Reliability, validity and acceptability of the PEDI-CAT with ASD scales for Australian children and youth on the autism spectrum

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Background

Autism is associated with diverse functional abilities that cannot be described by diagnosis alone. Thus, an assessment of functioning is recommended to inform the provision of supports[1]. One measure used for this purpose is the PEDI-CAT(ASD)[2]; however, psychometric evidence is limited.

Project aim

To explore the reliability (internal consistency, test-retest and parallel-forms); validity (convergent and content); and acceptability of the PEDI-CAT(ASD).

Methods

130 caregivers provided information on 134 children and youth (<21 years) with an autism diagnosis during clinical assessments.

- **Assessment 1** – PEDI-CAT(ASD) and Vineland-3 *Parent/Caregiver* Form.
- **Assessment 2** – Participants randomized to:
  - **2a** - Repeat PEDI-CAT(ASD); or
  - **2b** - Repeat PEDI-CAT(ASD) and Vineland-3 *Interview* Form.
- **Assessment 3** – PEDI-CAT(Original) and/or semi-structured interview / online survey.

Results

Psychometric property		*n*	PEDI-CAT(ASD) findings
Internal consistency		113	• Good to excellent
Test-retest reliability		92	• Good to excellent
Parallel-forms reliability		23	• Good to excellent correlations with PEDI-CAT(Original). • Significantly higher Social/Cognitive scores than PEDI-CAT (Original). • Upper limits of agreement for Social/Cognitive domain 1-2 standard deviations above the norm-referenced mean.
Convergent validity		110	• Poor to good correlations with Vineland-3 *Parent/Caregiver* Form.
		66	• Poor to moderate correlations with Vineland-3 *Interview* Form.
Content validity	*Full item bank*		• <u>Comprehensiveness</u> - 41% of the ICF Core Sets for Autism[3] were covered, mostly Activities and Participation codes across Self-care, Communication and Domestic life chapters [1% > PEDI-CAT(Original)]. • <u>Relevance</u> - 54% of the PEDI-CAT (ASD) was represented in the ICF Core Sets for Autism [2% > PEDI-CAT(Original)].
	Subsamples of administered items		
	0-5 years	26	• 22-26% of the Core Sets for Autism for 0–5-year-olds was assessed.
	6-11 years	57	• 22-30% of the Core Sets for Autism for 6–16-year-olds was assessed.
	12-16 years	28	• 23-28% of the Core Sets for Autism for 6–16-year-olds was assessed.

Likes	Dislikes
Quick, easy and user-friendly.	No consideration of functioning across contexts.
Can complete independently at own pace.	Questions too general, not age-appropriate or relevant.
Questions easy to understand, non-invasive and task-focused.	Too few response options, cannot provide additional information.
Comprehensive.	

Acceptability
n=43

…[results] within expected range; I feel this is not a true reflection. I provide a lot of additional supports…consistency in routine and use visuals for changes. My child requires constant reminders with high parental support for daily activities.

If I'm having trouble [completing it], when I see them 24/7, how can a professional who only sees them occasionally answer or be able to reflect upon results and make decisions?

Using just this tool alone, I do not feel it accurately measured [my child]'s actual challenges.

Conclusions

Overall, the PEDI-CAT(ASD) showed adequate psychometric properties. However, it lacked comprehensiveness and relevance when mapped to the ICF Core Sets for Autism and has the potential to overestimate functioning, leading to unmet support needs.

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