Behavior Rating Inventory of Executive Function® - Preschool Version

BRIEF®-P

Interpretive Report

Developed by

Peter K. Isquith, PhD, Gerard A. Gioia, PhD, and PAR Staff

Client Information

Client Name :	Sample Client
Client ID :	SC123
Gender :	Male
Age :	5
Birthdate :	02/02/2003
Test Date :	02/29/2008
Rater :	Mrs Client
Relationship to Client :	Mother
Norm Group:	Parent
Test Description :	Neurotoxic exposure

PAR Psychological Assessment Resources, Inc. / 16204 North Florida Ave. / Lutz, FL 33549 / 1.800.331.8378 / www.parinc.com

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Introduction

The Behavior Rating Inventory of Executive Function–Preschool Version® (BRIEF®-P; Gioia, Espy, & Isquith, 2003) is a standardized rating scale developed to provide a window into everyday behaviors associated with specific domains of executive functioning in children aged 2 to 5 years. The BRIEF-P consists of a single Rating Form, designed to be completed by parents, teachers, or other caregivers, with 63 items in five non-overlapping scales. The scales form a Global Executive Composite (*GEC*) and three overlapping summary indexes each with two scales based on theoretical and statistical considerations. The Inhibitory Self-Control Index *(ISCI)* is composed of the Inhibit and Emotional Control scales, the Flexibility Index (*FI*) is composed of the Shift and Emotional Control scales, and the Emergent Metacognition Index (*EMI*) is composed of the Working Memory and Plan/Organize scales. There also are two Validity scales: Negativity and Inconsistency. The BRIEF-P can serve as a screening tool for possible executive function difficulties and as an index of the ecological validity of laboratory or clinic-based assessments.

The clinical information gathered from an in-depth profile analysis on the BRIEF-P is best understood within the context of a full assessment that includes (a) a detailed history of the child; (b) performance-based testing; (c) reports on the BRIEF-P from parents, teachers, and/or other caregivers; and (d) observations of the child's behavior. 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-P, including its development and its psychometric properties, is a prerequisite to interpretation. As with any clinical method or procedure, proper training and clinical supervision is necessary to ensure competent use of the BRIEF-P.

This report is confidential and intended for use by qualified professionals only. This report should not be released to the child being evaluated or to his parents, teachers, or other informants. If a summary of the results specifically written for the child's informants is appropriate and desired, the BRIEF-P Feedback Report can be generated and given to the interested parties, preferably in the context of verbal feedback and a review of the Feedback Report by the clinician.

T scores ($M = 50$, $SD = 10$) are used to interpret the child's level of executive functioning on the BRIEF-P. These scores are transformations of the raw scale scores. *T* scores provide information about a child's scores relative to the scores of children in the standardization sample. Traditionally, T scores at or above 65 are considered clinically significant. Percentiles represent the percentage of children in the standardization sample whose scores fall below a given raw score. In the process of interpreting the BRIEF-P, review of individual items within each scale can yield useful information for understanding the specific nature of the individual's elevated score on any given Clinical scale. Although certain items may have considerable clinical relevance for the child being evaluated, 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's mother completed the Behavior Rating Inventory of Executive Function-Preschool Version (BRIEF-P) on 02/29/2008.

There are no missing item responses in the protocol. Ratings of Sample's self-regulation do not appear overly negative. Responses are reasonably consistent. In the context of these validity considerations, ratings of Sample's everyday executive function suggest some areas of concern. The overall index, the Global Executive Composite (*GEC*), was elevated (*GEC T* = 79, %ile = ≥99). The Inhibitory Self-Control Index (*ISCI*), Flexibility Index (*FI*), and Emergent Metacognition Index (*EMI*) were elevated (*ISCI T* = 82, %ile = ≥99; *FI T* = 74, %ile = 96; *EMI T* = 72, %ile = 97).

Within these summary indicators, all of the individual scales are valid. One or more of the individual BRIEF-P scales were elevated, suggesting that Sample is described as having difficulty with some aspects of executive function. Concerns are noted with his ability to inhibit impulsive responses, modulate emotions, sustain working memory, and plan and organize problem solving approaches. Sample's ability to adjust to changes in routine or task demands is not described as problematic.

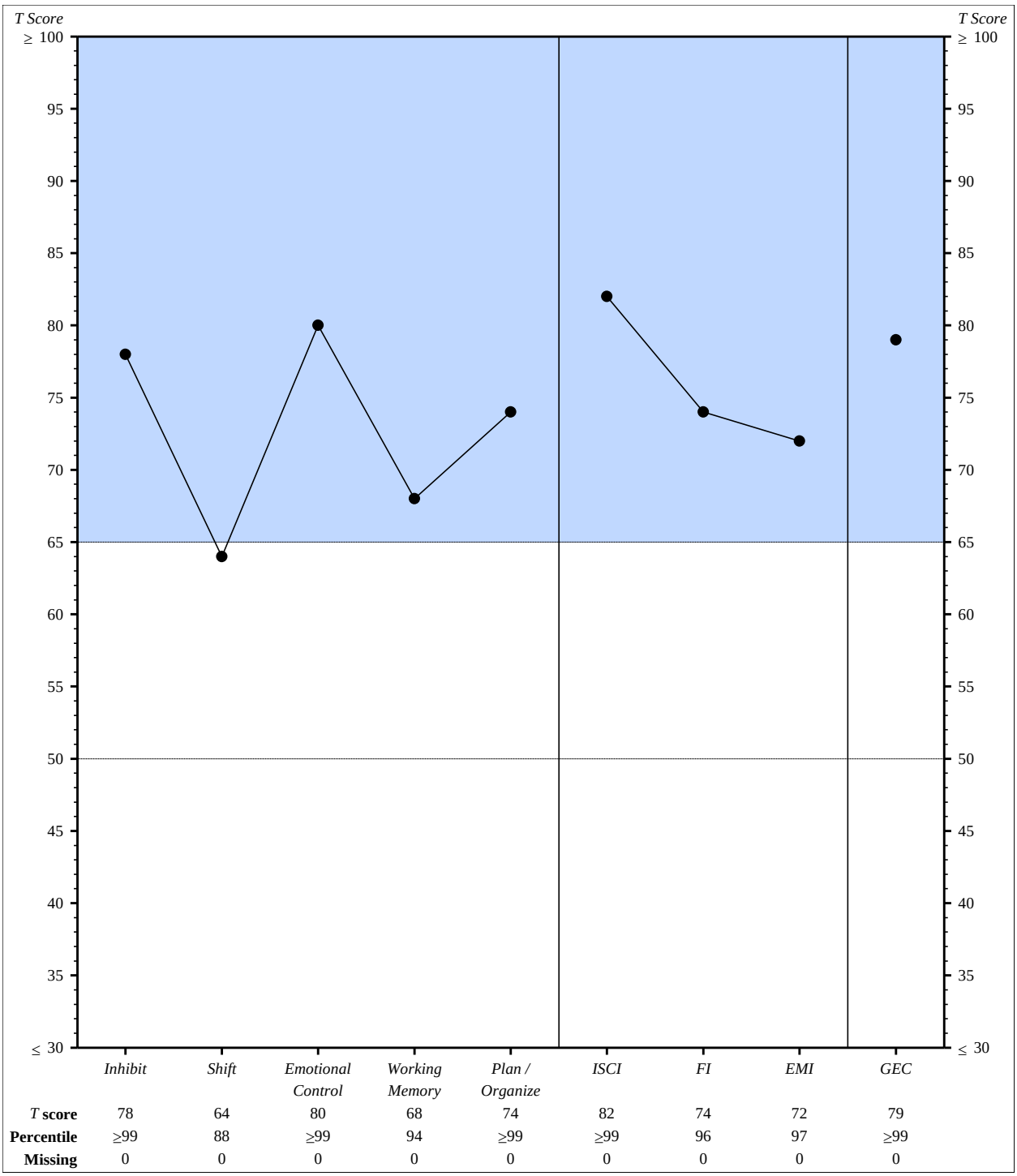
Current models of self-regulation suggest that behavioral regulation, particularly inhibitory control, underlies most other areas of executive function. Essentially, one needs to be appropriately inhibited, flexible, and under emotional control for efficient, systematic, and organized problem-solving to take place. Sample's elevated scores on the Inhibit scale, and the Inhibitory Self-Control and Emergent Metacognition Indexes, suggest that he is perceived as having poor inhibitory control and/or suggest that more global behavioral dysregulation is having a negative effect on metacognitive aspects of executive function. The elevated Inhibitory Self-Control Index score, however, does not negate the meaningfulness of the elevated Emergent Metacognition Index score. Instead, one must consider the influence of the underlying behavioral regulation issues while simultaneously considering the unique problems with the metacognitive problem-solving skills.

BRIEF®-P Score Summary Table

Scale/Index	Raw Score	*T* Score	Percentile	90% CI
Inhibit	40	78	≥99	73 - 83
Shift	20	64	88	58 - 70
Emotional Control	24	80	≥99	73 - 87
Working Memory	32	68	94	62 - 74
Plan/Organize	22	74	≥99	66 - 82
Inhibitory Self-Control Index (*ISCI*)	64	82	≥99	77 - 87
Flexibility Index (*FI*)	44	74	96	69 - 79
Emergent Metacognition Index (*EMI*)	54	72	97	67 - 77
Global Executive Composite (*GEC*)	138	79	≥99	75 - 83

Validity Scale	Raw Score	Cumulative Percentile	Protocol Classification
Negativity	0	0 - 97	Acceptable
Inconsistency	6	0 - 94	Acceptable

Profile of BRIEF®-P *T* Scores



	Inhibit	Shift	Emotional Control	Working Memory	Plan / Organize	ISCI	FI	EMI	GEC
***T* score**	78	64	80	68	74	82	74	72	79
Percentile	≥99	88	≥99	94	≥99	≥99	96	97	≥99
Missing	0	0	0	0	0	0	0	0	0

Note: Age-specific norms have been used to generate this profile.
For additional normative information, refer to the Appendixes in the BRIEF®-P Professional Manual.

Validity

Before examining the BRIEF-P 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 Negativity and Inconsistency scales of the BRIEF-P provide additional validity information.

Missing Items

The respondent completed 63 of a possible 63 BRIEF-P items. There are no missing responses in the protocol, providing a complete data set for interpretation.

Negativity

The Negativity scale measures the extent to which the respondent answered selected BRIEF-P items in an unusually negative manner. Items composing 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 endorsing 4 or more of the items as *Often* in the combined clinical and normative parent sample. *T* scores are not generated for this scale. The Negativity score of 0 is within the acceptable range, suggesting that the respondent's view of Sample is not overly negative and that the BRIEF-P protocol is likely to be valid.

Inconsistency

Scores on the Inconsistency scale indicate the extent to which similar BRIEF-P items were endorsed in an inconsistent manner relative to the combined normative and mixed clinical samples. For example, a high Inconsistency score might be associated with marking *Never* in response to Item 1 ("Overreacts to small problems") and simultaneously marking *Often* in response to Item 11 ("Becomes upset too easily"). *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 "Inconsistent." The Inconsistency score of 6 is within the Acceptable range, suggesting that responses were reasonably consistent.

Composite and Summary Indexes

Global Executive Composite

The Global Executive Composite (*GEC*) is an overarching summary score that incorporates all of the BRIEF-P Clinical scales. Although review of the Inhibitory Self-Control Index (*ISCI*), Flexibility Index (*FI*), Emergent Metacognition Index (*EMI*), and individual scale scores is strongly recommended for all BRIEF-P profiles, the *GEC* can sometimes be useful as a summary measure. In this case, the three summary indexes are not substantially different. Thus, the *GEC* may adequately capture the nature of the overall profile. With this in mind, Sample's *T* score of 79 (%ile = ≥99) on the *GEC* is elevated as compared to the scores of his peers, suggesting perceived difficulty in one or more areas of executive function.

Inhibitory Self-Control, Flexibility, and Emergent Metacognition Indexes

The Inhibitory Self-Control Index (*ISCI*) represents a child's ability to modulate actions, responses, emotions, and behavior via appropriate inhibitory control. The index is composed of the Inhibit and Emotional Control scales. Appropriate inhibitory self-control is fundamental to emerging metacognitive problem-solving. Such behavioral regulation enables the metacognitive processes to support appropriate self-regulation and to guide active, systematic problem-solving successfully.

The Flexibility Index (*FI*) represents a child's ability to move flexibly among actions, responses, emotions, and behavior. It is composed of the Shift and Emotional Control scales. Flexibility is an important component of behavioral regulation, as indicated by the individual's ability to modulate behavioral and emotional reactions according to different response contingencies and environmental demands.

The Emergent Metacognition Index (*EMI*) reflects a child's ability to sustain ideas and activities in working memory and to plan and organize problem-solving approaches. It is composed of the Working Memory and Plan/Organize scales. As the young child becomes an active and effective problem-solver, these systematic metacognitive functions become critically important.

Examination of the indexes reveals that the Inhibitory Self-Control Index (*ISCI*), Flexibility Index (*FI*) and Emergent Metacognition Index (*EMI*) were elevated (*ISCI T* = 82, %ile = ≥99; *FI T* = 74, %ile = 96; *EMI T* = 72, %ile = 97). This suggests that Sample is viewed as having global difficulties with self-regulation, including difficulty inhibiting impulses, modulating emotions, adapting to change, sustaining working memory, and planning and organizing problem-solving approaches relative to his peers.

Clinical Scales

The BRIEF-P Clinical scales measure the extent to which the respondent reports problems with different behaviors related to the five domains of executive functioning captured within the BRIEF-P. 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 elevated (T = 78, %ile = ≥99) as compared to his peers. This suggests that he is viewed as having substantial difficulty resisting impulses and considering consequences before acting. Young children with reported difficulties on this scale may be perceived as (a) less "in control" of their behavior than their peers; (b) interrupting others frequently; (c) saying inappropriate things; and/or (d) restless or unable to sit still for appropriate lengths of time. Others may be concerned about verbal and social intrusiveness or a potential lack of personal safety in individuals who have difficulty inhibiting impulses (Goldstrohm & Arffa, 2005). Examination of the individual items that compose 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; and (d) switch or alternate attention. Sample's score on the Shift scale is within the average range as compared to like-aged peers (T = 64, %ile = 88).

Emotional Control

The Emotional Control scale measures the impact of executive function difficulties on emotional expression and assesses a child's ability to modulate or control his emotional responses. Sample's score on the Emotional Control scale is elevated as compared to like-aged peers (T = 80, %ile = ≥99). This score suggests that there are concerns with regulation or modulation of emotions. Sample is described as likely to overreact to events and as demonstrating sudden outbursts, sudden and/or frequent mood changes, and excessive periods of emotional upset. Poor emotional control is often expressed as emotional lability, sudden outbursts, or emotional explosiveness. Individuals with difficulties in this domain often have overblown emotional reactions to seemingly minor events.

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 in young children is essential to sustain problem-solving activities, carry out multistep activities, complete basic mental manipulations, and follow complex instructions. Sample's score on the Working Memory scale is elevated as compared to like-aged peers (T = 68, %ile = 94). This suggests that he is described as having difficulty holding an appropriate amount of information in mind or in "active memory" for further processing, encoding, and/or mental manipulation. Further,

elevations on this scale suggest difficulties sustaining working memory, which has a negative impact on the ability to remain attentive and focused for appropriate lengths of time. Young children with fragile or limited working memory may have trouble remembering things (e.g., instructions) even for a few seconds, keeping track of what they are doing as they work, or may forget what they are supposed to retrieve when sent on an errand. They may miss information that exceeds their working memory capacity, such as multi-step instructions.

Plan/Organize

The Plan/Organize scale measures the child's ability to manage current and future-oriented task demands within the situational context. The scale consists of two task-related components: planning and organization. The plan component relates to the ability to anticipate future events, implement instructions or goals, and develop appropriate steps ahead of time in order to carry out a task or activity. In preschool children, developmentally appropriate planning often involves implementing a goal or end state (provided by the adult) by strategically selecting the most effective method or steps to attain that goal. Planning often requires sequencing or stringing together a series of actions or responses. The organize component refers to the ability to bring order to information, actions, or materials to achieve a goal or to follow an established organized routine. Sample's score on the Plan/Organize scale is elevated as compared to like-aged peers (T = 74, %ile = ≥99). This suggests that he is perceived as having marked difficulty with the planning and the organization of information, materials, or actions, which has a negative impact on his approach to problem-solving.

Executive System Intervention

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End of Report