

The Weekly Assessment of Child Behavior: Reliability and Validity

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Background

- A lack of a very brief, validated measure of externalizing problems has limited clinicians' ability to screen for externalizing problems and to monitor the treatment progress of children with externalizing problems.
- The **Weekly Assessment of Child Behavior (WACB-P)**; Forte, Boys, & Timmer, 2012) was developed as a brief parent report to help monitor children's externalizing problems during Parent-Child Interaction Therapy (PCIT; Eyberg & Funderburk, 2011). Though the WACB is widely used, its psychometric properties are limited to one publication (Timmer et al., 2021).
- The **purpose** of the current study was to **examine the WACB-P's internal consistency, test-retest reliability, convergent validity, and discriminant validity** among children age 2 to 7 years, the target age group for PCIT.

Methods

Participants & Measures

Participants were from two samples: 173 children from a pediatric clinic (a normative sample; 53% male; 41% African American, 21% Latino; ages 2 to 7) and 51 children who presented at intake to a PCIT program for the treatment of externalizing problems (61% male; 56% African American, 33% Latino; ages 2 to 7). Both clinics reside within a children's hospital located in a low SES urban neighborhood in north Philadelphia.

Parents completed the 9-item WACB-P and the 36-item Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, 1999), a well-validated measure of externalizing problems. The WACB-P uses a 7-point response format similar to that of the ECBI with responses ranging from 1= "never" to 7= "always". While higher scores on the ECBI indicate greater externalizing problems, higher scores on the WACB-P indicate fewer externalizing problems.

Data Analysis

A principal components analysis with varimax rotation was conducted to examine the WACB-P's factor structure in the normative sample. Internal consistency was examined using Cronbach's alpha, and test-retest reliability as well as convergent validity with the ECBI via correlation. Independent groups t-tests were used to examine item and total-score differences among the normative and PCIT groups. All analyses were conducted using SPSS version 24.

Results

WACB – P
(Weekly Assessment of Child Behavior – P)

Your Name _____ Relationship to Child _____ Today's Date ____/____/____
 Child's Name _____ Child's Gender _____ Child's Age _____

Directions
 This form lists 9 sentences that describe children's behavior. For each sentence:
 a) Please circle the number that shows how often your child behaves that way.
 b) Circle either "yes" or "no" to show whether you'd like to see that behavior change.

Example
 If your child always behaves nicely at the grocery store, you would circle 7 for Always:

How often does your child... Never Sometimes Always Change? YES NO
 1. Behave at the grocery store? 1 2 3 4 5 6 7 YES NO

Please fill out the whole form by circling one number per sentence. If you want to change your answer, please do not erase. Instead, cross out your first answer and circle the correct number. For example:

How often does your child... Never Sometimes Always Change? YES NO
 1. Behave at the grocery store? 1 2 3 4 5 6 7 YES NO

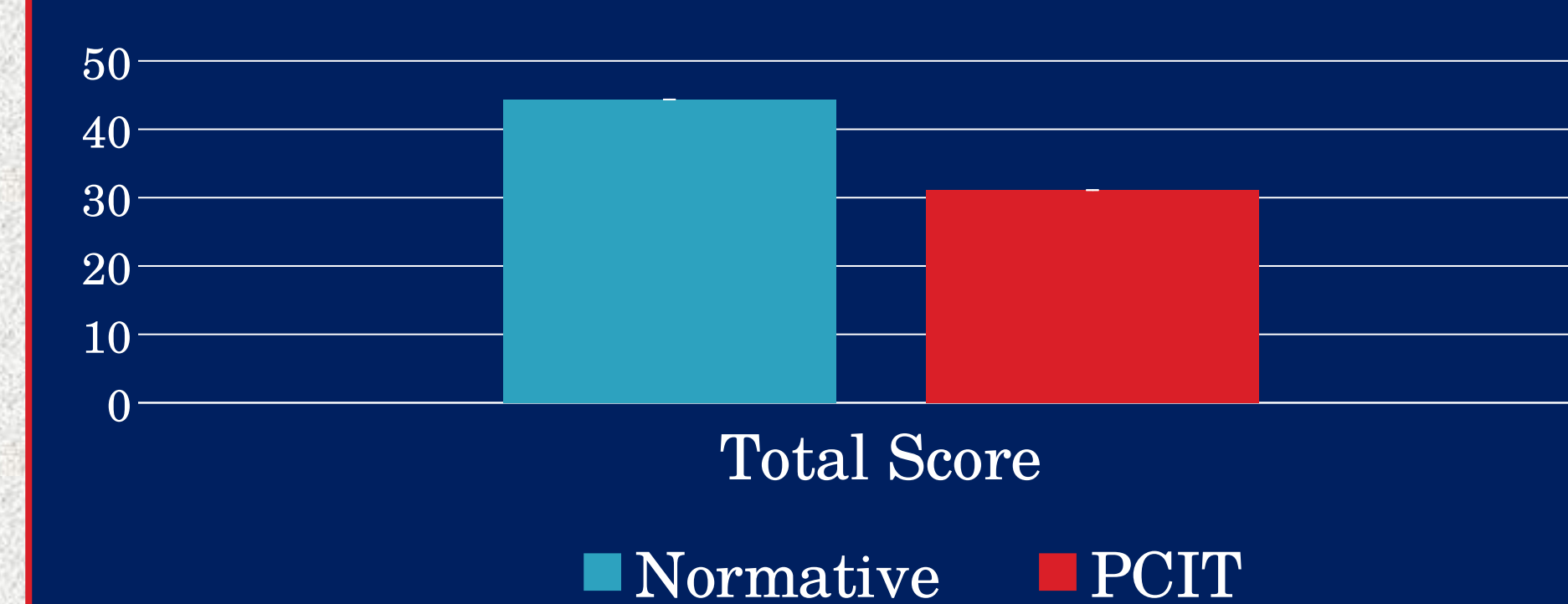
How often does your child...	Never	Sometimes	Always	Do you want this to change?						
1. Do things right away when asked?	1	2	3	4	5	6	7	YES	NO	
2. Behave well at meal times?	1	2	3	4	5	6	7	YES	NO	
3. Obey, or act compliant?	1	2	3	4	5	6	7	YES	NO	
4. Act calm, or gentle?	1	2	3	4	5	6	7	YES	NO	
5. Tell you when upset and can calm down on own?	1	2	3	4	5	6	7	YES	NO	
6. Play nicely with toys and carefully with others' things?	1	2	3	4	5	6	7	YES	NO	
7. Keep hands to self and play nicely with others?	1	2	3	4	5	6	7	YES	NO	
8. Wait turn to talk?	1	2	3	4	5	6	7	YES	NO	
9. Concentrate or easily sit still and focus?	1	2	3	4	5	6	7	YES	NO	
Total Score								/63		

Forte, L., Boys, D., & Timmer, S. (2012). The use of brief child behavior assessments for weekly check-ins in PCIT: WACB-N and WACB-P. Poster presentation at the 12th Annual PCIT Conference for Traumatized Children, Davis, CA.

Table 1. WACB-P Scores by Group

	Normative Group (n=173) Mean (SD)	PCIT Group (n=51) Mean (SD)	t(222)	p
1. Do things asked	4.74 (1.60)	3.48 (1.63)	4.92	<.001
2. Behave at meals	5.12 (1.56)	4.00 (1.78)	4.36	<.001
3. Compliant	4.95 (1.39)	3.48 (1.53)	6.48	<.001
4. Gentle	5.27 (1.57)	3.63 (1.51)	6.61	<.001
5. Calms down	4.84 (1.94)	3.52 (2.00)	4.24	<.001
6. Play nicely w toys	5.58 (1.75)	4.30 (1.62)	4.67	<.001
7. Play nicely w others	5.29 (1.65)	3.67 (1.79)	6.04	<.001
8. Waits turn	4.01 (1.95)	2.11 (1.46)	6.44	<.001
9. Concentrates	4.47 (1.94)	2.89 (1.54)	5.34	<.001
Total:	44.35 (10.41)	31.10 (7.97)	8.39	<.001

Figure 1. WACB-P Score as a Function of Group (Normative vs. PCIT)



- A principal components analysis of the normative that explained **46.2% of the variance**.
- The WACB-P's internal consistency was satisfactory: **Cronbach's alpha = .85**.
- Test-retest reliability** among a subsample of parents in the normative group who repeated the WACB-P (n = 75; mean test-retest interval = 6 months) also was satisfactory (r = .64, p<.001).
- Moderate evidence for **convergent validity** was found as the WACB-P was significantly correlated with the ECBI in the normative sample (r = -.63, p<.001).
- Evidence for discriminant validity was found as the mean WACB-P score was lower (i.e., worse) for children presenting to the PCIT program than for children in the normative sample (t(222) = 8.39, p<.0001; see **Table 1** and **Figure 1**).

Conclusions

- Our findings are generally consistent with those of the validation study (Forte et al., 2012) in indicating that the WACB-P has **good psychometric properties**. The WACB-P is a promising measure with good internal consistency, test-retest reliability, and discriminant validity (Timmer et al., 2021).
- Only moderate support, however, was found for its **convergent validity**, suggesting the possibility that the **WACB-P's brevity** may limit its strength of correlation with the ECBI. Of note, we found a somewhat lower correlation between the WACB-P and ECBI than did the initial validation study (-.63 vs. -.82), raising the possibility that sample-specific factors may moderate its psychometric properties.
- Future research** is needed to examine:
 - Whether there are **specific aspects of externalizing behavior** (e.g., noncompliance vs. aggression) that the WACB-P best identifies among young children.
 - The extent to which the WACB-P **converges with other externalizing problem measures**, including diagnostic interviews, and **discriminates from other behavioral health problems** (e.g., anxiety, depression, ADHD).
 - Establish screening cut-offs**, which would be particularly useful if the WACB is used as a screen in integrated care settings.
 - Further compare the WACB-P to the **WACB-N**, the negatively valenced form that was not examined in the current study.

References

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Eyberg, S. M., & Pincus, D. (1999). ECBI & SESBI-R: Eyberg child behavior inventory and Sutter-Eyberg student behavior inventory-revised: Professional manual. Odessa, FL: Psychological Assessment Resources.

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