

Investigating Young Children's Behavioral and Emotional Problem Using Pediatric Symptoms Checklist – 17 in Structural Equation Modeling Framework

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Introduction

- Children's behavioral and emotional problems are negatively associated with educational social outcomes.
- Universal screening tools
- Scales
 - ASEBA, BASC-3, PSC-17...



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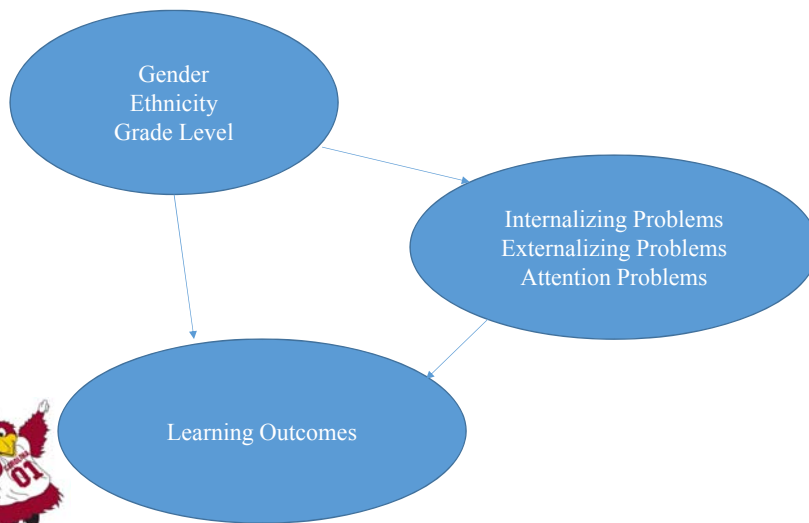
PSC-17

- Length (17 items)
- Free
- Validated in the preschool setting (DiStefano, Liu & Burgess, 2017).
- Three Factors –
 - Externalizing problems measures disruptive behaviors, such as aggression and hyperactivity (e.g., Takes things that do not belong to him/her);
 - Internalizing problems measure feels for depression, worry, and anxiety (e.g., Worries a lot);
 - Attention problems measure attention-deficit issues (e.g., Has trouble concentrating).



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Review



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Research Gaps

- Not validated in other grade levels.
- It remains unclear how multiple children's demographics, such as grade levels, gender, and ethnicity, affect the measurement of the latent variables underlying the PSC-17 simultaneously.
- No studies have been conducted to investigate the ability of the PSC-17 to predict academic outcomes, which is important to build the consequential validity of the scale.



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Our study

- Investigate psychometric properties of the PSC-17 in grade one and two in the school environment.
 - Investigate the factor structure
 - Examine how demographic characteristics of children impact the underlying latent variables the PSC-17 (i.e., internalizing, externalizing, and attention problems) and academic outcomes simultaneously.
 - Explore the relationships between behavioral and emotional problems and academic outcomes by controlling the demographics.



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Data Collection

- Teachers from an elementary school provided ratings of the PSC-17 for all students in grade one and two in Fall of 2014.
- Seventeen items were rated on a three-point ordinal scale with anchors of “Never” = 0, “Sometimes” = 1, and “Often” = 2.
- Item scores were summed and higher scores indicate a higher level of behavioral problems in each subscale.
- Sample size: 508



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Data Collection

- Female (N=233, 45.87%) & Male
- White (N=342, 67.32%) & Minorities (N=166, 32.68%).
- All received free or reduced lunch.
- Grade 1 (N=241, 47.44%) & Grade 2 (N=267, 52.56%)
- Measures of Academic Progress (MAP) test scores (2015 Spring)



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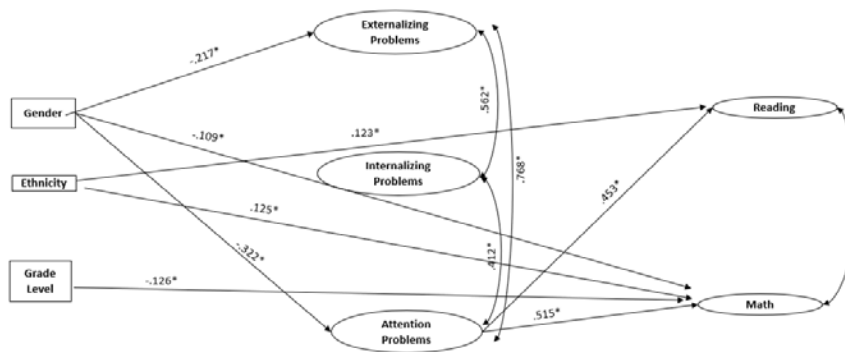
Data Analysis

- Structural Equation Modeling
- Mplus
- WLSMV
- Fit indices (Chi-square/df; CFI; TLI; RMSEA; WRMR)
- CFA=> MIMIC=> SEM



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Results



$\chi^2_{(186)} = 650.507$, RMSEA = .070, 90% CI .064 - .076, CFI = .973, TLI = .968, WRMR = 1.396



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Discussion

- Three factor structure with a minor change.
- Males were more likely to be reported for attention problems and externalizing problems than females.
- Students with more attention problems had lower achievement levels in the MAP reading and math tests.



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Limitations & Future Directions

- Other factors such as socio-economic status and the structure of the family should be considered to form a more comprehensive list of demographic factors.
- Invariance tests should be used to determine whether the underlying structure of the PSC-17 is equivalent across groups in the future.
- Conduct studies in later school setting to figure out the behavioral and emotional patterns in different age groups as the scale was originally designed for children aged 4 to 16.



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Thanks



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