

# Reliability and factorial structure of the *FAB2* for Borderline Personality Disorder

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# Background

- People living with borderline personality disorder (BPD) experience major impacts on their daily lives<sup>1</sup>.
- A valid and reliable assessment of daily functioning for people with BPD is essential to accurately guide treatment and rehabilitation.
- A first tool was developed and validated in 2016; *Functional assessment for Borderline personality disorder (FAB)*<sup>3</sup>
- After revision and expert consultations FAB-2 is proposed

# Objective of this study

- Review the functioning scale of FAB
- Validate the second version (FAB-2), a tool to assess daily functioning in different aspects of life for individuals with BPD:
  - ▣ Internal consistency,
  - ▣ Test-retest reliability
  - ▣ Convergent validity of the FAB-2 (Whodas 2.0 and EMMBEP)
  - ▣ Construct validity with extreme groups and CFA

# Revision method

## Revision of functioning scale and items by experts

Data collection: 3 waves with 12 experts (5; 2; 5; 2)  
(Switzerland, Canada, Belgium)

■ Questionnaire for each dimension

■ « I consider this dimension relevant »:

■ (4 levels - likert scale)

■ 0= non relevant to 3=very relevant

■ If 0 ou 1 = make a proposition

■ Data analysis :

■ Quantitative data: frequency distribution

■ Qualitative data : descriptive summary of proposals

### Criterion conservation

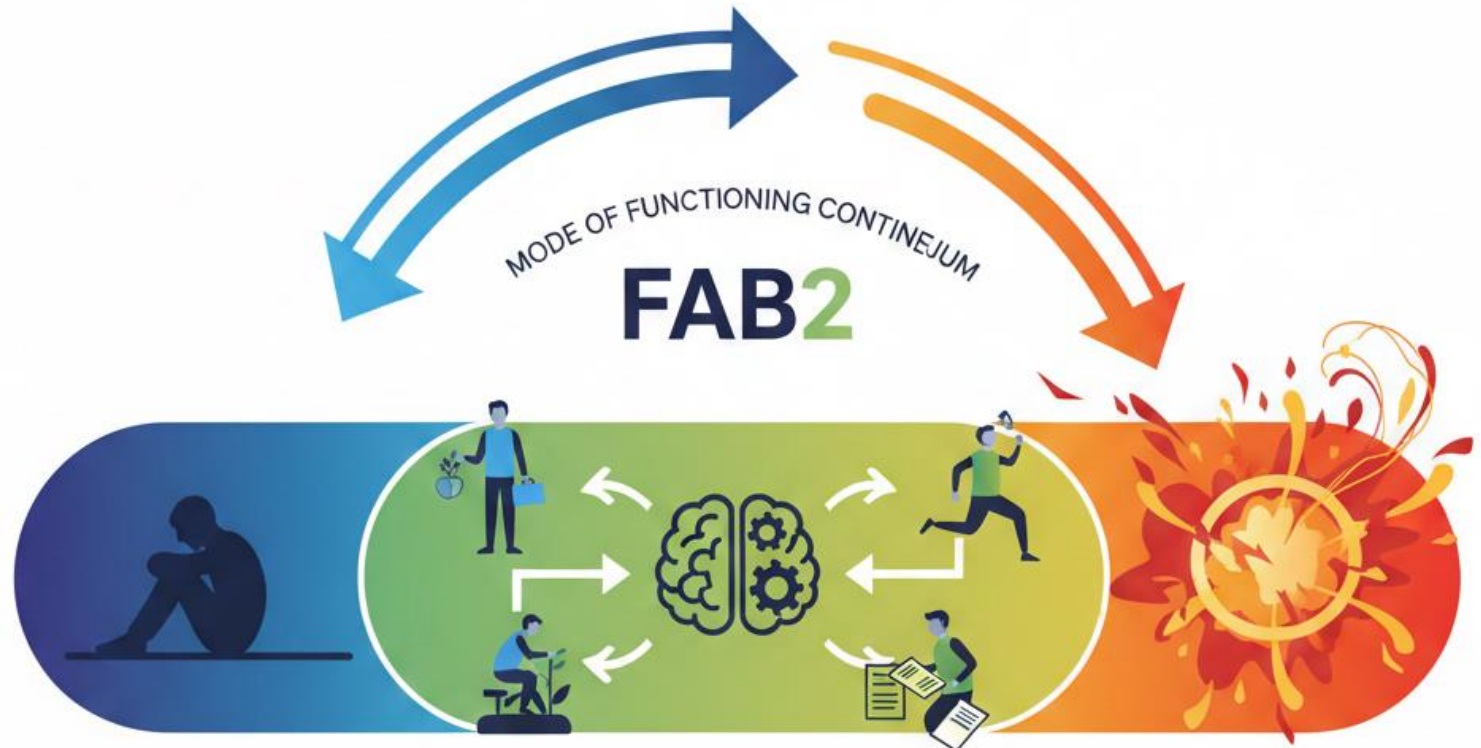
- $\geq 90\%$  of experts judge an item 2 or 3

# Functional assessment for Borderline personality disorder **FAB-2**



## 38 items self-administrated questionnaire

- Basic daily activities (13 items): *e.g.: looking after your health*
- Community-based activities (11 items): *e.g.: completing your studies*
- Social environment dimensions (10 items): *e.g.: ending relationships*
- Internal personal dimensions (4 items): *e.g.: self-confidence*



**WITHWAWAL  
& AVOIDANCE**

**HEALTH-CONTRIBUTING  
STRATEGIES**

**DISORGANIZED &  
IMPULSIVE BEHAVIOIRS**

BALANCED MIDDLE



Avoids bills entirely



Spends money impulsively

Tailoring rehabilitation goals

# First scale: functioning mode

## Legend of functioning modes and observable behaviors

**-2**

Functioning mode that harms health and well-being; characterized by behaviors of withdrawal, avoidance or disinterest in daily activities.

**-1**

Functioning mode which makes way for re-motivation and activation strategies in order to increase commitment in daily life, (minimally integrated into daily life).

**0**

Functioning mode that supports health and well-being, integrated into the daily routine. Carrying out activities aligned with needs and interests.

**+1**

Functioning mode that makes way for metacognitive strategies to reduce impulsive behavior (minimally integrated into daily life).

**+2**

Functioning mode that significantly harms health and well-being; characterized by disorganized and impulsive behavior.

## 2.2 Préparer ses repas régulièrement

Planification (incluant les achats) et préparation quotidienne de repas variés et équilibrés.

Ma façon de planifier mes repas ressemble à :

-2	-1	0	+1	+2
<p><i>Exemples</i></p> <ul style="list-style-type: none"><li>• J'ai souvent des aliments qui se perdent au frigo.</li><li>• Je ne prépare presque jamais de repas.</li></ul>	<p><i>Exemple</i></p> <ul style="list-style-type: none"><li>• J'essaie de faire des achats régulièrement.</li></ul>	<p><i>Exemples</i></p> <ul style="list-style-type: none"><li>• La préparation des repas fait partie de mes habitudes.</li><li>• Je planifie la préparation de mes repas pour qu'ils soient variés.</li><li>• Je fais les achats au moins une fois par semaine.</li></ul>	<p><i>Exemples</i></p> <ul style="list-style-type: none"><li>• Je m'efforce de faire une liste d'achats.</li><li>• Je planifie et prépare quelques uns de mes repas dans la semaine.</li></ul>	<p><i>Exemples</i></p> <ul style="list-style-type: none"><li>• Je ne planifie aucun de mes repas.</li><li>• Je dois commander des repas la plupart du temps.</li></ul>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Planifier mes repas est pour moi :

Très difficile

Difficile

Légèrement difficile

Facile

# Validation study: Participants

## Persons with BPD

- N=87 persons with BPD
- To be included:
  - Be diagnosed with borderline personality disorder by a psychiatrist according to DSM-5
  - Being 18 years old or more

## Control subjects

- N=50 persons without
- To be included:
  - No mental health known
  - Being 18 years old or more

Sample size :

Based on a hypothesized correlation of 0.60 with WHODAS. Power of 99% and type 1 error of 3%  
Bilateral test. Null hypothesis = 0,2

G\* Power 3 (Faul, Erfelder, Lang et Bucher, 2007)

# Results

# Participants sociodemographic (n=1 37)

<b>Variables</b>	<b>BPD (n=74)</b>	<b>Control (n=50)</b>
<b><i>Continuous variable</i></b>	Mean (SD)	Mean (SD)
Age (years)	37.2 (12.7)	39.4 (14.6)
<b><i>Categorical variables</i></b>	n (%)	n (%)
Sex (female)	65 (88)	42 (84)
Marital status		
Married or common law	4 (5)	15 (30)
Single	58 (78)	28 (56)
Divorced or separated	12 (16)	7 (14)

# Participants sociodemographic (n=1 37)

<b>Variables</b>	<b>BPD (n=74)</b>	<b>Control (n=50)</b>
Categorical variables	n (%)	
Employment status		
Full-time	4 (5)	12 (24)
Part-time / off work temporarily /	28 (38)	12 (24)
Unemployed and looking for work	9 (12)	0
Going to school and working part-time	4 (5)	24 (48)
Permanently unemployed	28 (38)	0
Education (highest diploma/degree obtained)		
Less than bachelor	62 (84)	40 (80)
Bachelor and University degree	12 (16)	10 (20)

# Internal consistency FAB-2

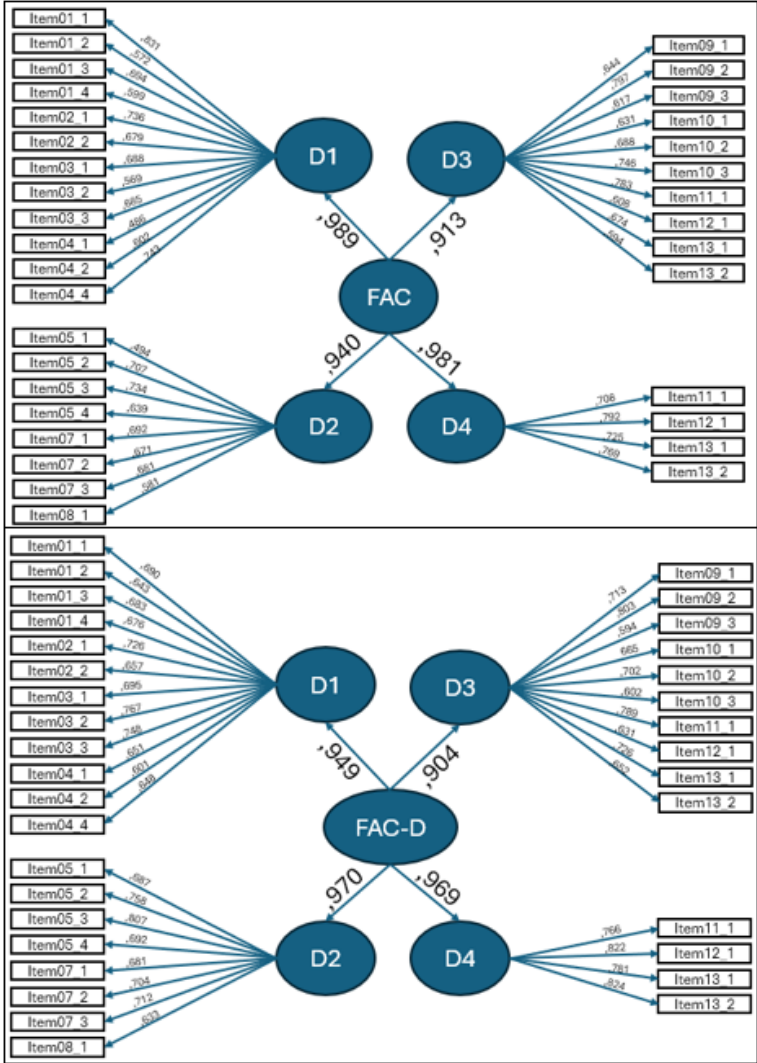
Functioning mode scale and difficulty scale (n = 87 BPD)

	Cronbach's alpha (95% C.I.)	
FAB 2	Functioning mode scale	Degree of difficulty scale
Total score	<b>0.90</b> (0.87, 0.93)	<b>0.88</b> (0.84, 0.91)
Domain of basic daily activities	0.76 (0.68, 0.83)	0.77 (0.69, 0.83)
Domain of activities in the community	0.75 (0.66, 0.82)	0.75 (0.66, 0.82)
Dimensions of the social environment	0.81 (0.74, 0.86)	0.75 (0.66, 0.82)
Internal dimensions of the person	0.64 (0.50, 0.75)	0.65 (0.52, 0.76)

# Test-retest reliability of the FAB-2: Functioning mode scale

<b>Functioning mode scale</b>	<b>T1 Mean (SD)</b>	<b>T2 Mean (SD)</b>	<b>ICC (95% CI)</b>
Total score	47.44 (13.67)	46.63 (14.86)	<b>0.88</b> (0.83-0.92)
Domain of basic daily activities	16.23 (4.70)	15.98 (5.39)	<b>0.81</b> (0.72-0.87)
Domain of community-based activities	14.06 (5.26)	13.49 (5.32)	<b>0.82</b> (0.74-0.88)
Domain of social environment dimensions	11.31 (4.32)	11.21 (4.51)	<b>0.86</b> (0.79-0.90)
Domain of internal personal dimensions	5.85 (1.86)	5.95 (1.99)	<b>0.62</b> (0.47-0.73)

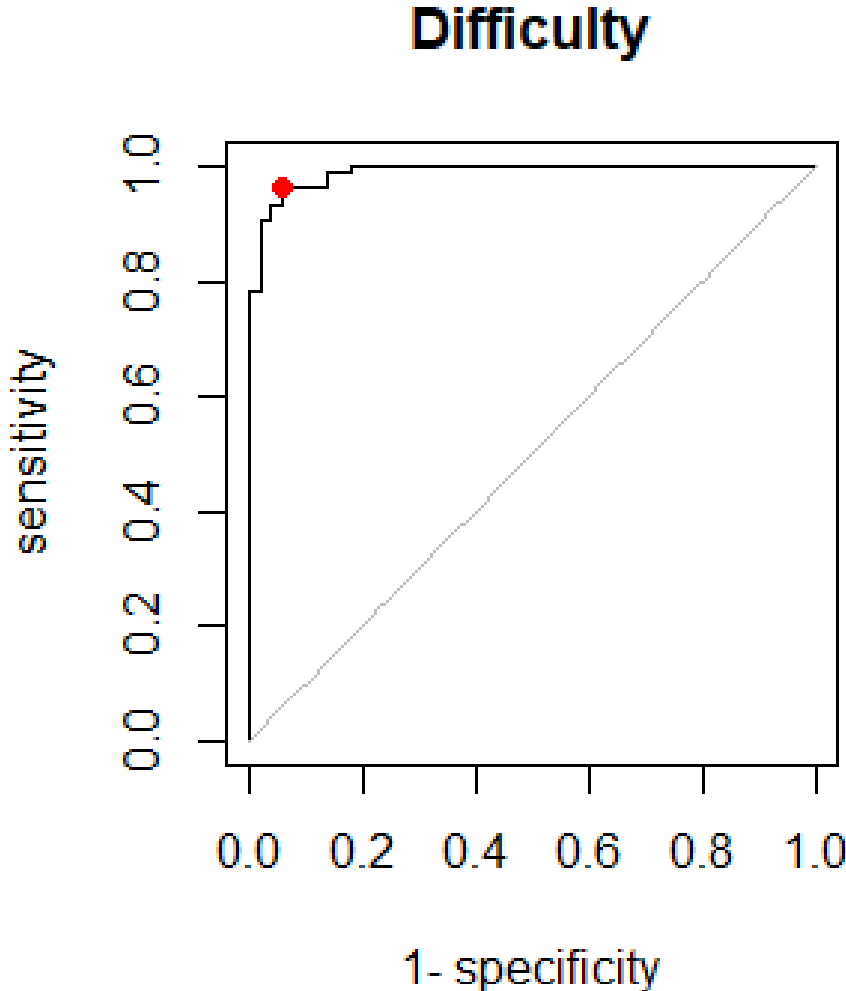
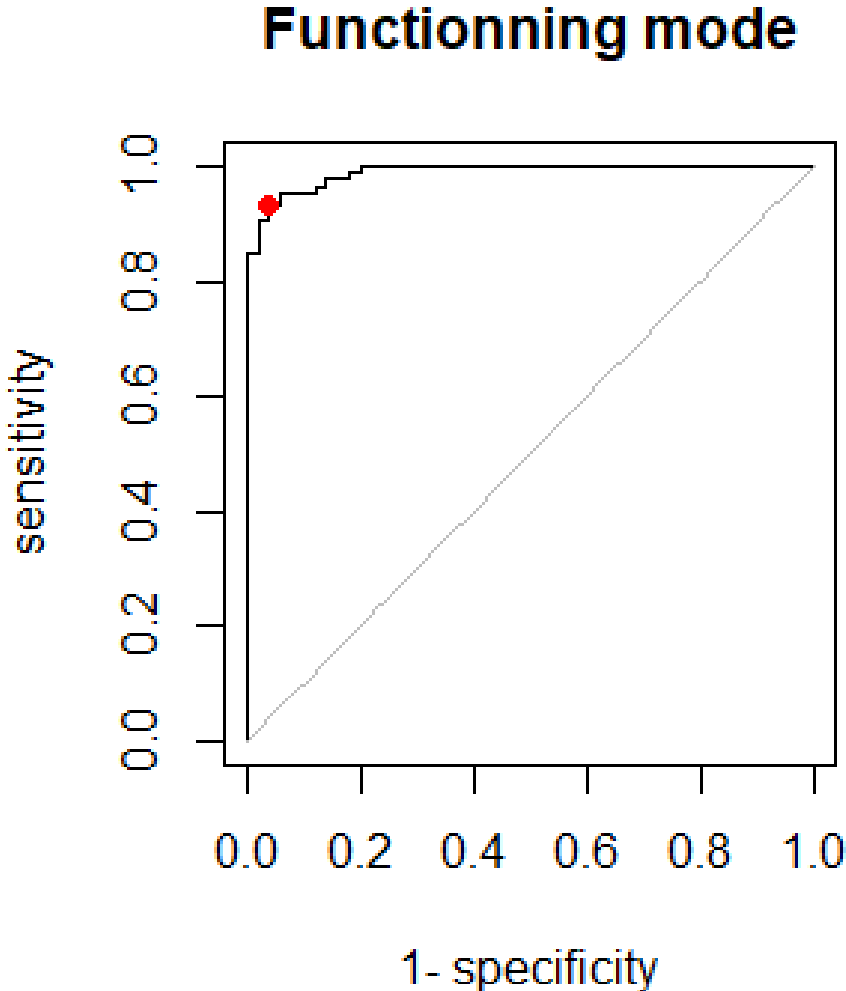
# Standardized coefficients of the confirmatory factor analysis for FAC (functional mode scale) and for FAC-D (difficulty scale).



# FAB-2 Convergent construct validity

FAB scales	EMMBEP		WHODAS 2.0	
	Pearson's correlation	<i>p</i>	Pearson's correlation	<i>p</i>
<b>Functioning mode</b>	-0,828**	p<0,001	-0,848**	p<0,001
<b>Degree of difficulty</b>	-0,866**	p<0,001	-0,879**	p<0,001

# Construct validity with extreme groups



# Comparison between BPD and control FAB-2: functioning mode scale (n=87 people with BPD, n=50 control subjects)

<b>Functioning mode scale</b>	BPD	Control	p-value	Optimal	ROC curve
	Mean (SD)	Mean (SD)		cut-off	AUC
Total score	47.44 (13.67)	14.08 (7.88)	< 0.001	<b>≥ 26</b>	0.99
Domain of basic daily activities	16.23 (4.70)	4.91 (3.39)	< 0.001	<b>≥ 11</b>	0.98
Domain of community-based activities	14.06 (5.26)	4.58 (2.67)	< 0.001	<b>≥ 8</b>	0.98
Domain of social environment	11.31 (4.32)	2.90 (2.16)	< 0.001	<b>≥ 7</b>	0.96
Domain of internal dimensions	5.85 (1.86)	1.68 (1.61)	< 0.001	<b>≥ 5</b>	0.94

# Discussion

- Internal consistency:
  - The high Chronbach's alphas obtained (0.92 and 0.94) point to great homogeneity in the questionnaire's dimensions, in each domains.
- Test-retest reliability:
  - ICC excellent for both FAB2 scales and all four domains (ICC higher than 0.75)
- Convergent construct validity:
  - Strong associations between FAB-2, EMMBEP and WHODAS 2.0 found suggest that the functioning mode of a person and its difficulty contribute to his well-being and health.

1. De Vellis, 2011
2. Nunnally and Bernstein, 1994

# Potential benefits

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## Research and Clinic:

- ▣ Rehabilitation interventions specifically targeting daily functioning and mode of functioning are a promising avenue.

## Patients:

- ▣ Rehabilitation services better targeted



**To learn about FAB-2**