

# Behavior Rating Inventory of Executive Function<sup>®</sup>

## BRIEF<sup>®</sup>

### Interpretive Report

Developed by

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### Client Information

**Client Name :** Sample Client

**Client ID :** SC 987

**Gender :** Male

**Grade:** 2 nd.

**Age :** 8

**Birthdate :** 02/13/2000

**Test Date :** 02/29/2008

**Test Form :** Parent Form

**Test Description :** ADHD

**Rater Name :** Mrs Client

**Relationship to Client :** Parent

The BRIEF was developed to provide a window into the everyday behavior associated with specific domains of the executive functions. The BRIEF can serve as a screening tool for possible executive dysfunction. The clinical information gathered from an in-depth profile analysis is best understood, however, within the context of a full assessment that includes (a) a detailed history of the child and the family, (b) performance-based testing, and (c) observations of the child's behavior. A thorough understanding of the BRIEF, 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.

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 child being evaluated. If a summary of the results specifically written for parents and teachers is desired, the BRIEF Feedback Report can be generated and given to the interested parents and/or teachers.

*T* scores are used to interpret the child's level of executive functioning as reported by parents and/or teachers on the BRIEF rating forms. 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.

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

## Overview

Sample's parent completed the Parent form of the Behavior Rating Inventory of Executive Function (BRIEF) on 02/29/2008. There are no missing item responses in the protocol. Responses are reasonably consistent. The respondent's ratings of Sample do not appear overly negative. In the context of these validity considerations, ratings of Sample's executive function exhibited in everyday behavior reveal some areas of concern.

The overall index, the Global Executive Composite (*GEC*), was elevated ( $GEC T = 66$ , %ile = 93). The Metacognition Index (*MI*) was within normal limits ( $MI T = 62$ , %ile = 85) while the Behavioral Regulation Index (*BRI*) was elevated ( $BRI T = 69$ , %ile = 96).

Within these summary indicators, all of the individual scales are valid. One or more of the individual BRIEF scales were elevated, suggesting that Sample exhibits difficulty with some aspects of executive function. Concerns are noted with his ability to inhibit impulsive responses (Inhibit  $T = 80$ , %ile = 98), sustain working memory (Working Memory  $T = 67$ , %ile = 95), and plan and organize problem solving approaches (Plan/Organize  $T = 65$ , %ile = 91). Sample's ability to adjust to changes in routine or task demands (Shift  $T = 57$ , %ile = 79), modulate emotions (Emotional Control  $T = 60$ , %ile = 86), initiate problem solving or activity (Initiate  $T = 53$ , %ile = 70), organize his environment and materials (Organization of Materials  $T = 45$ , %ile = 35), and monitor his own behavior (Monitor  $T = 62$ , %ile = 91) is not described as problematic by the respondent.

## BRIEF<sup>®</sup> Score Summary Table

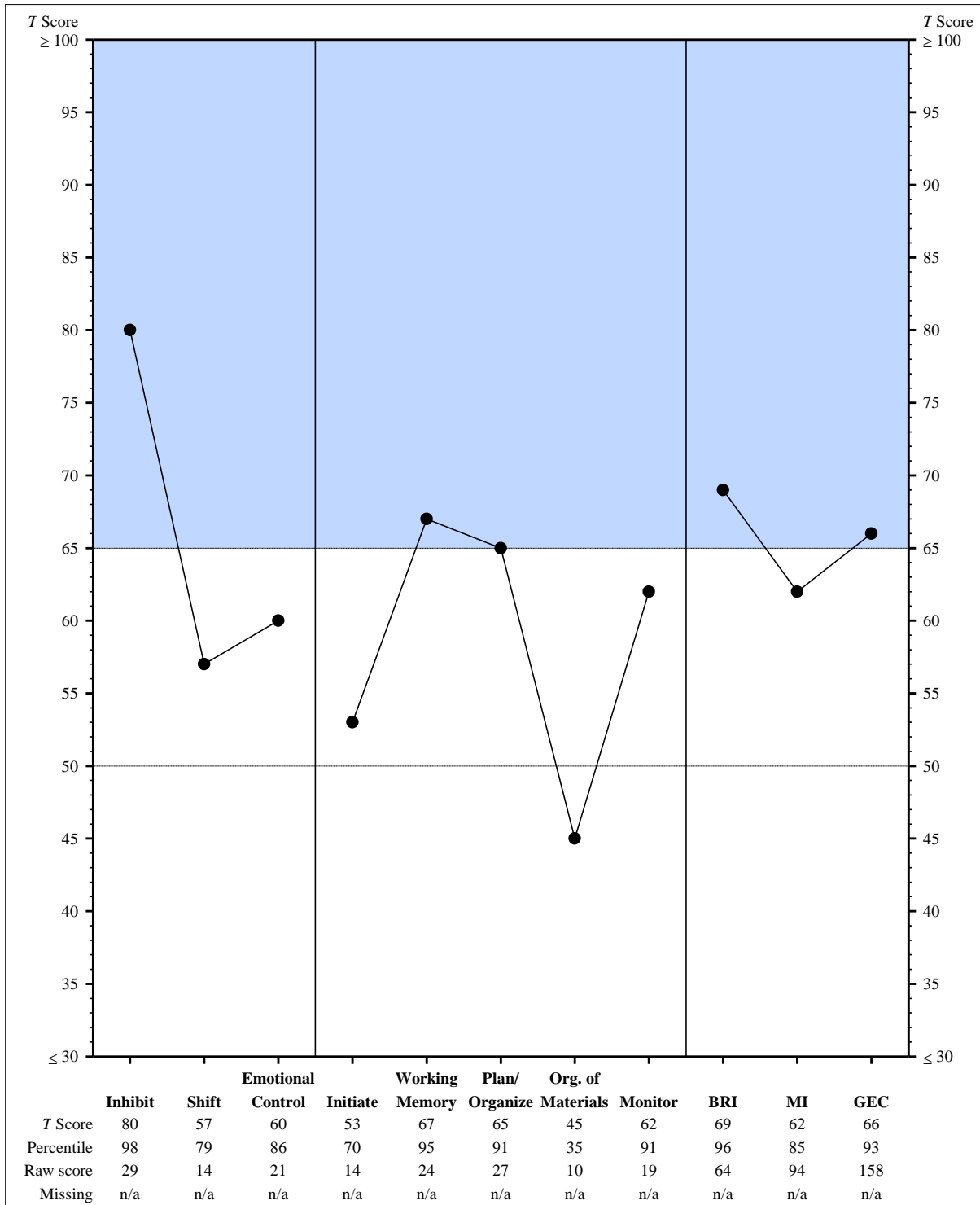
Index/Scale	Raw Score	T Score	Percentile	90% C.I.
<i>Inhibit</i>	29	80	98	75 - 85
<i>Shift</i>	14	57	79	49 - 65
<i>Emotional Control</i>	21	60	86	55 - 65
<i>Behavioral Regulation Index (BRI)</i>	64	69	96	65 - 73
<i>Initiate</i>	14	53	70	45 - 61
<i>Working Memory</i>	24	67	95	62 - 72
<i>Plan/Organize</i>	27	65	91	59 - 71
<i>Organization of Materials</i>	10	45	35	39 - 51
<i>Monitor</i>	19	62	91	54 - 70
<i>Metacognition Index (MI)</i>	94	62	85	58 - 66
<i>Global Executive Composite (GEC)</i>	158	66	93	63 - 69

Scale	Raw Score	Cumulative Percentile	Protocol Classification
<i>Negativity</i>	0	≤ 90	Acceptable
<i>Inconsistency</i>	0	≤ 98	Acceptable

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

For additional normative information, refer to Appendix A - D in the BRIEF<sup>®</sup> Professional Manual.

## Profile of BRIEF® T Scores



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 For additional normative information, refer to Appendixes A - D in the BRIEF® Professional Manual.

## Validity

Before examining the BRIEF profile, it is essential to carefully consider the validity of the data provided. The inherent nature of rating scales (i.e., relying upon a third party for ratings of a child's behavior) 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 provide additional validity indexes.

### Missing items

The respondent completed 86 of a possible 86 BRIEF items. 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 the respondent answered similar BRIEF items in an inconsistent manner relative to the clinical samples. For example, a high Inconsistency score might be associated with marking *Never* in response to the item "Gets out of control more than friends" while at the same time marking *Often* in response to the item "Acts too wild or out of control." *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," "Questionable," or as "Inconsistent." The Inconsistency score of 0 falls within the Acceptable range, suggesting that the rater was reasonably consistent in responding to BRIEF items.

### Negativity

The Negativity scale measures the extent to which the respondent answered selected BRIEF items in an unusually negative manner relative to the clinical sample. A higher raw score on this scale indicates a greater degree of negativity, with less than 3% of respondents scoring above 7 in the clinical sample. As with the Inconsistency scale, *T* scores are not generated for this scale. The Negativity score of 0 falls within the acceptable range, suggesting that the respondent's view of Sample is not overly negative and that the BRIEF protocol is likely to be valid.

## Composite and Summary Indexes

### Global Executive Composite

The Global Executive Composite (*GEC*) is an overarching summary score that incorporates all of the BRIEF clinical scales. Although review of the Metacognition Index, Behavioral Regulation Index, and individual scale scores is strongly recommended for all BRIEF 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 7 points. Thus, the *GEC* adequately captures the nature of the overall profile. With this in mind, Sample's *T* score of 66 (%ile = 93) on the *GEC* is moderately elevated as compared to the scores of his peers, suggesting some difficulty in one or more areas of executive function.

## Behavioral Regulation and Metacognition Indexes

The Behavioral Regulation Index (*BRI*) captures the rated child's ability to shift cognitive set and modulate emotions and behavior via appropriate inhibitory control. It is comprised of the Inhibit, the Shift, and the Emotional Control 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 rated child's ability to initiate, plan, organize, self-monitor, and sustain working memory. It can be interpreted as Sample's ability to cognitively self-manage tasks and to monitor his performance. The *MI* relates directly to a child's ability to actively problem solve in a variety of contexts. It is composed of the Initiate, Working Memory, Plan/Organize, Organization of Materials, and Monitor scales.

Examination of the indexes reveals that the Behavioral Regulation Index is elevated ( $T = 69$ , %ile = 96) while the Metacognition Index is within the average range ( $T = 62$ , %ile = 85). This suggests difficulties with inhibitory control, emotional modulation, or ability to shift set but also suggests relatively preserved working memory, initiating, planning, organizing, and self-monitoring.

## Clinical Scales

The BRIEF clinical scales measure the extent to which the respondent reports problems with different types of behavior related to the eight domains of executive functioning. 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's score on this scale is highly elevated ( $T = 80$ , %ile = 98) as compared to his peers. Children with similar scores on the Inhibit scale typically have marked difficulty resisting impulses and difficulty considering consequences before acting. They are often perceived as (a) less in control of themselves than their peers, (b) having difficulty staying in place in line or in the classroom, (c) interrupting others or "calling out" in class frequently, and (d) requiring higher levels of adult supervision. Often, caregivers and teachers are particularly concerned about the verbal and social intrusiveness and the lack of personal safety observed in children who do not inhibit impulses well. Such children 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, children with inhibitory control difficulties often require a higher degree of external structure to limit their impulsive responding. They may start an activity or task before listening to instructions, before developing a plan, or before grasping the organization or gist of the situation.

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

## 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. Sample's score on the Shift scale falls within the average range as compared to like-aged peers ( $T = 57$ , %ile = 79). This suggests that Sample is generally able to change from task to task or from place to place without difficulty, is able to think of or accept different ways of solving problems, and is able to demonstrate flexibility in the performance of day to day activities.

## Emotional Control

The Emotional Control scale measures the impact of executive function problems on emotional expression and assesses a child's ability to modulate or control his or her emotional responses. Sample's score on the Emotional Control scale falls within the average range as compared to like-aged peers ( $T = 60$ , %ile = 86). This suggests that Sample demonstrates an appropriate ability to modulate or regulate emotions overall. Sample is generally described as reacting to events appropriately; without outbursts, sudden and/or frequent mood changes, or excessive periods of emotional upset.

## Initiate

The Initiate scale reflects a child's ability to begin a task or activity and to independently generate ideas, responses, or problem-solving strategies. Sample's score on the Initiate scale is within the average range as compared to like-aged peers ( $T = 53$ , %ile = 70). This suggests that Sample is generally able to begin, start or "get going" on tasks, activities, and problem-solving approaches appropriately.

## 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's score on the Working Memory scale is moderately elevated as compared to like-aged peers ( $T = 67$ , %ile = 95). This suggests that Sample has some difficulty holding an appropriate amount of information in mind or in "active memory" for further processing, encoding, and/or mental manipulation. Further, Sample'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 describe children 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. They often miss information that exceeds their working memory capacity such as instructions for an assignment. Clinical evaluators may observe that a child 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 with difficulties in this domain report that the children cannot “stick to” an activity for an age-appropriate amount of time and frequently switch tasks or fail 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.

## **Plan/Organize**

The Plan/Organize scale measures the child’s 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's score on the Plan/Organize scale is moderately elevated as compared to like-aged peers ( $T = 65$ , %ile = 91). This suggests that Sample has some 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 child is given a problem requiring multiple steps (e.g., assembling a puzzle or completing a maze). Sample 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 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.

## **Organization of Materials**

The Organization of Materials scale measures orderliness of work, play, and storage spaces (e.g., desks, lockers, backpacks, and bedrooms). Caregivers and teachers typically can provide an abundance of examples describing a child’s ability to organize, keep track of, and/or clean up their belongings. Sample's score on the Organization of Materials scale falls within the average range for like-aged children ( $T = 45$ , %ile = 35). Sample is described as being able to keep materials and his belongings reasonably well organized, as having his materials readily available for projects or assignments, and as being able to find his belongings when needed.

## **Monitor**

The Monitor scale assesses two types of monitoring behaviors: *Task-oriented* monitoring or work-checking habits and *Self-monitoring* or interpersonal awareness. The task monitoring portion of the scale captures whether a child assesses his or her own performance during or shortly after finishing a task to ensure accuracy or appropriate attainment of a goal. The self monitoring portion of the scale evaluates whether a child keeps track of the effect that his or her



behavior has on others. Sample's score on the Monitor scale is within normal limits, suggesting an appropriate overall level of monitoring ( $T = 62$ , %ile = 91).

# **Executive System Intervention**

**(This section removed for sample report)**

**End of Report**