR	0.07*	< 0.08 (Hugh & Bentler, 1999)
RMSEA	0.11 [0.106 – 0.114]	< 0.10 (MacCallum et al., 1996)
Comparative Fit Index (CFI)	0.72	> 0.90 (Hugh & Bentler, 1999)
Normed Fit Index (NFI)	0.59	> 0.90 (Hugh & Bentler, 1999)

* indicates model fit

Results

- Despite a large significant χ^2 value [$\chi^2(2335) = 5137.01$, $p < .001$], the χ^2/df ratio was within acceptable parameters (i.e., < 3).
- Root mean-squared residual (SRMR) was also below the suggested cut-off.
- High standardized factor weights were found for all observed variables ($0.66 < \beta < 0.95$).
- Latent variables of the BDEFS-CA were strongly correlated ($0.67 < r < 0.96$).

Discussion & Conclusions

- Although the model did not fit on all indices, criteria were met for 2 of 5 common indices.
- High factor weights and correlations between latent variables were observed, suggesting a common factor (e.g., executive functions).
- Findings provide support for the construct validity of the five scale structure of the BDEFS-CA.
- A larger and more representative sample may have improved model fit.

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