

# Challenging Behavior Scale

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# Background on Scale Development

- Four types of challenging behaviors among residents measured using 4 subscales: conflict, withdrawn, agitation, and attention seeking behavior.
- Range of values
  - Overall range 0-30 (The responses for each of the 16 items are scored as 2(0,1) or 3(0,1,2) categories. Items with 4 categories were recoded to 3 categories.
  - Higher values indicate more frequent challenging behaviors or presence of challenging behavior (For item F2a)

# Background on Scale Development

## Summary of Analyses of psychometric properties

- Reliability measures:
  - Overall Cronbach's alpha = 0.83 (Subscale alphas of 1<sup>st</sup> sample ranged from 0.69-0.80)
  - Individual Cronbach alpha of the scales in the 2<sup>nd</sup> sample: conflict (0.54); withdrawn (0.78); agitation(0.70); attention seeking (0.75).
  - Inter-rater reliability tested on 2<sup>nd</sup> dataset and calculated with inter-rater kappa was satisfactory (>0.40) except resisting care which had a kappa below 0.40; Intra-class correlation coefficients were moderate (0.41-0.60) to perfect (0.81-1.0) except for withdrawal (0.35).
- Principal Component Analysis (PCA) with 4 factors and oblique rotation highlighted 4 scales. (2<sup>nd</sup> sample PCA not as strong)
- Validity measures:
  - Concurrent validity – New scale significantly correlated with their respective 5 different subscales of Behavior Rating Scale for Psychogeriatric Inpatients (GIP). Spearman correlations ranged between the corresponding subscales ranged between 0.35 to 0.53 except for attention seeking (0.23, 0.24)
  - Face validity – Since the items were selected by two independent experts, it may be akin to face validity.

# Background on Scale Development

Scale	Alpha		PCA*		Mean Kappa		ICC**		Concurrent Validity – with GIP***	
	Sample 1	Sample 2	Sample 1	Sample 2	Sample 1	Sample 2	Sample 1	Sample 2	Sample 1	Sample 2
<b>Conflict</b>	0.69	0.54	-0.57-(-0.68)			0.49		0.59		0.53
<b>Withdrawal</b>	0.80	0.78	0.87-0.89	0.77-0.81		0.44		0.48		0.35
<b>Agitation</b>	0.70	0.70	0.60-0.76	0.55-0.86		0.61		0.80		0.50-0.51
<b>Attention seeking</b>	0.76	0.75	-0.57-(-0.73)			0.53		0.68		0.23
<b>Overall</b>	0.83	0.81				0.53		0.75		

Note: Sample 1 used for scale construction, Sample 2 used to study reliability and validity of overall scale and subscales

\*Principal component analysis

\*\*Intraclass correlation coefficient

\*\*\*Behavior Rating for Psychogeriatric Inpatients

# MDS Items

MDS 2.0 items	Notes:
<p><b><u>Conflict behavior</u></b>            Section E.1.d Persistent anger with self or others (MDS2_E1d)            Section E.4.b Verbally abusive behavioral symptoms (MDS2_E4ba)            Section E.4.c Physically Abusive behavioral symptoms (MDS2_E4ca)            Section E.4.e Resists care (MDS2_E4ea)            Section F.2.a Covert/open conflict with or repeated criticism of staff (MDS2_F2a)</p> <p><b><u>Withdrawal</u></b>            Section E.1.o Withdrawal from activities of interest (MDS2_E1o)            Section E.1.p Reduced social interaction (MDS2_E1p)</p> <p><b><u>Agitation</u></b>            Section B.5.d Periods of restlessness (MDS2_B5d)            Section E.1.n Repetitive physical movements (MDS2_E1n)            Section E.4.a wandering (MDS2_E4aa)            Section E.4.d Socially inappropriate/disruptive behavioral symptoms (MDS2_E4da)</p> <p><b><u>Attention Seeking</u></b>            Section E.1.a Negative statements (MDS2_E1a)            Section E.1.b Repetitive questions (MDS2_E1b)            Section E.1.c Repetitive verbalizations (MDS2_E1c)            Section E.1.h Repetitive health complaints (MDS2_E1h)            Section E.1.i Repetitive anxious complaints/concerns (non-health related) (MDS2_E1i)</p>	<ul style="list-style-type: none"> <li>• Lookback period for MDS 2.0 Section E1 is 30 days, B5, E4, and F2a is 7 days</li> <li>• Scoring of individual items varies by section</li> <li>• The scale is validated with MDS2.0 items</li> </ul>

# Technical Notes

- For B5 (Delirium), which is an item in MDS 2.0, accurate assessment requires conversations with staff and family who have direct knowledge of residents' behavior over time.
- Not all 16 items are available in MDS 3.0 and hence not applicable to MDS 3.0