A New and Validated Positive Parenting Behavior Scale

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Objectives

Objective 1. Develop a self-report positive parenting behavior measure
- The **Positive Parenting Behavior Scale (PPBS)** was constructed as a measure of positive parental promotion of child development

Objective 2. Assess the psychometrics of the newly developed PPBS
- Dimensionality
- Reliability
- Validity

Objective 3. Evaluate the universal applicability and responsiveness to intervention change of the PPBS
- Measurement Invariance (**MI**) tests across child age, gender, and sample source
- Relationship of PPBS with home-visiting (**HV**) dose

Introduction

- There has been a **lack of validated self-report measures of positive parenting behaviors** in the field

- **The PPBS** was **developed** to **fill the gap**[1]

- Across the parenting literature, **positive parenting behaviors** include reading to children, eating mealtimes together, talking to children, and setting rules and limits

- The PPBS was **constructed** based on existing parenting literature and federal guidance from CDC[2]
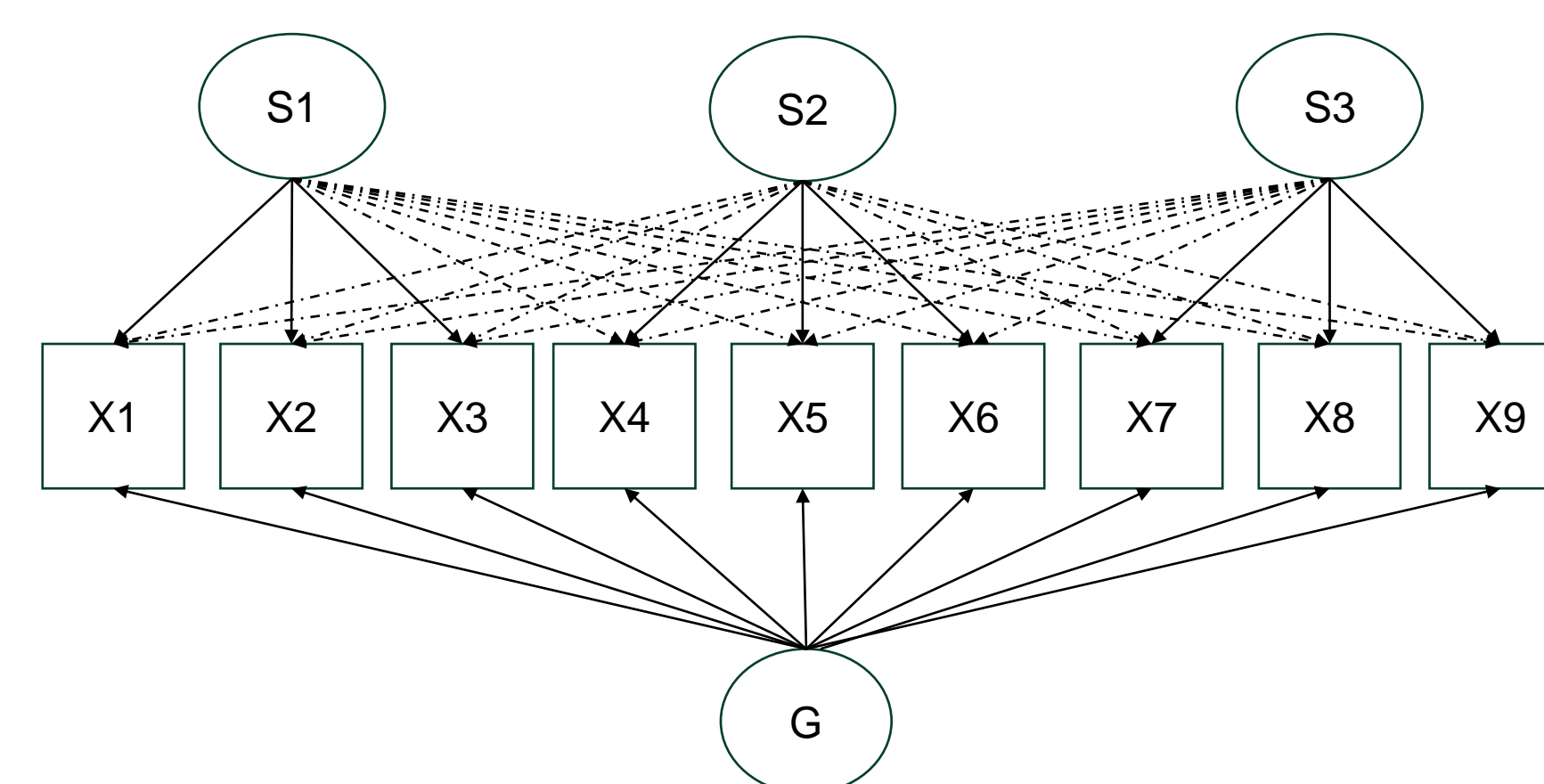
Methods

- Sample data from an HV database (**ETO**, N = 623) and a survey of HV clients and comparison cases (**GPAV**, N = 166), in the U.S. from Jan 2021 to March 2023

- Specifically, **Parents of young children** (ages birth to 7 years) were asked how many days a week they engaged in each of 15 parenting behaviors with their children

- The assessment is part of routine evaluations by home visiting service agencies (**ETO**) and virtual interviews (**GPAV**) by OU's Center on Child Abuse and Neglect (**CCAN**)

- Only Mom's data were used for the analysis

- An Exploratory Factor Analysis-Exploratory Structural Equation Modeling-Confirmatory Factor Analysis (**EFA-ESEM-CFA**) approach was used to investigate the **psychometrics** and **cross-validate** the results
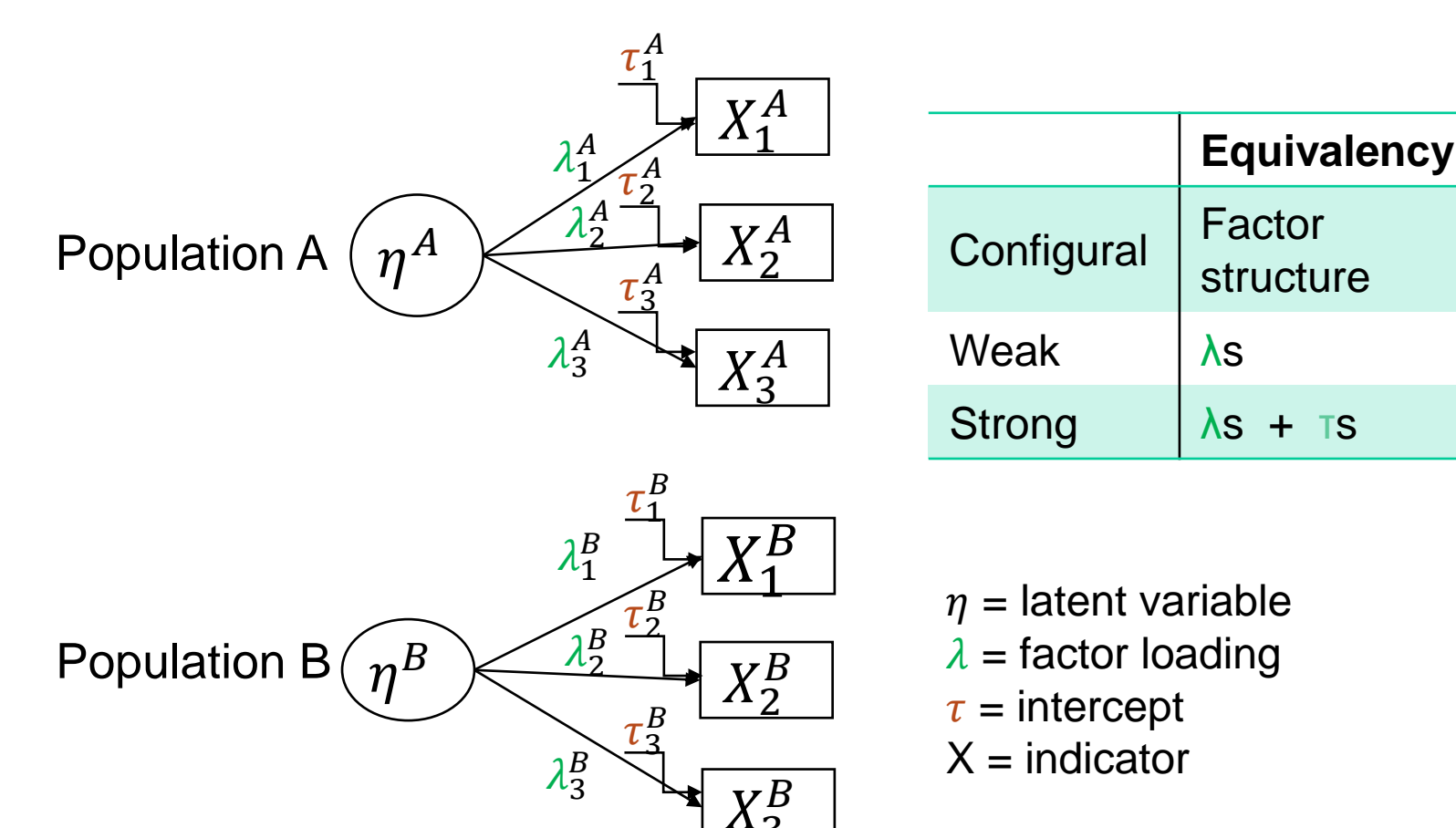
- **MI tests** were used to test its **universal applicability**

- A generalized **SEM** was used to test its responsiveness to **HV** dose

Bifactor-ESEM

MI Tests

	Equivalency
Configural	Factor structure
Weak	λs
Strong	$\lambda s + \tau s$

η = latent variable
λ = factor loading
τ = intercept
X = indicator

PPBS Items

Item	Please indicate how many days during the week you engage in each behavior with your child.
01	Read or tell stories with your child
02	Sing or dance with your child
03	Set a routine with your child
04	Show affection to your child
05	Play age-appropriate games with your child
06	Let your child play with age-appropriate toys
07	Point out new things to your child and name them
08	Praise or encourage wanted behaviors
09	Describe your child's emotions
10	Encourage your child to drink from his/her cup and use utensils
11	Engage your child in simple chores at home
12	Do art projects with your child using craft materials
13	Take your child to the park
14	Set rules and limits for your child
15	Arrange play dates, trips to the park, or play groups

Table 1. Sample Characteristics

| Covariates	ETO (N = 623)[1]	GPAV (N = 166)[1]		p-value[2]
Mom Age (years)	31 (25, 36)	29 (23, 34)		.049
Mom Race/Ethnicity				
White	19%	24%		
Black	13%	22%		<.001
Hispanic	54%	38%		
Other	14%	16%		
Child Age (years)	1.79 (0.67, 3.13)	1.28 (0.43, 3.54)		.20
Child (Male)	50%	52%		.65
		Comparisons (n = 95)	Clients (n = 71)	
HV dose (# completed visits)	22 (9, 38)			-
		0	41 (22, 56)	

[1]Median (IQR); %
[2]Wilcoxon rank sum test; Pearson's Chi-squared test

Results

- **Dimensionality:** The EFA-ESEM-CFA confirmed that the PPBS has a **bi-factor structure** with
  - A **General** factor:
    - ❖ General positive parenting (G)
  - Two **Specific** factors
    - ❖ Engagement with child (S1)
    - ❖ Child agency promotion (S2)

- **Model-based Reliability:** All three factors showed good internal consistency reliability
  - Omega Total: G: .89; S1: .85; S2: .78
  - Omega Hierarchical: G: .64; S1: .47; S2: .40

- **Convergent Validity:** The Engagement with Child dimension was positively associated with the Positive Parenting Practices Scale[3], offering evidence of convergent validity
  - G: r = −.10, p = .253
  - S1: r = .58, p < .001
  - S2: r = .11, p = .272

- **Is the PPBS Universally Applicable?**
  - Yes across gender - The measure performed similarly for moms of both male and female children
  - Maybe not across children of different ages – Only configural MI retained between moms of younger (<1.5 years) vs older (≥ 1.5 years)

- **Sensitive to Intervention Change?**
  - HV dose significantly predicts General positive parenting

Figure 1. Summary of Results
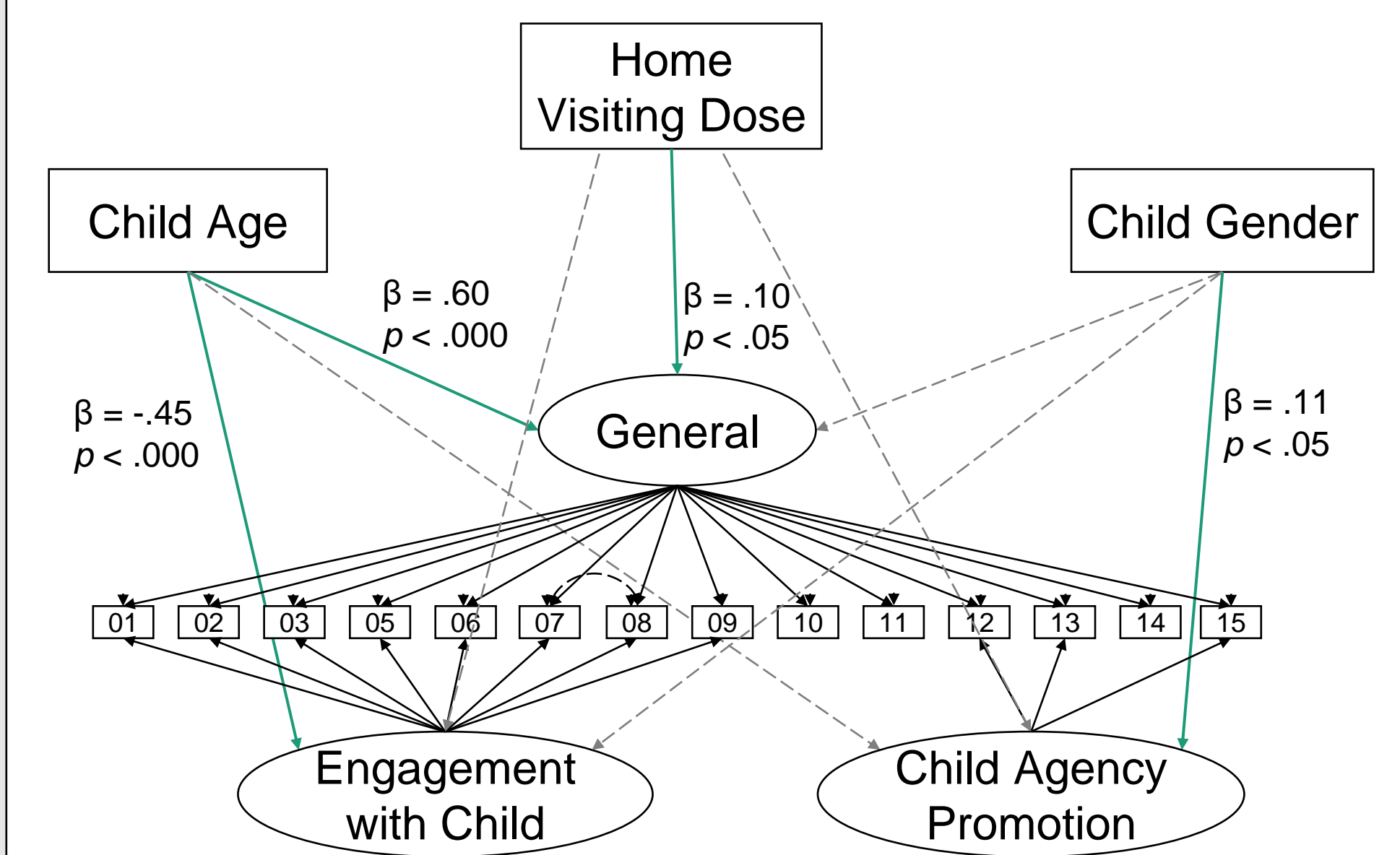
Discussion

1. This study used an innovative, both theory-driven and data-driven approach to investigate and cross-validate the **psychometrics** of the **PPBS** scale

2. The bifactor solution allows **simultaneous examination** of the impact of home visiting on **different aspects** of parental positive behaviors

Practice Implications

1. The validated self-report measure of positive parenting behaviors could serve as a **useful tool** and allow the researchers and practitioners in the community to **investigate parental behaviors in home-visiting** programs

2. Recommend analyzing younger and older children separately due to variations in measurement properties

Funding

[1] Sanders, M. R., Morawska, A., Haslam, D. M., Filus, A., & Fletcher, R. (2014). Parenting and Family Adjustment Scales (PAFAS): Validation of a brief parent-report measure for use in assessment of parenting skills and family relationships. Child Psychiatry & Human Development, 45, 255-272.
[2] Daniel, K., Prue, C., Taylor, M., Thomas, J., & Scales, M. (2009). 'Learn the signs. Act early': A campaign to help every child reach his or her full potential. Public health, 123, e11-e16.
[3] Yamaoka Y, Bard DE. Positive Parenting Matters in the Face of Early Adversity. Am J Prev Med. 2019 Apr;56(4):530-539.