

# Behavior Rating Inventory of Executive Function® Self-Report Version

Interpretive Report

## Generated by PARiConnect

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Client name: Sample Client

Client ID: 789

Gender: Male

Age: 13

Test date: 05/01/2013

This report is intended for use by qualified professionals only and is not to be shared with the examinee or any other unqualified persons.

## Introduction

The Behavior Rating Inventory of Executive Function®–Self-Report Version (BRIEF®-SR) is an 80-item standardized self-report measure developed to capture older children's and adolescents' (aged 11 to 18 years with a fifth grade or better reading level) views of their own executive functions, or self-regulation, in their everyday environment. The BRIEF-SR was intended to complement parent and teacher ratings of the adolescent's executive function on the BRIEF® Parent and Teacher Forms in order to meet the need for capturing adolescents' views of their own self-regulatory strengths and weaknesses. In addition to a more comprehensive assessment, an understanding of the adolescent's perspective with respect to difficulties in self-control is critical when considering intervention strategies. Explicitly assessing, valuing, and providing feedback about his viewpoint can facilitate rapport and the development of a collaborative working relationship that can, in turn, serve as a starting point for interventions. Indeed, the adolescent's level of self-understanding and awareness becomes an important factor in gauging the amount of support he will require. For those who possess a high awareness of their executive/regulatory difficulties and who are eager to ameliorate their struggles, the intervention process can be facilitated. For those who lack awareness or acceptance, a much higher degree of external support may be required. While response patterns on self-report behavior rating scales such as the BRIEF-SR can range from strong agreement with other informants to aggressive denial of any problems, rich clinical information can be gleaned from directly assessing their opinions.

As is the case for all measures, the BRIEF-SR should not be used in isolation as a diagnostic tool. Instead, it should be used in conjunction with other sources of information, including detailed history, parent and/or teacher ratings on the BRIEF®, clinical interviews, performance test results, and, when possible, direct observation in the natural setting. By examining converging evidence, the clinician can confidently arrive at a valid diagnosis and, most importantly, an effective treatment plan. A thorough understanding of the BRIEF-SR, including its development and its psychometric properties, is a prerequisite to interpretation. As with any clinical method or procedure, appropriate training and clinical supervision is necessary to ensure competent use of the BRIEF-SR.

This report is confidential and intended for use by qualified professionals only. This report should not be released to the parents or teachers of the adolescent being evaluated or to the adolescent himself. If a summary of the results specifically written for parents and teachers is desired, the BRIEF-SR Feedback Report can be generated and given to the interested parents and/or teachers. If a summary of the results specifically written for the responding adolescent is desired and clinically appropriate, the BRIEF-SR Adolescent

Feedback Report can be generated and given to the adolescent, preferably in the context of verbal feedback and a review of the Adolescent Feedback Report with the clinician.

T scores are used to interpret the adolescent's self-reported level of executive functioning on the BRIEF-SR rating form. These scores are linear transformations of the raw scale scores (M = 50, SD = 10). T scores provide information about an individual's scores relative to the scores of respondents in the standardization sample. Percentiles, which are also presented within the BRIEF-SP, represent the percentage of children in the standardization sample who fall below a given raw score. Traditionally, T scores at or above 65 are considered clinically significant; however, in the case of the BRIEF-SR, T scores between 60 and 64 on any of the clinical scales or indexes, may warrant clinical interpretation. In this report, such scores are described as "mildly elevated."

In the process of interpreting the BRIEF-SR, review of individual items within each scale can yield useful information for understanding the specific nature of the adolescent's elevated score on any given clinical scale. While certain items may be particularly relevant to specific clinical groups, placing too much interpretive significance on individual items is not recommended due to lower reliability of individual items relative to the scales and indexes.

## **Overview**

Sample Client completed the Self-Report Version of the Behavior Rating Inventory of Executive Function (BRIEF-SR) on 05/01/2013. There are no missing item responses in the protocol. Responses are reasonably consistent. The respondent's ratings of his own self-regulation do not appear overly negative. In the context of these validity considerations, Sample Client's ratings of his everyday executive function suggest some areas of concern.

The overall index, the Global Executive Composite (GEC), was elevated (GEC T = 72, %ile =  $\geq 99$ ). Both the Behavioral Regulation (BRI) and the Metacognition (MI) Indexes were elevated (BRI T = 66, %ile = 95 and MI T = 74, %ile = 98).

Within these summary indicators, all of the individual scales are valid. One or more of the individual BRIEF-SR scales were at least mildly elevated, suggesting that Sample Client reports difficulty with some aspects of executive function. Concerns are noted with his ability to adjust to changes in routine or task demands (Shift T = 77, %ile =  $\geq 99$ ), sustain working memory (Working Memory T = 67, %ile = 92), plan and organize problem solving approaches (Plan/Organize T = 71, %ile = 98), organize his environment and materials (Organization of Materials T = 69, %ile = 96), and finish tasks such as homework or projects (Task Completion T = 78, %ile =  $\geq 99$ ). Sample Client describes his ability to inhibit impulsive responses (Inhibit T = 62, %ile = 87), modulate emotions (Emotional Control T = 57, %ile = 78) as not problematic.

# **BRIEF®-SR Score Summary Table**

Index/Scale	Raw score	T score	Percentile	90% C.I.
Inhibit	28	62	87	56 - 68
Shift	26	77	≥ 99	70 - 84
<b>Emotional Control</b>	18	57	75	50 - 64
Monitor	10	58	78	50 - 66
Behavioral Regulation Index (BRI)	82	66	95	62 - 70
Working Memory	28	67	92	61 - 73
Plan/Organize	33	71	98	64 - 78
Organization of Materials	18	69	96	61 - 77
Task Completion	29	78	≥ 99	72 - 84
Metacognition Index (MI)	108	74	98	70 - 78
Global Executive Composite (GEC)	190	72	≥ 99	69 - 75

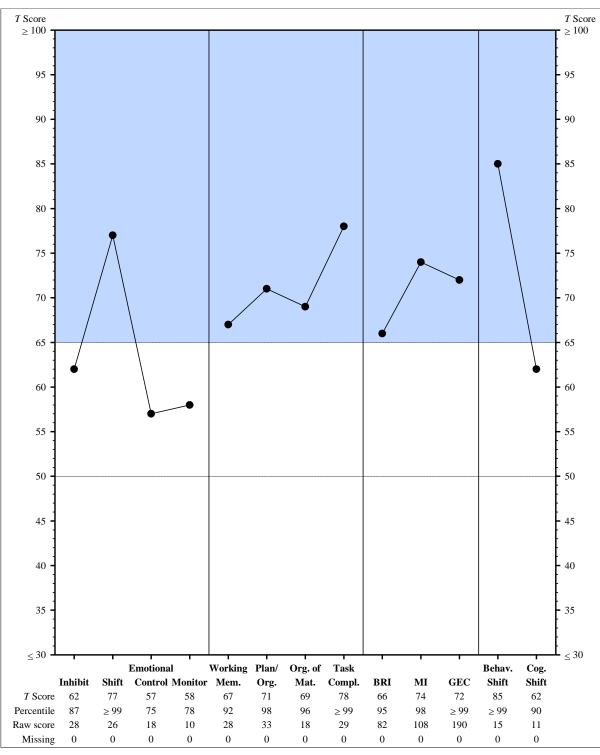
Subscale	Raw score	T score	Percentile	90% C.I.
Behavioral Shift	15	85	≥ 99	76 - 94
Cognitive Shift	11	62	90	53 - 71

Scale	Raw score	Cumulative percentile	Protocol classification
Negativity	4	≤ 98	Acceptable
Inconsistency	5	≤ 98	Acceptable

Note: Male, age-specific norms have been used to generate this profile.

For additional normative information, refer to the Appendix in the BRIEF®-SR Professional Manual.

## Profile of BRIEF®-SR T Scores



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For additional normative information, refer to the Appendix in the BRIEF®-SR Professional Manual.

## **Validity**

Before examining the BRIEF-SR profile, it is essential to carefully consider the validity of the data provided. The inherent nature of rating scales brings potential bias to the scores. The first step is to examine the protocol for missing data. With a valid number of responses, the Inconsistency and Negativity scales of the BRIEF-SR provide additional validity indexes.

### Missing items

Sample Client completed 80 of a possible 80 BRIEF-SR items. For reference purposes, the summary table for each scale indicates Sample Client's actual rating for each item. There are no missing responses in the protocol, providing a complete data set for interpretation.

### **Inconsistency**

Scores on the Inconsistency scale indicate the extent to which Sample Client answered similar BRIEF-SR items in an inconsistent manner relative to the combined normative and clinical samples. For example, a high Inconsistency score might be associated with marking Never in response to the item "I have angry outbursts" while at the same time marking Often in response to the item "I have outbursts for little reason." Item pairs comprising the Inconsistency scale are shown in the summary table below. T scores are not generated for the Inconsistency scale. Instead, the raw difference scores for the 10 paired items are summed and the total difference score (i.e., the Inconsistency score) is used to classify the protocol as either "Acceptable" or as "Inconsistent." The Inconsistency score of 5 falls within the Acceptable range, suggesting that Sample Client was reasonably consistent in his responses.

Item 1	Content Item 1	Score 1	Item 2	Content Item 2	Score 2	Diff.
8	I have problems finishing long-term projects (such as papers, book reports)	3	26	Remaining item content redacted for sample report	3	0
14		1	32		2	1
20		2	77		3	1
23		1	41		1	0
38		3	72		3	0
46		3	79		3	0
55		2	67		1	1
56		2	68		2	0
58		1	65		3	2
63		3	73		3	0

### **Negativity**

The Negativity scale measures the extent to which the respondent answered selected BRIEF-SR items in an unusually negative manner relative to the clinical sample. Items comprising the Negativity scale are shown in the summary table below. A higher raw score on this scale indicates a greater degree of negativity, with less than 1% of respondents scoring above 5 in the clinical sample. As with the Inconsistency scale, T scores are not generated for this scale. The Negativity score of 4 falls within the acceptable range, suggesting that Sample Client's view of himself is not overly negative and that the BRIEF-SR protocol is likely to be valid.

Item	Content	Response
10	I get in other peoples' faces	Never
11	Remaining item content redacted for sample report	Often
17		Often
19		Sometimes
25		Sometimes
30		Often
32		Sometimes
43		Sometimes
45		Often
54		Sometimes

## **Composite and Summary Indexes**

# Global Executive Composite

The Global Executive Composite (GEC) is an overarching summary score that incorporates all of the BRIEF-SR clinical scales. Although review of the Metacognition Index, Behavioral Regulation Index, and individual scale scores is strongly recommended for all BRIEF-SR profiles, the GEC can sometimes be useful as a summary measure. In this case, the two summary indexes are not substantially different, with T scores separated by 8 points. Thus, the GEC adequately captures the nature of the overall profile. With this in mind, Sample Client's T score of 72 (%ile =  $\geq$  99) on the GEC is significantly elevated as compared to the scores of his peers, suggesting significant difficulty in one or more areas of executive function.

### Behavioral Regulation and Metacognition Indexes

The Behavioral Regulation Index (BRI) captures the adolescent's ability to shift cognitive set, modulate emotions and behavior via appropriate inhibitory control, and monitor his impact on others. It is comprised of the Inhibit, Shift, Emotional Control and Monitor scales. Intact behavioral regulation is likely to be a precursor to appropriate metacognitive problem solving. Behavioral regulation enables the metacognitive processes to successfully guide active systematic problem solving; and more generally, behavioral regulation supports appropriate self-regulation.

The Metacognition Index (MI) reflects the adolescent's ability to sustain working memory, to plan and organize his problem-solving approaches, and to organize his materials and environment. It can be interpreted as Sample Client's ability to cognitively self-manage tasks. The MI relates directly to ability to actively problem solve in a variety of contexts and to complete tasks such as school work. It is composed of the Working Memory, Plan/Organize, Organization of Materials, and Task Completion scales.

Examination of the indexes reveals that both the Behavioral Regulation Index (T = 66, %ile = 95) and Metacognition Index (T = 74, %ile = 98) are significantly elevated. This suggests more

global difficulties with self-regulation, including the fundamental ability to inhibit impulses, modulate emotions, flexibly problem solve, and monitor the impact of his behavior on others. These global difficulties extend to metacognitive functions, including the ability to sustain working memory, plan and organize, with resulting difficulty completing tasks such as school work.

## **Clinical Scales**

The BRIEF-SR clinical scales measure the extent to which Sample Client reports problems with different behaviors related to the eight domains of executive functioning captured within the BRIEF-SR. The following sections describe the scores obtained on the clinical scales and the suggested interpretation for each individual clinical scale.

### Inhibit

The Inhibit scale assesses inhibitory control and impulsivity. This can be described as the ability to resist impulses and the ability to stop one's own behavior at the appropriate time. Sample Client's score is mildly elevated (T = 62, %ile = 87) as compared to his peers. This suggests that he views himself as having some difficulty resisting impulses and considering consequences before acting. Individuals who report difficulties on this scale perceive themselves as (a) less "in control" of their behavior than their peers, (b) interrupting others frequently, (c) saying inappropriate things, and (d) restless or unable to sit still for appropriate lengths of time. Often, caregivers and teachers are particularly concerned about the verbal and social intrusiveness and the lack of personal safety observed in children and adolescents who do not inhibit impulses well. Such individuals may display high levels of physical activity, inappropriate physical responses to others, a tendency to interrupt and disrupt group activities, and a general failure to "look before leaping."

In the contexts of the classroom and assessment settings, Sample Client may feel a need for higher levels of external structure to help limit impulsive responding. He may start an activity or task before listening to instructions, before developing a plan, or before grasping the organization or gist of the situation. Often, verbal impulsivity, or the tendency to make inappropriate comments, can lead to social distress.

Examination of the individual items that comprise the Inhibit scale may be informative and may help guide interpretation and intervention.

Item	Content	Response
1	I have trouble sitting still	Often
10	Remaining item content redacted for sample report	Never
19		Sometimes
28		Sometimes
37		Sometimes
46		Often
54		Sometimes
61		Sometimes
66		Sometimes

#### **Shift**

The Shift scale assesses the ability to move freely from one situation, activity, or aspect of a problem to another as the circumstances demand. Key aspects of shifting include the ability to (a) make transitions, (b) tolerate change, (c) problem-solve flexibly, (d) switch or alternate attention, and (e) change focus from one mindset or topic to another. Behavioral aspects of shifting, such as making transitions and tolerating change, are captured by the Behavioral Shift subscale, while cognitive aspects of shifting, such as problem solving flexibly, are captured by the Cognitive Shift subscale. Sample Client's score on the Shift scale is significantly elevated as compared to like-aged peers (T = 77, %ile =  $\geq 99$ ). Within the overall scale, both the Behavioral Shift (T = 85, %ile =  $\geq 99$ ) and the Cognitive Shift (T = 62, %ile = 90) subscales are elevated. This suggests that Sample Client is experiencing difficulty with both behavioral and cognitive flexibility. Difficulties with shifting compromise the efficiency of problem-solving. Individuals who have difficulty shifting are often described as somewhat rigid and/or inflexible. They often prefer consistent routines. In some cases, they are described as being unable to drop certain topics of interest or as unable to move beyond a specific disappointment or unmet need. In the assessment setting, children or adolescents who report disliking change may need additional time to prepare for the evaluation. Sample Client might benefit from scheduling the evaluation in advance and from being reminded as the time approaches of the appointment. If not possible, then additional "warm-up" time in the assessment setting might be helpful toward facilitating the adjustment to the new setting. On formal assessment, children or adolescents with difficulties shifting cognitively may have difficulty changing from one task to the next or sometimes from one question to the next. They sometimes require additional explanations or demonstration to grasp the demands of a novel task when first presented. They may also "carry over" a problem-solving approach, a response style, or information from a previous task that is no longer appropriate. This tendency to carry over can be seen as perseverating on content or response style from one item to the next within a task.

Item	Content	Response
2	I have trouble accepting a different way to solve a problem with schoolwork, friends, tasks, etc.	Sometimes
9	Remaining item content redacted for sample report	Often
11		Often
18		Often
27		Often
36		Often
45		Often
55		Sometimes
62		Often
67		Never

#### **Emotional Control**

The Emotional Control scale measures the impact of executive function problems on emotional expression and assesses an individual's ability to modulate or control his or her emotional responses. Sample Client's score on the Emotional Control scale falls within the average range as compared to like-aged peers (T = 57, %ile = 75). This suggests that Sample Client experiences himself as having appropriate ability to modulate or regulate emotions overall. Sample Client generally described himself as reacting to events appropriately; without outbursts, sudden and/or frequent mood changes, or excessive periods of emotional upset.

Item	Content	Response
5	I overreact to small problems	Often
14	Remaining item content redacted for sample report	Never
23		Never
32		Sometimes
41		Never
50		Sometimes
58		Never
65		Often
70		Sometimes
75		Sometimes

#### **Monitor**

The Monitor scale assesses self-monitoring, or interpersonal awareness. It captures the degree to which a child or adolescent perceives himself as aware of the effect that his behavior has on others. In this regard, it is somewhat more limited in scope than the Monitor scale included in the Parent and Teacher forms of the BRIEF, which capture self-monitoring as well as task monitoring. Sample Client's score on the Monitor scale is within normal limits, suggesting that he perceives himself as appropriately aware of his own functioning in social settings ( T = 58, %ile = 78).

Item	Content	Response
7	I am not aware of how my behavior affects or bothers others	Sometimes
16	Remaining item content redacted for sample report	Sometimes
25		Sometimes
34		Sometimes
43		Sometimes

### **Working Memory**

The Working Memory scale measures "on-line representational memory;" that is, the capacity to hold information in mind for the purpose of completing a task, encoding information, or generating goals, plans, and sequential steps to achieving goals. Working memory is essential to carry out multistep activities, complete mental manipulations such as mental arithmetic, and follow complex instructions. Sample Client's score on the Working Memory scale is significantly elevated as compared to like-aged peers (T = 67, %ile = 92). This suggests that Sample Client experiences substantial difficulty holding an appropriate amount of information in mind or in "active memory" for further processing, encoding, and/or mental manipulation. Further, Sample Client's score suggests difficulties sustaining working memory, which has a negative impact on his ability to remain attentive and focused for appropriate lengths of time. Caregivers or teachers often describe children or adolescents with fragile or limited working memory as having trouble remembering things (e.g., phone numbers or instructions) even for a few seconds, losing track of what they are doing as they work, or forgetting what they are supposed to retrieve when sent on an errand. Such individuals may miss information that exceeds their working memory capacity such as instructions for an assignment. Clinical evaluators may observe that such students cannot remember the rules governing a specific task (even as he or she works on that task), rehearses information repeatedly, loses track of what responses he or she has already given on a task that requires multiple answers, and struggles with mental manipulation tasks (e.g., repeating digits in reverse order) or solving arithmetic problems that are orally presented without writing down figures.

Appropriate working memory is necessary to sustain performance and attention. Parents of children and adolescents with difficulties in this domain often report that he cannot "stick to" an activity for an age-appropriate amount of time and frequently switches tasks or fails to complete tasks. Although working memory and the ability to sustain it have been conceptualized as distinct entities, behavioral outcomes of these two domains are often difficult to distinguish.

Item	Content	Response
3	When I am given three things to do, I remember only the first or last	Sometimes
12	Remaining item content redacted for sample report	Sometimes
21		Often
30		Often
39		Never
48		Sometimes
52		Sometimes
56		Sometimes
63		Often
68		Sometimes
73		Often
78		Often

### Plan/Organize

The Plan/Organize scale measures a respondent's perceived ability to manage current and future-oriented task demands. The scale is comprised of two components: plan and organize. The plan component captures the ability to anticipate future events, to set goals, and to develop appropriate sequential steps ahead of time in order to carry out a task or activity. The organize component refers to the ability to bring order to information and to appreciate main ideas or key concepts when learning or communicating information. Sample Client's score on the Plan/Organize scale is significantly elevated as compared to like-aged peers (T = 71, %ile = 98). This suggests that Sample Client experiences marked difficulty with the planning and the organization of information which has a negative impact on his approach to problem solving. Planning involves developing a goal or end state and then strategically determining the most effective method or steps to attain that goal. Evaluators can observe planning when a student is given a problem requiring multiple steps (e.g., assembling a puzzle or completing a maze). Sample Client may underestimate the time required to complete tasks or the level of difficulty inherent in a task. He may often wait until the last minute to begin a long-term project or assignment for school, and he may have trouble carrying out the actions needed to reach his goals.

Organization involves the ability to organize oral and written expression as well as to understand the main points expressed in presentations or written material. Organization also has a clerical component that is demonstrated, for example, in the ability to efficiently scan a visual array or to keep track of a homework assignment. Sample Client may approach tasks in a haphazard fashion, getting caught up in the details and missing the "big picture." He may have good ideas that he fails to express on tests and written assignments. He may often feel overwhelmed by large amounts of information and may have difficulty retrieving material spontaneously or in response to open-ended questions. He may, however, exhibit better performance with recognition (multiple choice) questions.

Item	Content	Response
4	I start projects (such as homework, recipe) without the right materials	Sometimes
13	Remaining item content redacted for sample report	Sometimes
22		Sometimes
29		Sometimes
31		Often
40		Sometimes
47		Often
49		Often
57		Often
60		Often
64		Sometimes
69		Often
74		Often

## Organization of Materials

The Organization of Materials scale measures orderliness of work and storage spaces (e.g., desks, lockers, and backpacks). Sample Client's score on the Organization of Materials scale is significantly elevated relative to like-aged peers (T = 69, %ile = 96). Sample Client describes having marked difficulty keeping (a) his materials and his belongings reasonably well organized, (b) having his materials readily available for projects or assignments, and (c) as having considerable difficulty finding his needed. belongings when Individuals with significant difficulties in this area often do not function efficiently in school or at home because they do not have their belongings readily available for use. Pragmatically, teaching Sample Client to organize his belongings can be a useful, concrete tool for enhancing task organization.

Item	Content	Response
6	My desk/workspace is a mess	Often
15	Remaining item content redacted for sample report	Often
24		Sometimes
33		Often
42		Sometimes
51		Often
59		Sometimes

### **Task Completion**

The Task Completion scale reflects the ability to finish or complete tasks appropriately and/or in a timely manner, emphasizing difficulties with the production of work or performance output. Although "task completion" is not commonly considered an executive function, it represents the outcome of other executive difficulties including working memory, planning, organization, and inhibitory control. Sample Client's score on the Task Completion scale is significantly elevated compared with like-aged peers (T = 78, %ile =  $\geq 99$ ). This suggests that Sample Client views himself as having marked difficulties finishing homework or other projects in a timely fashion. Examination of other scales may reveal potential sources of difficulty completing tasks, including difficulties with working memory, planning, and organization, or ability to inhibit task-irrelevant actions.

Item	Content	Response
8	I have problems finishing long-term projects (such as papers, book reports)	Often
17	Remaining item content redacted for sample report	Often
20		Sometimes
26		Often
35		Often
38		Often
44		Often
53		Often
72		Often
77		Often

## **Executive System Intervention**

## **A General Framework**

Given the unique nature of the executive functions in playing a "command" role in terms of guiding and regulating thought and behavior, the approach to intervention must be considered globally. First, one must consider the end goal or outcome of "good" executive function for the adolescent. The following executive outcomes for adolescents are proposed:

- ♦ Demonstrating purposeful, goal-directed activity
- ♦ Displaying an active problem-solving approach
- ♦ Exerting self-control
- ♦ Demonstrating maximal independence
- ♦ Exhibiting reliable and consistent behavior and thinking
- ♦ Demonstrating positive self-efficacy
- ♦ Exhibiting an internal locus of control

Remaining report content redacted for sample report

\*\*\* End of Report \*\*\*