

Validation of Picture My Participation (PmP) for children with and without disabilities, primarily in low and middle-income countries (Patrik Arvidsson)

Background and methods

Picture my Participation (PmP) instrument is a self-report measurement of participation that intends to get information about the experienced participation in children with and without disabilities, primarily in low and middle-income countries. The main objective of my part of the project was to, based on children's self-ratings, explore the instrument regarding content validity, construct validity, internal consistency, and test-retest reliability.

For the validation studies, PmP were completed according to the research version of the manual (from 2018) and it can be described as a picture-supported interview. Data were collected with children with intellectual disability and typical development in one high-income country (Sweden) and low- and middle-income countries (South Africa, Taiwan and China. For the validation studies, participation was operationalized as attendance (frequency of performing an activity) and involvement (actual engagement when performing the activity). For the attendance ratings were completed on a four-point Likert Scale and for the involvement ratings on a three-point Likert scale. PmP comprises ratings in 20 different everyday activities. A total of 223 children aged between 6-18 years were interviewed. Data from children with intellectual disability (n=169) and with (N=54) living in South Africa (n=167), Sweden (n=37), Taiwan (n=30), or China (n=20) were included.

Content validity

The results from the analyses showed that all the 20 everyday activities were selected as important by at least some children and that all scale points were used except for children with typical development from Sweden. The results suggests good content validity of the everyday activities especially for children with intellectual disability and that the scales for attendance and involvement were comprehensive and useful.

Construct validity and internal consistency

Construct validity was explored by using Principal Components Analysis (PCA). The results from the PCA suggested four sub-components of the PmP: 1) Organized activities, 2) Social activities and taking care of others, 3) Family life activities, and 4) Personal care and development activities. Analyses of internal consistency (using Cronbach alpha) showed $\alpha=0.85$ (for the total scale), $\alpha=0.72$ (for Organized activities), $\alpha=0.75$ (for Social activities and taking care of others), $\alpha=0.57$ (for Family life activities) and $\alpha=0.49$ (for Personal care and development activities). These results indicate that the suggested sub-components are relevant and that the internal scale properties are reasonable

Test-retest reliability

Test-retest agreement at *item level* was slight to fair for both attendance and involvement in most everyday activities ($\text{Kappa} = 0.01-0.40$). For the *total scale and the sub-component the test-retest reliability levels* was moderate ($\text{ICC} = 0.5-0.75$) except for the sub-components Family Activities ($\text{ICC} = 0.26$ for engagement and 0.33 for involvement) and 'Personal Activities' ($\text{ICC} = 0.33$ for involvement). These results indicate that further steps may be needed to improve the test-retest reliability.

Conclusions from the validation

PmP is a promising instrument to get proper information about participation in children with intellectual disability, especially in low- and middle-income countries. However, consideration of steps needed to improve test-retest reliability and further explorations of the psychometric properties and utility of the PmP in diverse countries and for varied disability populations are still required.

Articles

Arvidsson P, Dada S, Imms, C, Granlund M, Bornman J, Elliot C & Huus, K. (2020). Content validity and usefulness of Picture My Participation for measuring participation in children with and without intellectual disability in South Africa and Sweden. *Scandinavian Journal of Occupational Therapy*, 27:5, 336-348. DOI: 10.1080/11038128.2019.1645878

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