## BPSD (from Bentvelzen et al. 2017 JAMDA)

		Global			Front	Agitation	1	Apathy			Depressi	on		Aggr	Anxiety		Sleep
No	Rating Criteria	NPI	BEHAVE-AD	DBDS	FBI	CMAI	PAS	AES	IA	LARS	GDS	CORNELL	HDRS	RAGE	RAID	HARS	PSQI
1	Inter-rater reliability (/4)	4	4	4	4	3	3	4	4	4	0	2	2	3	2	2	0
2	Test-retest reliability (/4)	2	0	2	3	3	0	4	4	4	2	2	2	4	4	0	2
3	Internal consistency (/2)	1	0	1	2	1	1	2	1.5	1	1	2	1	1	1	1	1
4	Content validity (/2)	2	2	1	2	2	2	2	1	2	2	2	1	2	2	1	1
5	Concurrent validity (/4)	2	2	4	3	2	2	2	4	4	4	4	2	2	2	2	4
6	Discriminant validitiy (/4)	4	4	2	4	2	2	4	0	0	4	2	4	4	2	2	4
7	Sensitivity (/4)	4	2	0	4	2	2	4	4	2	2	2	2	4	4	0	4
8	Specificity (/4)	2	2	0	4	4	4	0	4	4	2	2	4	4	2	2	4
9	Responsiveness (/4)	4	4	0	0	2	2	2	0	0	2	2	2	4	2	2	2
10	Dementia types (/2)	2	1	0	2	1	0	2	1	2	2	1	2	0	0	1	2
11	Clinical settings (/2)	2	2	2	0	2	1	2	0	0	2	1	0	2	1	2	2
12	Education/literacy (/2)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
13	Translations (/2)	2	2	2	2	2	1	2	2	2	2	2	2	2	1	2	2
14	International acceptance (/4)	4	4	0	0	4	2	2	0	0	4	4	0	2	2	0	0
15	Administration time (/4)	2	0	2	0	2	4	2	4	2	2	0	0	4	1	2	2
16	A: Ease of use (/4)	4	4	4	2	2	4	-	4	4	-	2	4	4	4	4	-
	B: Respondent burden (/4)	-	-	-	-	-	-	4	-	-	4	-	-	-	-	-	4
17	Qualifications required (/4)	2	2	4	0	2	2	0	4	2	4	2	0	2	0	2	4
18	Cost of tool/training (/4)	4	4	4	4	4	4	4	2	4	4	4	4	4	4	4	4
	Weighted score (/60)	49	41	34	38	42	38	44	42	39	45	38	34	50	36	31	44

- Reliability 1: inter-rater 1 4 excellent (ICC/ $\kappa \ge .90$ ) 2 adequate (ICC/k .70 to .89) 0 low (ICC/ $\kappa$  < .70) or no data
- 2 Reliability 2: test-retest 4 excellent (ICC/ $\kappa \ge .90$ ) 2 adequate (ICC/k .70 to .89) 0 low  $(ICC/\kappa < .70)$  or no data
- 3 Reliability 3: internal consistency 2 excellent (Cronbach's  $\alpha \ge .90$ ) 1 adequate to good (Cronbach's α from .70 to .89) 0 low (Cronbach's  $\alpha < .70$ ) or no data
- 4 Validity 1: Content validity-domain of interest is comprehensively sampled by the items 2 domain comprehensively sampled 1 domain reasonably well sampled
  - 0 important aspects of domain are not sampled or irrelevant items included
- Validity 2: Concurrent validity-expected correlations with 5 similar validated measures 4 high ( $|r/\kappa| \ge .70$ ) 2 moderate (lr/kl from .40 to .69) 0 low concurrent validity (( $|r/\kappa| < .30$ ), or no data
- 6 Validity 3: Discriminant validity - cross-sectional (eg, dementia vs depression: low vs high levels of severity/impairment: AD vs FTD etc.)

- 4 can distinguish between >2 clinically important categories of respondents 2 can distinguish between 2 categories of respondents 0 no evidence
- 7 Validity 4: Sensitivity to diagnosis/category 4 high (≥.85) 2 moderate (.70 to .84) 0 low (<.70)
- 8 Validity 5: Specificity to diagnosis/category 4 high (≥.85) 2 moderate (.70 to .84)
  - 0 low (<.70)
- 9 Validity 6: Responsivenessdability to detect clinically important change over time (eq, because of course of the condition or in response to intervention)
  - 4 availability of minimum clinically important difference (MCID) in appropriate metrics (eq. standardized response means) at the individual patient level on external clinical criteria
  - 2 can detect statistically significant changes over time in hypothesized direction on external clinical criteria, but no metrics available to quantify MCID at the individual patient level
  - 0 no evidence for responsiveness
- 10 Generalizability 1: validity in different dementia populations (eg, AD, FTD, PD etc.) 2 > 2 types of dementia

## 1 two different types of dementia 0 only 1 type of dementia

- 11 Generalizability 2: validity in different clinical settings (ie, nursing home, community, primary care, specialist) 2 > 2 types of setting
  - 1 two different types of setting
  - 0 only 1 type of setting
- 12 Generalizability 3: validity in patients with low education/literacv
  - 2 scale shown to be resistant to low education/literacy, or effects of education/literacy shown but alternative cutoffs or corrections published
  - 1 effect of low education/literacy on validity, but no alternative cut-offs or corrections available 0 not investigated
- 13 Generalizability 4: validity in multiple countries/languages 2 multiple countries or languages 1 different countries but only 1 language 0 1 country and language
- 14 Recommended in published international dementia guidelines
- $4 \ge 2$  countries
- 2 1 country
- 0 0 countries
- 15 Administration time (minutes)
  - 4 ≤ 5
  - 2 6–15

## 0 > 15

- 16A Ease of administration and scoring (for clinicianadministered tools)
  - 4 does not require algorithm to score or special equipment
- 2 requires an algorithm to compute score OR special equipment
- 0 requires an algorithm to compute score AND special equipment
- 16B Burden on respondent (for self-reported or proxy tools) 4 items are worded simply
  - 2 minor challenges for respondent (eg, minority of items are worded in a complex manner)
  - 0 reasonable degree of burden on respondent (majority of items worded in a complex manner)
- 17 Clinical qualifications required to administer tool 4 untrained rater (eg, general nursing staff, patient/informant)
  - 2 paraprofessional/staff member (eq, clinical nurse; research assistant)
  - 0 professional (eg, doctor, occupational therapist, or neuropsychologist)
- 18 Cost of the tool and training for clinicians 4 no charge for tool or for training 2 small 1-time costs to acquire tool or for training 0 costs charged each time tool is used