

Enhanced Interpretation of the Behavior Rating Inventory of Executive Function–Adult Version (BRIEF-A)

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Background

The Behavior Rating Inventory of Executive Function®–Adult Version (BRIEF®-A; Roth, et al., 2005) is a standardized measure that captures an adult’s executive functions in their everyday environment. It consists of both a self-report form and an informant report form.

The BRIEF-A contains 75 items that comprise nine nonoverlapping clinical scales as well as three validity scales. The clinical scales form two broad indices—the Behavioral Regulation Index (BRI) and the Metacognition Index (MI)—and an overall summary composite, the Global Executive Composite (GEC).

Clinical scale	Items measure the ability to:
Inhibit	control impulses and stop certain behaviors at appropriate times
Shift	move from task to task and solve problems flexibly
Emotional Control	regulate emotional responses appropriately
Self-Monitor	recognize and monitor effect of own behavior on others
Initiate	initiate tasks and generate ideas
Working Memory	keep information being used in mind while completing a task
Plan/Organize	set goals and effectively plan and execute tasks necessary for attaining said goal
Task Monitor	check one’s own work and assess personal performance
Organization of Materials	keep workspaces, living areas, and materials orderly
Validity scale	Items measure the extent to which the examinee:
Negativity	provides an unusually negative response pattern
Infrequency	responds in an unusual and infrequent direction
Inconsistency	answers similar items inconsistently

Objective: The purpose of the current study* is to provide additional statistical evidence to support interpretation of BRIEF-A scores across raters and over time.

Method

Participants were adults, ages 18 to 90 years, from the BRIEF-A Self-Report ($N = 1,050$) and Informant Report ($N = 1,200$) standardization samples, as well as an interrater sample ($n = 180$) and test–retest samples ($n = 50$ for Self, $n = 44$ for Informant).

To interpret ratings between informants, the base rates of interrater differences and score differences required for statistical significance were examined.

To interpret test–retest change, the base rates of test–retest differences and score differences required for statistical significance were examined.

Base rates of elevated T scores (≥ 65) were calculated for the standardization samples across age groups.

*This study was conducted by PAR, the publisher of the BRIEF-A.

Results

Interrater correlations

Interrater correlations ranged from .44 to .68 for the clinical scales and .61 to .63 across the indices. An interrater difference of 16–21 T -score points on a scale/index was significant at $p < .05$. Approximately 55–73% of raters reported scores within 10 T -score points, with only 2–11% being discrepant by more than 20 T -score points.

Reliable change

Test–retest scores for both the Self-Report and Informant Report Forms were highly correlated across the scales and indices (Self-Report: $r = .82-.94$; Informant Report: $r = .91-.96$). A test–retest difference of 7–12 T -score points for the Self-Report Form and 6–8 T -score points for the Informant Report Form were significant at $p < .05$ across the scales/indices.

Base rates

Base rates of elevated T scores across age groups ranged from 3.3% to 15.4% for the Self-Report Form and 4.5% to 16.3% for the Informant Report Form across the scales/indices.

BRIEF-A Interrater Correlations							
Scale/index	r	S_{diff}	Significance level				
			ns	.15	.10	.05	.01
Inhibit	.62	8.72	0–12	13	14	17	22
Shift	.44	10.58	0–14	15	17	21	27
Emotional Control	.68	8.00	0–11	12	13	16	21
Self-Monitor	.48	10.20	0–14	15	17	20	26
Initiate	.59	9.06	0–12	13	15	18	23
Working Memory	.60	8.94	0–12	13	15	18	23
Plan/Organize	.55	9.49	0–13	14	16	19	24
Task Monitor	.46	10.39	0–14	15	17	20	27
Organization of Materials	.59	9.06	0–12	13	15	18	23
BRI	.63	8.60	0–11	12	14	17	22
MI	.61	8.83	0–12	13	14	17	23
GEC	.63	8.60	0–11	12	14	17	22

BRIEF-A Self-Report Form Reliable Change							BRIEF-A Informant Form Report Reliable Change								
Scale/index	r	S_{diff}	Significance level				Scale/index	r	S_{diff}	Significance level					
			ns	.15	.10	.05				.01	ns	.15	.10	.05	.01
Inhibit	.91	4.24	0–5	6	7	8	11	Inhibit	.94	4.24	0–5	6	7	8	11
Shift	.89	4.69	0–6	7	8	9	12	Shift	.94	3.46	0–4	5	6	7	9
Emotional Control	.90	4.47	0–5	6	7	9	12	Emotional Control	.93	3.74	0–4	5	6	7	10
Self-Monitor	.83	5.83	0–7	8	10	11	15	Self-Monitor	.94	3.46	0–4	5	6	7	9
Initiate	.85	5.48	0–7	8	9	11	14	Initiate	.93	3.74	0–4	5	6	7	10
Working Memory	.92	4.00	0–5	6	7	8	10	Working Memory	.92	4.00	0–5	6	7	8	10
Plan/Organize	.82	6.00	0–8	9	10	12	15	Plan/Organize	.91	4.24	0–5	6	7	8	11
Task Monitor	.84	5.66	0–7	8	9	11	15	Task Monitor	.93	3.74	0–4	5	6	7	10
Organization of Materials	.93	3.74	0–4	5	6	7	10	Organization of Materials	.93	3.74	0–4	5	6	7	10
BRI	.93	3.74	0–4	5	6	7	10	BRI	.96	2.83	0–3	4	5	6	7
MI	.93	3.74	0–4	5	6	7	10	MI	.96	2.83	0–3	4	5	6	7
GEC	.94	3.46	0–4	5	6	7	9	GEC	.96	2.83	0–3	4	5	6	7

Scale/index	Percent of Sample Scoring ≥ 65 by Age Group (in years)															
	Self-Report Form								Informant Report Form							
	18–29	30–39	40–49	50–59	60–69	70–79	80–89	18–29	30–39	40–49	50–59	60–69	70–79	80–89		
Inhibit	8.3	7.9	4.7	5.0	3.3	5.0	4.3	12.8	12.8	6.3	6.3	8.2	9.0	10.3		
Shift	7.7	13.3	7.1	9.9	8.9	6.7	15.4	12.8	9.7	9.9	9.9	13.6	4.5	14.7		
Emotional Control	12.4	9.1	5.3	7.1	9.8	10.0	12.3	12.3	7.9	10.4	9.9	10.2	9.9	10.3		
Self-Monitor	7.7	6.1	5.3	9.9	13.8	10.0	11.7	14.3	8.4	6.3	9.0	15.0	7.2	11.8		
Initiate	11.8	6.1	9.4	7.8	13.0	9.2	15.4	10.3	11.0	8.1	8.6	13.6	6.3	11.8		
Working Memory	14.8	7.9	8.8	14.2	8.9	11.7	8.0	8.9	9.7	9.5	8.1	12.9	9.0	13.2		
Plan/Organize	13.6	9.7	9.4	10.6	10.6	7.5	12.3	12.8	11.5	12.6	10.4	14.3	6.3	10.3		
Task Monitor	5.3	15.2	7.6	12.1	11.4	8.3	8.6	12.8	6.6	13.1	9.9	16.3	12.6	13.2		
Organization of Materials	10.1	7.3	8.8	7.8	15.4	3.3	12.3	14.8	6.6	9.5	9.0	9.5	9.9	10.3		
BRI	13.6	9.1	8.2	5.7	7.3	9.2	11.7	11.8	13.2	8.1	9.0	11.6	9.0	10.3		
MI	11.8	7.3	5.9	10.6	9.8	5.8	10.5	10.3	8.8	10.4	11.3	14.3	6.3	10.3		
GEC	11.2	7.9	6.5	9.9	8.9	5.8	9.3	10.8	9.7	10.4	9.9	14.3	7.2	10.3		

Conclusions

These data allow clinicians to interpret BRIEF-A scores across raters and over time by determining the statistical significance of BRIEF-A score differences as well as quantifying the frequency of the observed differences.

Roth, R. M., Isquith P. K., Gioia, G. A. (2005). *Behavior Rating Inventory of Executive Function–Adult Version (BRIEF-A)*. PAR.