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Reliability of the Norwegian version of the Children's Assessment of Participation and Enjoyment and Preferences for Activities of Children

Heidi L. Nordtorp¹

Astrid Nyquist²

Reidun Jahnsen³

Thomas Moser⁴

Liv Inger Strand⁵

¹ MSc, PT, University of Bergen, Norway; Beitostølen Healthsport Centre. Norway

² MSc, Norwegian School of Sport Sciences. Oslo, Norway; Beitostølen Healthsport Centre.
Norway

³ PhD, PT, Oslo University Hospital, Rikshospitalet, Department of Clinical Neuroscience for
Children. Oslo, Norway

⁴ Professor, PhD, Vestfold University College, Faculty of Humanities and Education,
Department of Practical, Physical and Aesthetic Education. Tønsberg, Norway

⁵ Professor, PhD, PT, Department of Public Health and Primary Health Care, Physiotherapy
Research Group, University of Bergen, Norway

Address correspondence to: Heidi L. Nordtorp, Beitostølen Helsesportsenter, Sentervegen 4,
2953 Beitostølen, Norway (e-mail: heloese@online.no)

¹ MSc, PT, University of Bergen, Norway; Beitostølen Healthsport Centre. Norway

² MSc, Norwegian School of Sport Sciences. Oslo, Norway; Beitostølen Healthsport Centre. Norway

³ PhD, PT, Oslo University Hospital, Rikshospitalet, Department of Clinical Neuroscience for Children. Oslo, Norway

⁴ Professor, PhD, Vestfold University College, Faculty of Humanities and Education, Department of Practical, Physical and
Aesthetic Education. Tønsberg, Norway

⁵ Professor, PhD, PT, Department of Public Health and Primary Health Care, Physiotherapy Research Group, University of
Bergen, Norway

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Abstract.

This study examined test-retest reliability of the Norwegian version of Children's Assessment of Participation and Enjoyment (CAPE), and Preferences for Activities of Children (PAC) in children with and without disabilities. Totally 141 children, 107 typically developing, mean age 11.1, and 34 with disabilities, mean age 14.2 years participated. A cross-sectional, test-retest design was applied. The participants completed CAPE and PAC twice within mean 19 days. Reliability was examined by Chronbach's alpha, intraclass correlation coefficients (ICC), and Kappa statistics. The alpha values for internal consistency varied between 0.53 and 0.87 for the CAPE and between 0.75 and 0.93 for the PAC. ICC coefficients varied from 0.49 to 0.83 for the CAPE and 0.50 to 0.85 for the PAC. Kappa coefficients varied from 0.30 to 0.66. The Norwegian CAPE and PAC demonstrated sufficient measurement properties of internal consistency and test-retest reliability. The reliability of the CAPE, however, was not entirely satisfactory.

KEYWORDS. CAPE, children, children's assessment of participation and enjoyment, leisure activities, measurement, PAC, participation, reliability.

Children's priorities for leisure and recreational activities are an important consideration for goal directed rehabilitation (Kjeken, Kvien, & Dagfinrud, 2007). When providing rehabilitation services to children, it is important to assess children's preferences in order to support their desired participation. This may be achieved by monitoring children's choice, frequency of participation, and enthusiasm for specific leisure and recreational activities. In the International Classification of Functioning, Disability and Health (ICF), participation is defined as, "involvement in life situations", and considered to result from the interaction of individuals with their social and physical environments (WHO, 2001). Through participation in leisure activities children perceive higher well-being, learn new skills and competencies that is necessary to build friendship (Solish Perry & Mines, 2010; Law et al., 2006). Physical leisure activities help the child to improve functional skills, and are linked to health benefits (Faigenbaum et al., 2009). Studies have shown that participation in organized leisure activities also have a benefit on academic outcome, emotions and behavior (Dahan-Oliel et al., 2012; Larson & Verma, 1999). Children and youth with disabilities participated in fewer activities than their typically developing peers (Jarus et al., 2011; King et al., 2004- 2007), but reported that they enjoyed participation in physical activities with peers, in spite of special challenges (King et al., 2009; Harding et al., 2009; Engel-Yeger & Jarus, 2008).

The *Children's Assessment of Participation and Enjoyment (CAPE)* and *Preferences for Activities of Children (PAC)* were developed in Canada by King et al. (2004) to document participation in leisure and recreational activities by children and youth, 6 to 21 years during the past 4 months and their preferences for activities. The CAPE and PAC can be completed as a questionnaire or with an assessor who may provide assistance. The instruments measure several dimensions of participation, and the information can influence interventions, services and research (King et al., 2007). Psychometric properties of CAPE and PAC have been found

acceptable in children with disabilities (Bult et al., 2010; Harding et al., 2009; Imms, 2008; King et al., 2004, 2007; Law et al., 2006; Engel-Yeger & Jarus, 2008; Colon et al., 2008;).

The CAPE and PAC have recently been translated into Norwegian led by associate professor, Bjørg Fallang at Oslo University College (OUC) using the following procedure:

- 1) The translation from English to Norwegian was carried out by two Norwegian master degree students who were fluent in English.
- 2) The Norwegian version was reviewed by Bjørg Fallang and Ingvil Øien, associate professors at OUC and discussed with the two translators until consensus on technical and cultural validity was reached
- 3) Back translation to English was conducted by a professional translation agency, INS Norway, followed by minor grammatical revisions conducted by the translation group.
- 4) The final Norwegian version, including all the original items was sent and accepted by the publisher of the CAPE and PAC.

Cultural validation was determined in a study of 199 children with disabilities that involved an expert panel of 17 interdisciplinary professionals in the rehabilitation field (Hoberg & Nyquist, 2010). None of the activities were judged irrelevant for Norwegian children. However, two of the activities did not have a satisfactory precision level in the Norwegian culture. These were *winter-activity* and *going on a daytrip*. Winter-activity could be separated into alpine, cross-country skiing, and skating. A daytrip in Norway might be a long walk including mountaineering, fishing and hiking, not only going to a zoo or another park. These activities may be both formal and informal in Norway, but are only informal in the CAPE. However, no changes were made for this study.

To determine the applicability of the Norwegian version, psychometric properties must be examined. Adequate reliability is a prerequisite for validity, and an assessment tool needs to

be investigated in each new culture in the groups it is meant for (Beaton et al., 2000). To be used as an outcome measure the responsiveness of the instrument has to be assessed, and responsiveness includes both reliability and validity in both children with and without disabilities. The aim of the present study was to examine internal consistency and test-retest reliability of the Norwegian version of CAPE and PAC.

METHODS

Design

A cross-sectional design was applied to examine internal consistency, and a repeated measurement design was used to examine test-retest reliability.

Participants

A sample of convenience of 216 children and youth, 7-17 years of age, were asked to participate in the study, and 144 (66.7%) accepted. Three questionnaires were excluded due to <80% responses, therefore, data were analyzed for 141 children and youth. The sample included 107 children and youth with typical development (mean age = 11.1 years, SD= 2.5) and 34 children and youth with disabilities (mean age = 14.2 years, SD=2.3). For the entire sample, there were 46% males and 54% females; 49.6% lived in a rural area and 50.4% in an urban area. Demographics are summarized in Table 1. The only statistically significant difference between the groups was age. The study was approved by the Regional Committee for Medical Research Ethics, Southern East Norway (REK-Southern East-A nr: S-08658a), and the Data Inspectorate (nr: 20095). Written consent was obtained from both parents and children.

[Insert Table 1 about here] (Forslag fra forfatteren)

Children without disabilities were recruited from four regular schools, two in rural and two in urban areas. Inclusion criteria included: 1) between 7 and 15 years, 2) attending an

ordinary class in a mainstream school, and 3) having no severe cognitive impairments as judged by the teacher. Due to language challenges, children who had lived in Norway for less than two years were excluded from the study. Only one child was excluded for this reason.

Children with disabilities were recruited from the (re)habilitation program at Beitostølen Healthsports Centre (BHC). Inclusion criteria included: 1) between 7 and 15 years and 2) without severe cognitive impairments as judged by the parents. All the families had lived in Norway for more than two years, so language was not an issue. All of the children were able to move independently 500 m with or without assistive devices, but most of them had difficulties on uneven ground and in (her er tabell 1 i tidsskriftet) stairs and slopes. For children with cerebral palsy this corresponds to levels II-IV on the Gross Motor Function Classification System (Rosenbaum, Palisano, Barlett, Galuppi & Russel, 2008; Palisano et al., 1997).

Measures

CAPE and PAC (King et al., 2004) each contain 55 activities that are organized by activity domain: formal (organized) or informal (unorganized) and activity type: recreational, physical, social, skill-based, or self-improvement. For the CAPE five dimensions of participation are rated for each activity: a) diversity (whether the activity was done in the past 4 months, b) intensity (how often), c) with whom, d) where, and e) enjoyment. Each dimension is rated on a 7-point ordinal scale. The children may complete the questionnaires self-administrated or interview-assisted (Imms, 2008).

Higher overall scores represent participation in a larger number of activities, more frequent participation, more involvement with different people and environments, and greater enjoyment. The PAC is used to measure activity preference, provides a three-point rating containing: 1= I would not like to do at all to 3= I would really like to do.

Procedure

The CAPE and PAC forms were completed by 107 participants without disabilities during class. Four children received assistance from a teacher or researcher to read, mark responses, and help to stay focused on the questions. Time to complete (her er figur 1 plassert i tidsskriftet) the CAPE varied from 20 to 60 minutes and time to complete the PAC varied from 10-30 minutes. Of the 107 children, 13 were absent the first or second time and, therefore, their scores were only used to analyze internal consistency (n=94) not for analysis of test-retest reliability (Figure 1).

[Insert Figure 1 about here] (Forslag fra forfatteren)

In addition forty children with disabilities who were waiting for a rehabilitation stay at BHC also were sent an invitation to participate in the study along with the questionnaire. Twenty-four children returned the questionnaire before arriving at the centre. They were asked to complete the questionnaires a second time as part of the arrival procedure. Twenty-two of the 24 children were included in the test-retest study. One form was excluded due to missing data, and one child declined to participate the second time. Also the children who had not filled in the questionnaire at home were asked to do it on arrival at the centre, giving 12 more children in the internal consistency study, making n=34. Of these 34 children with disabilities, 27 got assistance from a parent or teacher/assistant due to motor or cognitive problems (Figure 1).

The mean time between test and retest was 19 days (SD=7, minimum = 6 days, maximum = 29 days) for the entire sample.

Demographic data were collected for the entire sample, including urban/rural residence, age, gender, diagnosis and parent's highest level of education.

Data Analyses

SPSS version 17.0 was used for statistical analysis. Descriptive statistics were used to analyze demographic variables. The differences in scores between those with and without disabilities were analysed using t-test for independent groups and chi square test. If at least 80% of the items in a subscale were completed, a mean score was imputed from the completed items.

Internal consistency

Internal consistency for the CAPE and PAC was examined by Cronbach's alpha. The entire scale, the two domains, and the five activity types were examined. Alpha coefficients between 0.70 and 0.95 are considered good (Terwee et al., 2007). For checking the homogeneity of the scale the association between each item and the overall score was examined by “item-total correlations”. Each item was correlated with the overall score, the domain score, and the activity type score. A correlation above 0.20 is considered satisfactory (Streiner & Norman, 2008). The contribution of each item to the overall score was examined by “Alpha if item deleted”, calculating the total alpha value with that item deleted from the scale.

Kappa statistics

The Kappa statistics was used to examine test-retest reliability for each item of PAC, a three-graded ordinal scale. According to Altman (1996) a k-value <0.20 is poor, 0.21-0.40 is fair, 0.41-0.60 is moderate, 0.61-0.80 is good and 0.81-1.00 is very good.

Test-retest reliability

The intraclass correlation coefficient (ICC 2.1) (two way mixed, absolute agreement) was used to examine test-retest reliability. As the data were normally distributed, test-retest reliability was analysed for the CAPE intensity scores and the PAC preference scores (Tables

2 and 3). An ICC >0.75 is considered excellent, 0.60 - 0.74 good, 0.40 - 0.59 moderate, and <0.40 poor (Fleiss, 1981).

Absolute reliability of repeated measurements was examined reporting Standard Error of Measurement (SEM). The difference between a score and the true value of an individual is expected to be less than $1.96 \times \text{SEM}$ for 95% of the observations. To take measurement uncertainty of repeated measurements into account, the smallest detectable change (SDC) was calculated from the SEM value; $\text{SDC} = \text{SEM} \times 2.77$. The difference between two measurements of the same individual is expected to be less than $2.77 \times \text{SEM}$ (Bland & Altman, 1996).

RESULTS

Internal consistency of the CAPE

For the CAPE, Cronbach's alpha was 0.87 for all items and varied from 0.53 (Self-Improvement activities) to 0.83 (informal domain) for items included in each activity type and domain. The magnitude was at least satisfactory (≥ 0.70) for all but the Social and Self-Improvement Activity types (Table 4). The corrected item-total correlations between item scores and overall, domain, and activity type scores were above 0.20 for 44 of 55 items. Correlations were less than 0.20 between scores for the following four items both in overall, domain, and activity type scores; item 5: "Playing computer or video games", item 25: "Getting extra help for schoolwork from a tutor", item 29: "Doing a religious activity" and item 44: "Watching TV or a rented movie".

[Insert Table 2 about here] (Forslag fra forfatteren)

Internal consistency of the PAC

For the PAC, Cronbach's alpha was 0.93 for all items and varied from 0.75 (social activities) to 0.91 (informal domain) for items included in each activity type and domain (Table 4). The corrected item-total correlation between item scores and overall, domain, and activity type scores was above 0.20 for 53 of 55 items. Correlations were less than 0.20 for item 13: "Gardening" in the activity type; physical activity, and for item 48: "Listening to music" in overall and informal domain scores.

Test retest reliability of the CAPE

For children with typical development the ICC for the overall score was 0.59. The ICCs were moderate (0.49 - 0.59) for Social Activities and Informal Domain scores, good (0.60 - 0.66) for Self-Improvement, Physical, Recreational Activities, and Formal domain scores, and excellent (0.75) for Skill-based activities.

For children with disabilities the ICC score was 0.66. The ICCs were moderate (0.49 - 0.59) for Social Activities, Skill based Activities and Formal Domain scores, good (0.60 - 0.66) for Self-Improvement Activities, and excellent (0.75 - 0.83) for Recreational activities, Physical Activities and Informal Domain scores.

Variability in scores by SEM and SDC values are also presented in Table 2. When reviewing the CAPE for absolute reliability by SEM, the range was between 0.37 and 0.76 for the different activity types, and the SDC ranging from 1.02 to 2.09 on a scale from 0-7. This means that for overall scores of a child with physical (her er tabell 3 plassert i tidsskriftet) disabilities a change must be greater than 0.91 on the scale of intensity (0-7) to be sure that the change is greater than what might be attributed to measurement error.

[Insert Table 3 about here] (Forslag fra forfatteren)

Test retest reliability of the PAC

For children with typical development, ICC for the overall scores were 0.82. The ICCs were good (0.60 - 0.74) for Social and Physical Activities and excellent (0.75 - 0.83) for Recreational, Skill based and Self-Improvement Activities, and for Formal and Informal Domain scores.

For children with disabilities ICC for the overall scores were 0.72. ICCs were moderate (0.50) for Social Activities, good (0.62 - 0.72) for Recreational and Physical Activities and for Formal and Informal Domain scores, and excellent (0.75 - 0.81) (her er tabell 4 og figur 2 plassert i tidsskriftet) for Self-Improvement and Skill based Activities. SEM and SDC values of PAC are shown in Table 3.

[Insert Table 4 about here] (Forslag fra forfatteren)

Kappa coefficients for Skill-based items varied from 0.40 and 0.62. Two out of ten items showed good reliability, the remaining items demonstrated moderate reliability. Kappa coefficients for Recreational items varied from 0.29 and 0.58. Nine out of thirteen items showed moderate reliability, the other four showed fair reliability. Kappa coefficients for Self-improvement items varied from 0.37 to 0.62 which indicates fair to good reliability. Fair Kappa coefficients for Physical (0.34 to 0.59) and Social items activities (0.35 to 0.53) indicated moderate test retest reliability.

Altman Plot for PAC scores were constructed to show the measurement uncertainty when also the systematic drift was taken into account (Figures 2, 3). The figures show that there were only small systematic shifts in the data. The results imply that a change in PAC scores for children with typical development must be greater than 0.38, or less than -0.44 on the scale from 1 to 3 to be 95% confident that the change is greater than what might be attributable to measurement error. (her er figur 3 plassert i tidsskriftet)

[Insert Figures 2 and 3 about here]

DISCUSSION

Internal consistency and test-retest reliability of the Norwegian version of CAPE and PAC was examined. Internal consistency was found to be satisfactory for the overall score of both measures as well as for all activity types and domains, except for Social activities and Self-improvement activities in the CAPE. While test-retest reliability was satisfactory for the overall score in PAC as well as for most PAC activity types and domains, CAPE showed lower ICC values (<0.70) for the overall score as well as for most CAPE activity types and domains. Test-retest reliability of the Norwegian version was moderate to excellent for the CAPE (0.45 - 0.83) while both King et al. (2004) and Bult et al. (2010) showed higher values. Low ICC's can either indicate that the spread in values is small, or that there is a large spread between the measurements individual participants.

The intention of including children with and without disabilities was to find out whether test-retest reliability depended on the physical functioning of the children. However, a limitation of this study is that the children with disabilities were fewer and somewhat older, being a convenience sample with mild or moderate disabilities staying at BHC. The reliability values for the smaller group are accordingly less robust than for the larger group.

Somewhat different procedures for data collection for children with and without disabilities might have caused differences in the scoring, and possibly affected reliability. Two factors determined whether a child needed assistance or not; the cognitive or the motor level of functioning. Among children with disabilities there was, of course, more need for assistance than for the typical children in the school setting. For both groups there were no interactions between assistance and age of the children. The presence of assistance might have influenced the results in different, non-controllable ways. The effects of assistance may be

considered as constant in terms of test-retest reliability, but may have influenced the results for the group of children with disabilities as a whole and thereby also the comparison of the two groups of children.

Internal consistency for the Norwegian version of CAPE was good both for all 55 items for each domain and varied from moderate to good for items for activity types. In line with the original measure, internal consistency of items for the Norwegian version of CAPE (alpha coefficients from 0.53 to 0.87) was lower than internal consistency for the PAC (alpha coefficients from 0.75 to 0.93). In the original CAPE the alpha values ranged from 0.32 to 0.76, and for PAC from 0.67 to 0.84. King et al. (2007) claim that the higher values of PAC are expected, since the children's actual participation as measured by the CAPE-frequency scores is influenced by physical and social environmental factors. Accessibility is a common challenge for persons with disabilities in general (Harding et al., 2009), and varying social support will influence frequency of participation (Law et al., 2006). This might have affected the internal consistency of intensity scores in the present study. Preferences of performing activities (PAC) are probably more consistent in reflecting underlying similarities in how children consider the activities that fall within the five activity types (King et al., 2004).

Our findings for internal consistency are similar to findings in Israel with alpha coefficients of respectively 0.73 and 0.83 on overall scores in two different samples (Engel-Yeger & Jarus, 2008). Comparable to our results, alpha values from 0.70 to 0.92 for the two domains and the overall scores were reported for a Spanish version of PAC (Colon et al., 2008). The corrected correlation between PAC's individual items and sum score within the activity type was shown in our study to contribute to measure the same phenomena.

Many children apparently found the questions "with whom" and "where" in the CAPE hard to respond to with one single answer, despite many reminders that only one answer should be selected. CAPE and PAC showed generally satisfactory internal consistency for the group as a

whole with respect to overall score and different activities, justifying our method of imputation. The exception is the Social- and Self-improvement activities in CAPE. Reviewing the analyses of Social activities show that item 11: "Entertaining others", increased the Cronbach's alpha value from 0.57 to 0.62. Reviewing the analyses of Self-improvement activities show on the contrary that item 25: "Getting extra help for schoolwork from a tutor", item 29: "Doing a religious activity", and item 54: "Shopping", would all cause an increase in Cronbach's alpha if they were deleted. Many activities may be difficult to relate to in a four months perspective as they often occur in periods. One week may be a full of computer games, while the next is full of football, for example because of the weather. In addition many activities are dependent on the season of the year, for example winter sports and gardening.

Bult et al. (2010) reported the SDC for activity types ranged between 0.89 and 1.91 and concluded "the individuals must show substantial change in scores to detect a "real" change" (Bult et al., 2010). It may be possible that real change had occurred during the time between the two tests, so that the magnitude of measurement error was overestimated. In general, the SEM results of the different activity types had a higher value than Overall, Formal and Informal domain scores. The higher SEM values reported in the subscale of different activity types may be explained by the lower number of items in the subscale of activity types, which would make it more vulnerable to extreme values in each item.

Test retest reliability for the PAC was satisfactory for the overall score and for each of the activity types in the entire sample and in typical children, with the exception of Social activities. In children with disabilities the ICCs were below 0.70 for physical and social activities, and Informal domain. This might be attributable to the small sample size (n=22), large intra-individual variability, and a small spread in scores. The SEM for PAC was as expected lower than for CAPE (0.16 - 0.24), which can be explained by the fact that there are only three items in the PAC subscale versus seven in the intensity scale of CAPE. The SDC

for PAC being lower than for CAPE, indicated that the change in preference scores (1-3) must be greater than 0.76 to be sure that the change is greater than the measurement uncertainty. The majority of scores both for children with and without disabilities ended in the middle range on the PAC subscale, and the systematic shift is minimal, e.g. the SDC and limits of agreement are quite equal.

Most of the Kappa values were moderate; some were good, while a few were fair. Test-retest reliability measured by Kappa was not sufficient in all activity types, and like the ICC results, lower values for Social activities. A reason for low reliability in Social activities can be that Informal activities, such as item 8: “Hanging out”, and item 48: “Listening to music”, can be difficult to quantify in terms of execution and participation within the last four months.

The Norwegian version of the PAC showed satisfactory reliability, however, reliability was not entirely satisfactory for CAPE. In common with the original study and similar studies, this demonstrates that CAPE and PAC can be used as a tool for measuring participation in, and preferences for activities in Norwegian children aged 7-17, with and without disabilities. Some adjustments of activities, such as winter-activity and going on a daytrip, would strengthen the cultural validity in Norway. However, such changes will prevent us from comparing our results to the results in other countries. Therefore changing some of the examples could be a favorable compromise, increasing the cultural validity without inhibiting international comparative studies.

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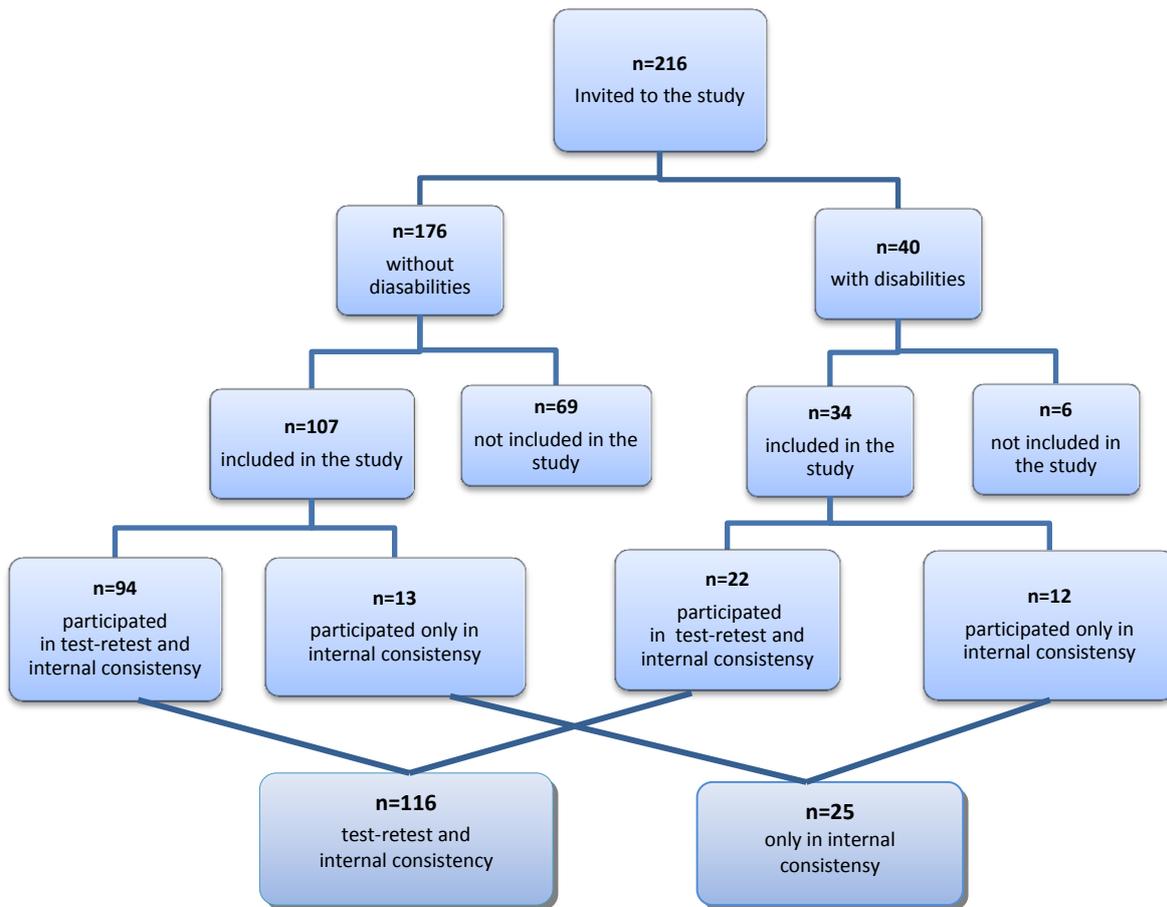


Figure 1:

Flowchart of the inclusion process. The Flowchart shows the number of invited children ($n=216$), with disabilities ($n=40$) and without disabilities ($n=176$), the number of included children with ($n=34$, 85%) and without ($n=170$, 61%) disabilities, and finally, the number of included children in the test-retest and in the internal consistency analysis with ($n=22$, 64,7% / $n=12$, 34,4%) and without disabilities ($n=94$, 87,9% / $n=13$. 12,2%).

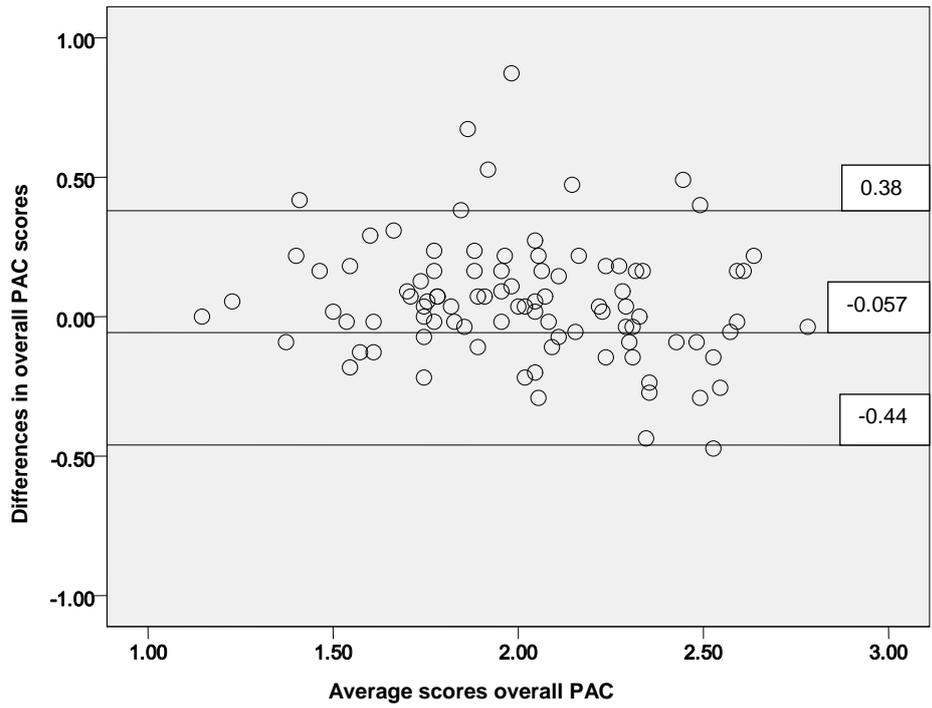


Figure 2:

Altman Plot of data for the test-rest study of the PAC, typical children (n = 94). The graph shows the difference in PAC scores overall (test 1 - test 2), compared with average scores of test 1 and test 2. The central horizontal line (-0.057) shows the average of the individual differences. The above flanking line (0.38), and the below flanking line (-0.44) represent respectively the upper and lower limits for 95% confidence intervals

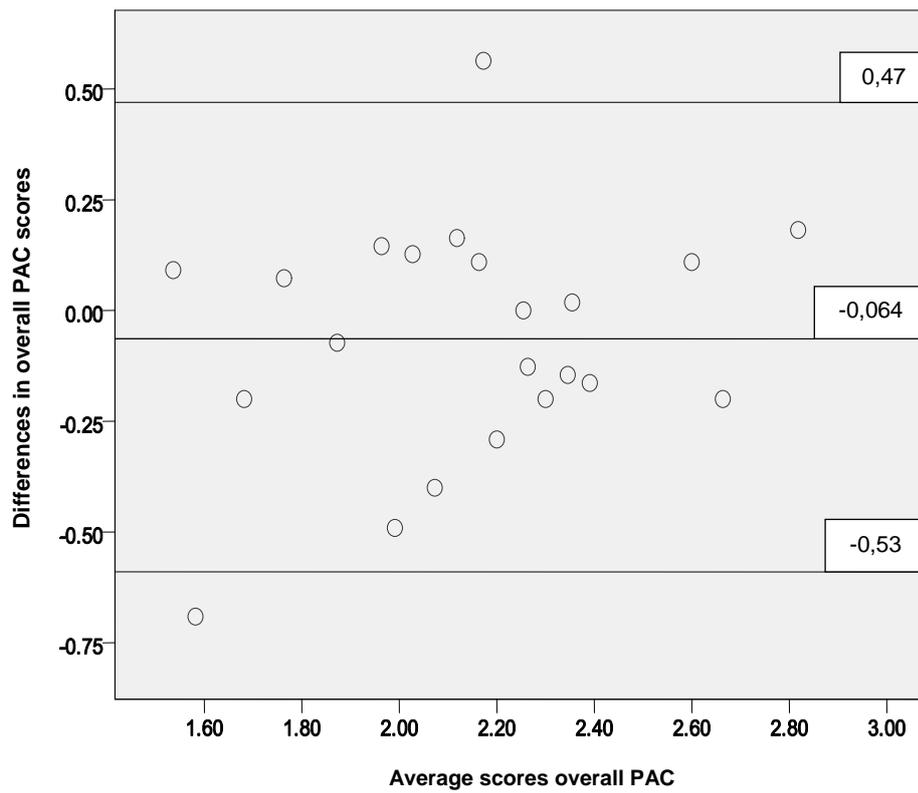


Figure 3:

Altman Plot of data for the test-rest study of the PAC, in children with disabilities (n=22). The graph shows the difference in PAC scores overall (test 1 - test 2), compared with average scores of test 1 and test 2. The central horizontal line (-0.064) shows the average of the individual differences. The above flanking line (0.47), and the below flanking line (-0.53) represent respectively the upper and lower limits for 95% confidence intervals.

Table 1: Group characteristics of typical children and children with disabilities

Variables	Typical children (n= 107)	Children with disabilities (n=34)	Difference between groups
Sex; Female/Male, n (%)	58 (54.2)/49(45.8)	18 (52.9)/16 (47.1)	0.897 ^a
Age; Mean (SD), min-max	11.1(2.5), 7-14	14.2 (2.3), 8-17	<0.001 ^b
Age groups; n (%) <ul style="list-style-type: none"> • 7-9 years • 10-12 years • 13-15 years 	52 (48,6) 9 (8,4) 46 (43)	8 (34,5) 4 (11,8) 22 (64,7)	
Residence; n (%) <ul style="list-style-type: none"> • Urban • Rural 	54 (50.5) 53 (49.5)	16 (47) 18 (53)	0.729 ^a
Assistance in completing the form; n (%) <ul style="list-style-type: none"> • No assistance • With assistance 	103 (96.3) 4 (3.7)	7 (20.6) 27 (79.4)	<0.001 ^b
Diagnosis; n (%) <ul style="list-style-type: none"> • Cerebral palsy • Muscular Diseases/Neuropathies • Mental retardation • Muscle/skeletal deformities • Deformities/Metabolic disorders • CNS • MMC • Neurological diseases • Sequelae of injury/cancer 		16 (11.3) 6 (4.3) 3 (2.1) 1 (0.7) 4 (2.8) 2 (1.4) 1 (0.7) 1 (0.7)	

^a=Chi square, ^b=Independent sample t-test

Table 2: Internal Consistency for CAPE Frequency scores and PAC Preference scores of the 141 children and youth

Activity type and domain	CAPE	PAC
Recreational Activities	0.73	0.83
Physical Activities	0.71	0.80
Social Activities	0.62	0.75
Skill-Based Activities	0.71	0.83
Self-Improvement Activities	0.53	0.78
Formal Domain	0.73	0.82
Informal Domain	0.83	0.91
Overall	0.87	0.93

Table 3: Test-retest reliability for CAPE Intensity scores

CAPE types and domain	Children with typical development, n=94				Children with disabilities, n=22			
	ICC	95% CI	SEM,	SDC	ICC	95% CI	SEM	SDC
Recreational Activities	0.66	0.44 - 0.79	0.71	1.97	0.83	0.64 - 0.93	0.44	1.23
Physical Activities	0.60	0.38 - 0.75	0.65	1.80	0.79	0.55 - 0.90	0.37	1.02
Social Activities	0.49	0.26 - 0.66	0.76	2.09	0.49	0.12 - 0.75	0.53	1.47
Skill-Based Activities	0.75	0.62 - 0.83	0.60	1.65	0.50	0.11 - 0.76	0.56	1.56
Self-Improvement Activities	0.62	0.48 - 0.74	0.65	1.81	0.66	0.33 - 0.84	0.54	1.48
Informal Domain	0.56	0.30 - 0.73	0.59	1.65	0.77	0.52 - 0.90	0.33	0.92
Formal Domain	0.65	0.49 - 0.77	0.56	1.56	0.45	0.04 - 0.73	0.48	1.37
Overall	0.59	0.32 - 0.75	0.54	1.50	0.66	0.33 - 0.84	0.33	0.91

ICC = Intraclass correlation coefficient 2.1, CI = Confidence interval, SEM = Standard Error of Measurement, SDC = Smallest Detectable Change. SEMs and SDCs are expressed in the units of the measurement scale (0-7)

Table 4: Test-retest reliability for PAC Preference scores

PAC types and domain	Children with typical development , n=94				Children with disabilities, n=22			
	ICC	95% CI	SEM	SDC	ICC	95% CI	SEM	SDC
Recreational Activities	0.75	0.64 - 0.82	0.23	0.63	0.70	0.40 - 0.86	0.27	0.75
Physical Activities	0.74	0.61 - 0.82	0.23	0.63	0.62	0.28 - 0.82	0.27	0.76
Social Activities	0.69	0.58 - 0.79	0.22	0.60	0.50	0.37 - 0.73	0.27	0.76
Skill-Based Activities	0.85	0.78 - 0.90	0.19	0.53	0.81	0.59 - 0.92	0.23	0.64
Self-Improvement Activities	0.81	0.73 - 0.89	0.20	0.55	0.75	0.48 - 0.89	0.24	0.67
Informal Domain	0.76	0.65 - 0.83	0.18	0.50	0.66	0.35 - 0.84	0.22	0.65
Formal Domain	0.83	0.76 - 0.89	0.18	0.50	0.72	0.44 - 0.88	0.21	0.58
Overall	0.82	0.73 - 0.88	0.16	0.44	0.72	0.44 - 0.71	0.19	0.53

ICC = Intraclass correlation coefficient, CI = Confidence interval, SEM = Standard Error of Measurement, SDC = Smallest Detectable Change. SEMs and SDCs are expressed in the units of the measurement scale (1-3)