

DSM-5 SEVERITY CRITERIA FOR EATING DISORDERS AND COGNITIVE FLEXIBILITY: EXPLORING ALTERNATIVE SEVERITY VARIABLES

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Introduction and Aims

The severity criteria proposed in the fifth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) for eating disorders (ED) were established without sufficient empirical evidence and therefore have limitations in categorizing patients according to severity.

ED severity criteria according to DSM-5 and DSM-5-TR:

Anorexia Nervosa → Body mass index (BMI): mild (>17.0 kg/m²), moderate (16–16.99 kg/m²), severe (15–15.99 kg/m²) or extreme (<15 kg/m²)

Bulimia Nervosa → Number of inappropriate compensatory behaviours per week: mild (1–3 episodes/week), moderate (4–7 episodes/week), severe (8–13 episodes/week) and extreme (>14 episodes/week)

Binge Eating Disorder → Number of binge eating episodes per week: mild (1–3 episodes/week), moderate (4–7 episodes/week), severe (8–13 episodes/week) and extreme (>14 episodes/week)

Our aims were to assess: 1.) Whether the severity indices for ED proposed in the DSM-5 were associated with deficits in cognitive flexibility and, 2.) Whether Drive for Thinness or illness duration, acted as an alternative, more meaningful severity indices for deficiencies in cognitive flexibility.

Methods and Materials

A total of 161 patients with ED (100 with Anorexia Nervosa (AN) and 61 with Binge Spectrum Disorders (BSD) (Bulimia Nervosa or Binge Eating Disorder). Patients were categorized according to DSM-5 severity categories, Drive for Thinness subscale of the Eating Disorders Inventory-2 (EDI-2) and duration of illness. The severity categories of the different classifications were then compared according to cognitive flexibility as measured by the Wisconsin Card Sorting Test (WCST).

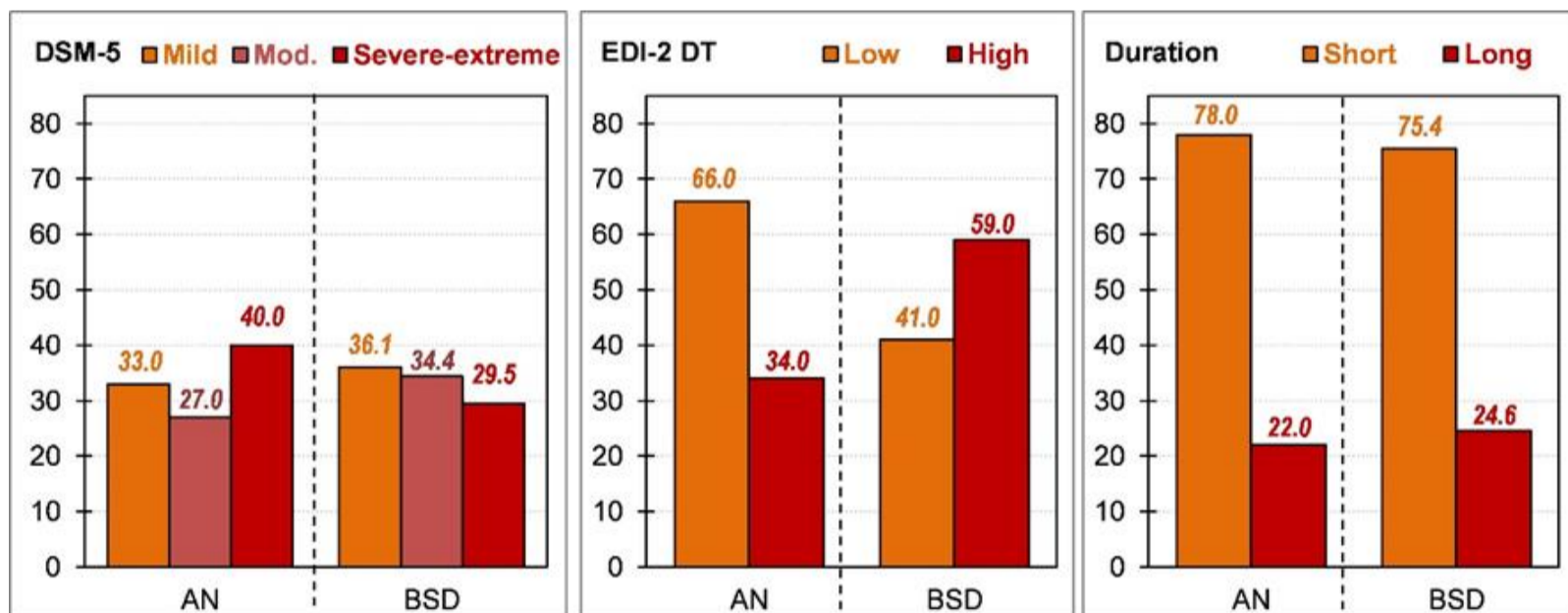


Figure: Severity prevalence estimates according to the three classification methods of the study (DSM-5, drive for thinness and illness duration).

Results

Cognitive flexibility based on the DSM-5 severity classification:

AN: Better performance for the moderate group. Higher deficits for the mild and extreme categories.

BSD: Higher deficits for the mild than for the moderate and extreme categories.

Cognitive flexibility based on alternative severity classifications:

AN: No differences for the DT classification. Better performance for short duration.

BSD: No differences for the DT classification. Higher deficits for long duration.

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Table 1: Discriminative capacity on cognitive flexibility for the DSM-5 severity classification

	AN group (n=100)										
	DSM-5 criteria						Pairwise comparisons				
	Mild (G1) n=33		Mod(G2) n=27		S/E (G3) n=40		Factor	Group	G1-G2	G1-G3	G2-G3
WCST T-scores	Mean	SD	Mean	SD	Mean	SD	p	ES	p	p	p
WCST: PctErrors	45.36	11.37	52.44	10.31	46.30	11.24	.033*	.068	.015*	.719	.028*
WCST: PctPersRsps	46.91	11.91	55.11	10.71	46.33	10.59	.004*	.108†	.005*	.823	.002*
WCST: PctPersErrors	46.91	11.91	53.74	10.45	46.10	10.63	.016*	.082	.019*	.756	.006*
WCST:	45.67	10.69	51.70	10.41	47.23	9.86	.072	.053	.026*	.521	.084
PctNonPersErrors											
WCST: PctCLRsp	44.79	11.75	52.37	10.15	46.05	11.62	.026*	.072	.011*	.636	.027*
Deficit	n	%	n	%	n	%	p	ES	G1-G2	G1-G3	G2-G3
Cognitive flexibility	13	40.6%	2	7.4%	11	27.5%	.015*	.291†	.004*	.240	.041*

	BSD group (n=61)										
	DSM-5 criteria						Pairwise comparisons				
	Mild (G1) n=22		Mod(G2) n=21		S/E (G3) n=18		Factor	Group	G1-G2	G1-G3	G2-G3
WCST T-scores	Mean	SD	Mean	SD	Mean	SD	p	ES	p	p	p
WCST: PctErrors	41.68	13.12	46.05	9.62	47.94	11.22	.209	.052	.216	.091	.608
WCST: PctPersRsps	44.18	14.71	47.05	11.13	50.06	16.48	.431	.029	.510	.197	.511
WCST: PctPersErrors	42.95	14.60	46.81	10.98	49.28	16.76	.367	.034	.377	.166	.590
WCST:	43.00	11.56	46.86	7.95	48.78	9.06	.163	.061	.198	.066	.540
PctNonPersErrors											
WCST: PctCLRsp	41.73	12.71	45.81	9.71	47.89	11.27	.219	.051	.242	.092	.570
Deficit	n	%	n	%	n	%	p	ES	G1-G2	G1-G3	G2-G3
Cognitive flexibility	11	50.0%	5	23.8%	2	11.1%	.021*	.355†	.046*	.009*	.303

Note. *Bold: significant comparison; †Bold: effect size into the mild/moderate to the high/large range ($\eta^2>0.10$ or $C-V>0.15$).

Table 2: Discriminative capacity on cognitive flexibility for the alternative severity classifications

	AN group (n=100)											
	EDI-2 drive for thinness						Duration of the disorder					
	Low n=66		High n=34		Factor Group		Short n=78		Long n=22		Factor Group	
WCST T-scores	Mean	SD	Mean	SD	p	ES	Mean	SD	Mean	SD	p	ES
WCST: PctErrors	46.94	11.36	49.03	11.29	.385	.008	49.13	10.92	42.41	11.44	.013*	.061
WCST: PctPersRsps	48.62	11.43	49.41	12.09	.749	.001	50.54	11.44	43.05	10.43	.007*	.072
WCST: PctPersErrors	48.08	11.25	49.12	11.79	.667	.002	50.01	11.15	42.82	10.64	.008*	.069
WCST:	47.14	10.45	49.44	10.47	.299	.011	49.01	10.38	44.05	10.06	.049*	.039
PctNonPersError												
WCST: PctCLRsp	46.59	11.65	48.79	11.54	.371	.008	48.78	11.21	42.23	11.76	.018*	.055
Deficit	n	%	n	%	p	ES	n	%	n	%	p	ES
Cognitive flexibility	19	29.2%	7	20.6%	.353	.093	18	23.4%	8	36.4%	.222	.123

	BSD group (n=61)											
	EDI-2 drive for thinness						Duration of the disorder					
	Low n=25		High n=36		Factor Group		Short n=46		Long n=15		Factor Group	
WCST T-scores	Mean	SD	Mean	SD	p	ES	Mean	SD	Mean	SD	p	ES
WCST: PctErrors	46.32	11.98	44.14	11.36	.474	.009	46.43	11.74	40.73	10.21	.098	.046
WCST: PctPersRsps	48.40	13.11	45.86	14.89	.495	.008	48.80	14.95	41.07	9.42	.065	.057
WCST: PctPersErrors	47.68	12.99	45.08	15.05	.487	.008	48.13	14.99	40.07	9.33	.055	.061
WCST:	46.40	10.16	45.78	9.75	.810	.001	47.09	9.97	42.80	9.01	.144	.036
PctNonPersErrors												
WCST: PctCLRsp	46.68	11.90	43.75	11.10	.329	.016	46.35	11.57	40.67	10.16	.095	.047
Deficit	n	%	n	%	p	ES	n	%	n	%	p	ES
Cognitive flexibility	9	36.0%	9	25.0%	.354	.119	10	21.7%	8	53.3%	.020*	.298†

Note. *Bold: significant comparison; †Bold: effect size into the mild/moderate to the high/large range ($\eta^2>0.10$ or $C-V>0.15$).

Discussion

These results illustrate that the DSM-5 severity ratings for AN and BSD do not correspond to the deficits in cognitive flexibility. Additionally, in both clinical groups, the findings showed that while DT did not discriminate against poor cognitive flexibility, duration of illness showed discriminative capacity to assess cognitive flexibility as an alternative severity classification for ED.

Conclusions

These findings show that, on the one hand, the DSM severity criteria for EDD do not fit cognitive flexibility deficits and, on the other hand, that the severity criteria according to duration of illness are better associated with cognitive flexibility deficits for ED.

Keywords

eating disorders, neuropsychology, DSM-5-TR, illness duration, severity ratings