Bayesian multilevel factor analysis of the Emotion Regulation Checklist

Introduction

We are evaluating the utility of a newly developed and validated Emotion Regulation Checklist (ERC). Our model of regulatory skills and temperament demonstrates good reliability and metric invariance with stability and covariation across levels and across time.

Research Design and Methods

Multi-level, cluster randomized longitudinal design with 66 classrooms (2 per site). 600 children from 34 Head Start programs (20 intervention, 14 control) and 36 home-based programs, randomly assigned to intervention vs. control. 10 classrooms dropped out before child data collection, leaving 56 for this analysis. 4-point Likert response format (treated as ordinal data).

We used a Bayesian approach to estimate multilevel factor analysis (Asparouhov & Muthén, 2010). This approach allowed us to incorporate prior knowledge into the analysis and to handle the small sample size. We also used a Cholesky decomposition to specify the latent factors and to handle the ordinal data.

Findings

Our model of regulatory skills and temperament demonstrated good reliability and metric invariance with stability and covariation across levels and across time. The results suggest that the ERC may be a viable tool for assessing children's emotional regulation in early childhood settings.

Discussion

The ERC reflects a developmental approach to emotion regulation. Our results suggest that the ERC is a promising tool for assessing emotional regulation in early childhood settings.
CHILD CHARACTERISTICS (N = 522)

| Variable | n (%)
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Female</td>
<td>262 (50.2%)</td>
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<tr>
<td>Hispanic</td>
<td>125 (24%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
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<tr>
<td></td>
<td>AA</td>
</tr>
<tr>
<td></td>
<td>AI/NA</td>
</tr>
<tr>
<td></td>
<td>White</td>
</tr>
<tr>
<td></td>
<td>Other</td>
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<tr>
<td>Age (years)</td>
<td>3.7 (SD = .48)</td>
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References


