

Psychometric evaluation of the Cross-Cultural adapted Dutch version of the Participation and Environment Measure for Children and Youth (PEM-CY)

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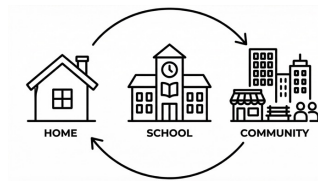
Background

PARTICIPATION



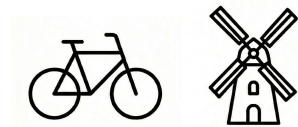
- Participation is multidimensional
- Key outcome in pediatric rehabilitation

ENVIRONMENTAL DETERMINANT



- Environment supports or hinders
- Current Dutch tools lack environmental focus

DUTCH CONTEXT



- Cultural context matters (e.g. cycling, school system)

Aim: Psychometric evaluation of the Dutch PEM-CY

PEM-CY

- Parent-report questionnaire
- Children aged 5 – 17 years
- Developed by CanChild (Coster et al., 2012)

3 Settings

HOME

SCHOOL

COMMUNITY

Measures per Setting

- Participation
 - Frequency (How often?)
 - Involvement (How engaged?)
 - Desire for Change (Parental Satisfaction)
- Environment:
 - Barriers & Support (e.g., resources, social demands)

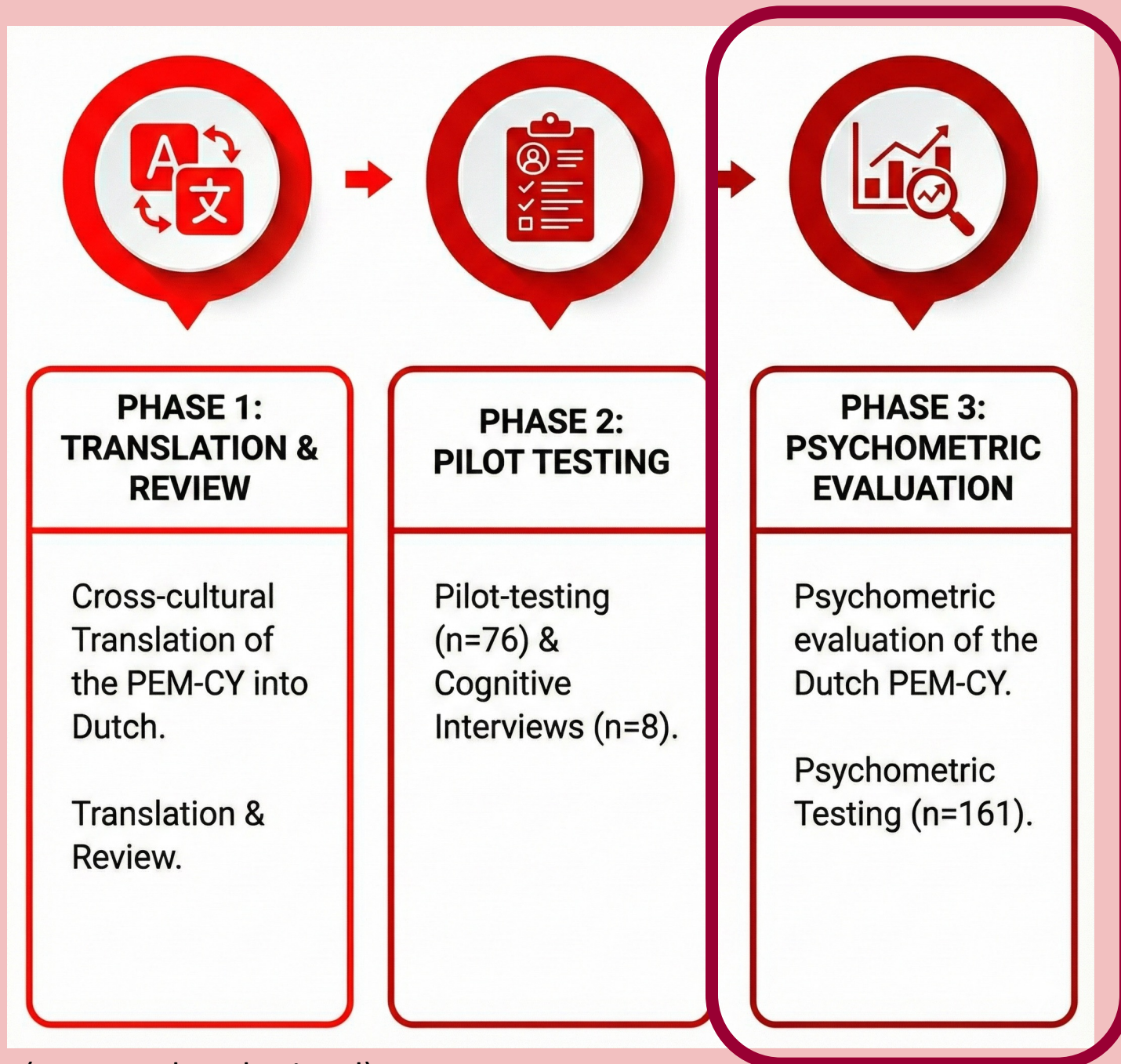
HOME Participation

Check ONE response for each activity. If you check ALL that apply, check ALL that apply.

Activity	Frequency	Involvement	Desire for Change	Barriers & Support
1) Computer and video games				
2) Indoor play and games (e.g., playing with toys, puzzles, or board games, playing cards or dominoes)				
3) Arts, crafts, music, and hobbies (e.g., painting, drawing, pottery, sewing, etc.)				
4) Watching TV, videos, and DVDs				
5) Reading together with other people (e.g., spending with parents, family, other caregivers)				
6) Socializing (going to shopping and to leisure activities)				
7) Household chores				
8) Volunteering (working for charity, helping out at the end of the house, working for the church, etc.)				
9) Personal care management (e.g., getting ready, dressing, eating, washing hair, or bath, applying makeup)				
10) Other (specify: _____)				
11) Homework (e.g., doing reading homework, assignments, other projects)				

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Methods



(Kern et al., submitted)



PHASE 3: PSYCHOMETRIC EVALUATION

Psychometric evaluation of the Dutch PEM-CY.

Psychometric Testing (n=161).

Design & Participants

- **Design:** Quantitative, Cross-sectional
- **Sample:** $N = 161$ parents
- **Population:** Children 5-17 years (with & without disabilities)
- **Recruitment:** Limburg region via gatekeepers (Ots & Schools)

Statistical Analysis

- **Internal consistency:** Cronbach's α
- **Test-Retest Reliability:** ICC ($n = 32$, 4-week interval)
- **Construct Validity:** Known-group comparisons (Mann-Whitney U / Kruskal-Wallis)
- **Correlations:** Kendall's tau (Environment vs. Participation)

Results

Reliability & Participation Patterns

Psychometric properties (Reliability)

Participation Scales: Moderate internal consistency = 0.54 – 0.68).

Environment Scales: Good internal consistency (majority $\alpha \geq 0.70$).

→ Consistency is adequate given the broad and heterogeneous nature of participation constructs.

Scale	Internal Consistency (α)	Test-Retest Reliability (ICC)
Participation	0.54 – 0.68	0.50 – 0.75
Environment	0.68 – 0.84	0.70 – 0.88
Conclusion	Acceptable	Good to Very Good

(Kern et al., submitted)

Construct validity (Known-Group Differences)

- Home Setting:
 - Frequency & Diversity: Comparable between groups.
 - Involvement: Significantly lower for children with disabilities ($p < 0.01$).
- School Setting:
 - Involvement: Significantly lower for children with disabilities ($p < 0.01$).
- Community Setting:
 - Diversity: Significantly narrower range of activities ($p < 0.01$).
 - Frequency: Generally lower, especially for older children (12+).

The Impact of the Environment

Environmental Barriers

- Parents of children with disabilities reported significantly more barriers across ALL settings.
- **Key Barriers identified:**
 - Social demands.
 - Cognitive demands.
 - Relationships (peers/staff).

Why Environment Matters (Correlations)

- **Support ↑ = Involvement ↑:** More support correlates with higher involvement (quality).
- **Support ↑ = Frequency ↔:** No correlation with frequency (quantity).
- **Support ↑ = Desire for Change ↓:** More support reduces parents' desire for change.

1. Robust Global Measure

- Psychometric properties align with original (CAN/USA) and international versions (e.g., Korea, Brazil, Germany)
- Confirmation: PEM-CY is valid for cross-cultural use

2. Quantity vs. Quality (“Doing” vs. “Engaging”)

- Key finding: Children with disabilities participate with similar frequency (home), but significantly lower involvement.
- Participation is not just *“being there”*, it is *“being engaged”*.

3. Age related Trend

- Participation declines for children with disabilities as they age (12+)
- Barriers: Increasing social demands & attitudes in community settings.

Implications for Practice & Conclusion

- **Shift in Focus:**
 - From “Fixing the Child” → “Modifying the Environment”
 - Supportive environments improve Involvement & Parental Satisfaction
- **Cultural Context Matters:**
 - Dutch context (e.g., Inclusive Education Law) creates specific barriers (teacher knowledge)
 - Need for culturally sensitive dialogue with parents
- **Conclusion:**
 - Dutch PEM-CY is a reliable tool to identify barriers
 - Recommended approach: Environment-based interventions (e.g., Partnering for Change)

Thank you for your attention



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