

The French Version of the DABS: an IRT analysis

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Background

- The construct of adaptive behavior refers to those skills (Conceptual, Social, Practical) that are learned and performed by individuals in order to function in everyday life and to meet society's expectations for persons of the same age and culture (Luckasson et al., 2002; Schalock et al., 2010)
- Despite the importance of this construct, the evaluation of adaptive behavior is not systematic yet, namely in French speaking countries.
- A lack of adapted instruments seem to be one of the factor discouraging practitioners to more systematically evaluate this construct.

Aim

The aim of this study was to evaluate the data collected using the French version of the Diagnostic Adaptive Behavior Scale (DABS-F) during the main field test of the adaptation project, from an approach based on the Item Response Theory (IRT).

Method

- **Participants:** Six hundred and eighty-six participants with typical development and 199 participants with intellectual disability (ID) were recruited across three European French-speaking countries (Belgium, France, and Switzerland).
- **Material:** the DABS-F evaluates Conceptual, Social, and Practical skills among children and youngs. It is administered via a face-to-face interview with a proxy of the child. The interviewer will rate each of the 75 items based to respondents' answers on a scale ranging from 0 = No – rarely or never does it to 3 = Yes—does it always or almost always independently—never or rarely needs reminders or assistance
- **Analyses:** the aim of this study was to replicate on the DABS-F the IRT analyses performed on the original version. This included verification of unidimensionality, examination of the univariance of items linking different age versions of the instrument, and replication of the Graded Response Models (GRM, Samejima, 1969; Samejima, 1997).
- **Discriminant validity:** using the scoring system based on the GRM parameters, we compared participants with and without ID, across age. We expected to find higher scores in the no ID group as well as an increasing of adaptive behavior skills across age during the childhood period and a stagnation in later years of age, for both groups.

Table 1. Demographic characteristics of the sample

Demographics	Sample (n = 885)	
	M	SD
Age	12.44	5.21
	n	%
Sex		
Female	430	48.59
Male	455	51.41
Country		
Belgium	103	11.64
France	474	53.56
Switzerland	308	34.80
ID-related Diagnosis		
None (TD)	686	77.51
Mild ID	139	15.71
Moderate ID	60	6.78
Respondent		
Mother	586	66.21
Father	126	14.24
Other relative	66	7.46
Professional	86	9.72
Other	21	2.37

Table 2. Unidimensionality indices of all versions and domains of the DABS-F.

DABS-F domains	ω	u	ECV
Conceptual			
4-8	0.89	0.96	0.78
9-15	0.91	0.98	0.82
16-21	0.89	0.98	0.81
Social			
4-8	0.80	0.96	0.68
9-15	0.82	0.92	0.63
16-21	0.84	0.97	0.70
Practical			
4-8	0.89	0.95	0.82
9-15	0.72	0.83	0.61
16-21	0.84	0.93	0.80

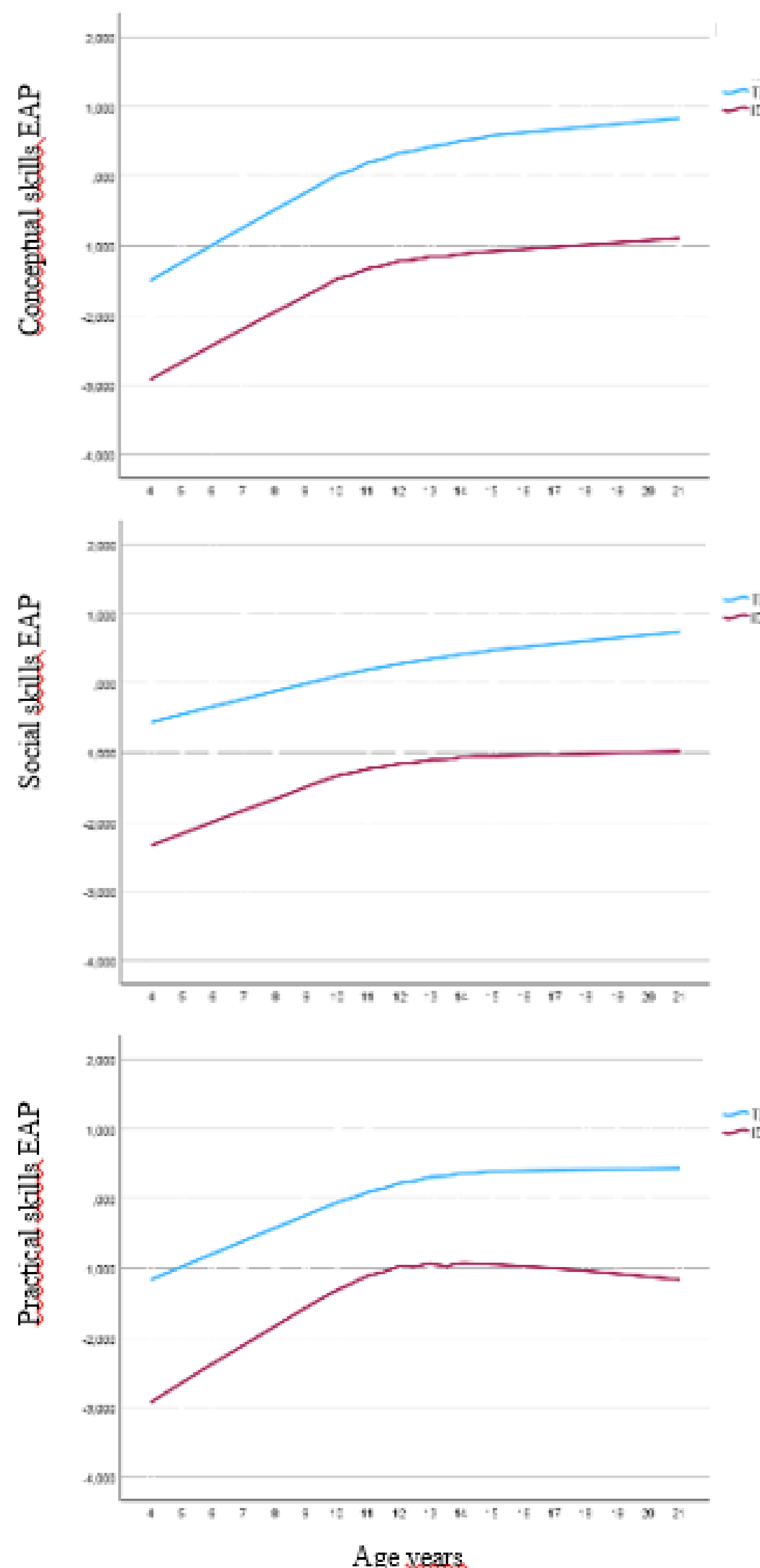


Figure 1. LOESS EAP means across age for Conceptual, Social and Practical skills domains.

Results and Discussion

- We recruited 885 participants composing a stratified sample on presence of ID, year of age, biological sex. As planned, the frequency of ID was around 20% for each of age, and for the total sample (Table 1, detailed stratified tables can be delivered on request by the corresponding author)
- Substantial unidimensionality was confirmed for the three version of the DABS-F of the three domains by the relatively high levels of hierarchical-omega and explained common variance issued from the bifactor model analysis. The more recent unidimensionality index u also confirmed unidimensionality of the data structure (Table 2).
- The vast majority of the link items of the original version confirmed to be invariant in the DABS-F.
- The three GRM corresponding to the three DABS-F domains showed a good fit with all RMSEA < .06
- LOESS means across age presented the expected shape for the two groups providing an evidence of discriminant validity of the DABS-F.