



## The translation and adaptation of assessments evaluating activity and participation

The Participation Environment Measure for Children and Youth (PEM-CY) and the Pediatric Evaluation of Disability Inventory – Computer Adaptive Test (PEDI-CAT) for their use in German speaking countries

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### Introduction

Evidence suggests that assessments developed in a certain cultural context and practical set-up may not be applicable directly in another cultural and practical context [1]. Although German is spoken in 3 different countries (G, CH, AT) with the same written expression, spoken language varies greatly. Thus, valid cross-cultural adaptation of activity and participation assessments for all three countries is reasonable but also necessary.

### Aim

To share insights into the cross-cultural adaptation of two activity and participation assessments into German.

- The PEDI-CAT measures abilities in three functional domains: Daily Activities, Mobility and Social/Cognitive. The PEDI-CAT's Responsibility domain measures the extent to which the caregiver or child takes responsibility for managing complex, multi-step life tasks [2]. It is applicable for children and youth approaching 1 year of age up to 21 years.
- The Participation and Environment Measure for Children and Youth (PEM-CY), is a standardized parent-reported assessment to determine the extent and participation pattern of children and youth between 5 and 17 years, related environmental barriers and supports and parents' wishes for change [3].

### Methods

Cross-cultural adaptation process was performed following several steps based on international guidelines [1, 4].

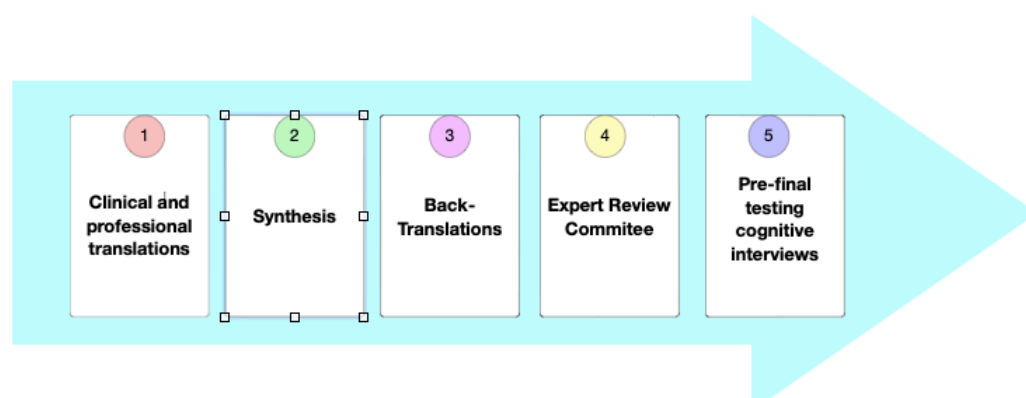


Figure 1: Translation and adaptation process of the PEM-CY and the PEDI-CAT into German

### Findings

- To combine clinicians and professional translator's perspectives was fundamental. The several translations showed the variability of using and understanding language.
- Underlying concepts such as «*participation*», «*engagement*» or «*responsibility*» that should be used as a measuring construct in both assessments were hard to translate into one single German word. All these concepts are context dependent.
- Comparing backtranslations with the original assessment revealed that the majority of differences between them were caused by synonyms.
- Interdisciplinary expert committee mirrored that the items of both assessments were closely connected to culture and language.
- Cognitive interviews [5] with caregivers revealed that item structures such as «*is something available or adequate*» needed clarification in German. Parent interviews illustrated that many critical remarks of the parents could not be applied without changing the test construct.

Additionally, all these discussion points and the solutions were addressed with the test developers, in order to establish a culturally sensitive German translation for all three German speaking countries.

### Discussion and Conclusion

In summary, attention should be paid to the reasoning process when translating and adapting an assessment. Different stakeholders such as parents, health professionals or linguists should be involved in the translation and adaptation process.

### References

- [1] Beaton DE, Bombardier C, Guillemin F, Ferraz MB. Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine*; 2000;25:3186–91.
- [2] Haley S., Coster WJ, H.M D. Accuracy and precision of the pediatric evaluation of disability inventory computer-adaptive tests (PEDI-CAT). *Dev Med Child Neurol* 2011;53:1100–6.
- [3] Coster W, Bedell G, Law M, Khetani MA, Teplicky R, Liljenquist K, et al. Psychometric evaluation of the Participation and Environment Measure for Children and Youth. *Dev Med Child Neurol* 2011;53:1030–7.
- [4] Harkness J. Cross-Cultural Survey Guidelines Translation. 2011 [cited 2014 06.07.] <http://ccsg.isr.umich.edu/pdf/08TranslationFeb2012.pdf>.
- [5] Willis GW. *Cognitive interviewing - A tool for improving questionnaire design*. Thousand Oaks: SAGE Publications Inc; 2005.

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