

# Comparability of the Behavior Rating Inventory of Executive Function, Second Edition (BRIEF2) and the BRIEF–Adult Version Self-Report Form in Young Adults

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## Background and Objective

- The Behavior Rating Inventory of Executive Function (BRIEF) family of products captures perceptions of an individual’s executive functioning in their everyday environment.
- Two self-report forms span late adolescence into early adulthood: the BRIEF, Second Edition (BRIEF2; ages 11–18 years) and the BRIEF–Adult Version (BRIEF-A; ages 18–90 years). They share six clinical scales and one composite, though items differ somewhat per scale.
- Research may include adolescents and adults, and long-term follow-up of a pediatric patient may extend into adulthood, so it is important to understand the relationship between self-report ratings on the BRIEF2 and the BRIEF-A.
- The current study is the first to evaluate mean differences and correlations between comparable scales on the BRIEF2 and the BRIEF-A in a sample of young adults.

## Method

### Participants

- Study included 77 college students without psychiatric or serious medical conditions (see Table 1).

### Measures

- The BRIEF2 Self-Report Form (Gioia et al., 2015)
- The BRIEF-A Self-Report Form (Roth et al., 2005)

### Procedures

- Students completed the BRIEF2 and the BRIEF-A Self-Report Forms in counterbalanced order.

Table 1. Sample Characteristics		
	Total sample	18-year-old subsample
<i>N</i>	77	47
Age in years (min–max)	18–21	18
Sex – <i>n</i> (%)		
Female	51 (66%)	33 (70%)
Male	26 (34%)	14 (30%)



Table 2. BRIEF Self-Report Scales by Form		
BRIEF scale/index/composite	BRIEF2	BRIEF-A
*Inhibit	x	x
*Self-Monitor	x	x
†Behavioral Regulation Index (BRI)	x	x
*Shift	x	x
*Emotional Control	x	x
Emotional Regulation Index (ERI)	x	
Task Completion	x	
Initiate		x
*Working Memory	x	x
*Plan/Organize	x	x
Task Monitor		x
Organization of Materials		x
Cognitive Regulation Index (CRI)	x	
Metacognition Index (MI)		x
*†Global Executive Composite (GEC)	x	x

\*Compared in this study

†Composed of different scales despite common name

## Method (continued)

- Mean raw scores were computed for each scale for all students.
- Age-based *T* scores were computed for the subsample of 18-year-olds.

### Analyses

- Outcomes were raw scores and *T* scores on the six shared clinical scales (Inhibit, Self-Monitor, Shift, Emotional Control, Working Memory, Plan/Organize) and the Global Executive Composite (GEC; see Table 2).
- Statistical significance and effect sizes were calculated for each analysis.
- Total sample:
  - a. MANOVA to evaluate differences in mean raw scores
  - b. Correlations of mean raw scores
- Subsample of 18-year-olds:
  - c. MANOVA to evaluate differences in *T* scores
  - d. Correlations of *T* scores

## Results

### Total sample (see Table 3):

- a. For mean raw scores in the total sample, planned univariate follow-up tests with Bonferroni correction were significant only for the Inhibit scale (Cohen’s *d* = -0.44). Other effect sizes were < |0.30|.
- b. Mean raw scores correlated well (*r* = .64–.82, *p* < .001).

Table 3. Means, MANOVA, and Correlations for Total Sample

BRIEF scale/ <i>composite</i>	Mean raw score		MANOVA		Correlation		
	BRIEF2	BRIEF-A	Univariate <i>F</i> *	<i>p</i> **	Cohen’s <i>d</i>	<i>r</i>	<i>p</i> **
Inhibit	1.5	1.6	14.69	<.001	-0.44	.64	<.001
Self-Monitor	1.3	1.4	5.65	.07	-0.27	.64	<.001
Shift	1.5	1.5	0.04	>.99	-0.02	.78	<.001
Emotional Control	1.4	1.4	0.81	>.99	0.10	.77	<.001
Working Memory	1.5	1.5	0.09	>.99	-0.03	.71	<.001
Plan/Organize	1.4	1.5	4.84	.11	-0.25	.74	<.001
GEC	1.4	1.5	6.30	.05	-0.29	.82	<.001

*N* = 77, \**df* = 1, 76, \*\*Bonferroni-adjusted

Table 4. Means, MANOVA, and Correlations for Subsample of 18-Year-Olds

BRIEF scale/ <i>composite</i>	Mean <i>T</i> score		MANOVA		Correlation		
	BRIEF2	BRIEF-A	Univariate <i>F</i> *	<i>p</i> **	Cohen’s <i>d</i>	<i>r</i>	<i>p</i> **
Inhibit	51.0	52.5	2.56	.82	-0.23	.71	<.001
Self-Monitor	49.0	47.5	2.28	.96	0.22	.58	<.001
Shift	51.6	50.0	3.45	.49	0.27	.77	<.001
Emotional Control	50.2	47.0	12.96	.01	0.53	.76	<.001
Working Memory	51.5	50.7	0.71	>.99	0.12	.69	<.001
Plan/Organize	48.2	50.7	10.40	.02	-0.47	.70	<.001
GEC	50.6	49.6	2.80	.71	0.25	.84	<.001

*N* = 47, \**df* = 46, \*\*Bonferroni-adjusted

Note: Drs. Isquith, Gioia, and Roth receive royalties from PAR on sales of BRIEF products.

## Results (continued)

### Subsample of 18-year-olds (see Table 4):

- c. *T*-score analyses yielded significant differences on the Emotional Control (*d* = 0.53) and Plan/Organize (*d* = -0.47) scales. Other effect sizes were < |0.30|.
- d. Correlations were similarly strong (*r* = .58–.84, *p* < .001).
- Results indicate good correspondence between self-report on the BRIEF2 and the BRIEF-A in young adults, with few group-level differences and generally small effect sizes.
- Differences in mean ratings and *T* scores are likely related to the different items that comprise each scale, either in content or in how the items apply to college students.
- Despite strong relationships between the scales, statistical corrections should be employed if merging datasets using both the BRIEF2 and the BRIEF-A, or when examining changes in individuals followed from adolescence into adulthood using the two forms of the BRIEF.

- Future research should involve larger samples that include young adults who are not in college and clinically referred samples (e.g., diagnoses of ADHD, autism, and neurocognitive disorders associated with medical conditions), with both cross-sectional and longitudinal components.
- Future research should also evaluate similarities between ratings on the BRIEF2 Parent and the BRIEF-A Informant forms.

Behavior Rating Inventory of Executive Function<sup>®</sup>, Second Edition

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The present study compared responses on the BRIEF2 and the BRIEF–Adult Version Self-Report forms in young adults to evaluate their continuity in this transitional age range. We demonstrated that ratings are comparable, with small differences in *T* scores and moderate-to-strong correlations.

