BRIEF®2

Behavior Rating Inventory of Executive Function®, Second Edition

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Parent Form Interpretive Report

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Client name :	Sample Client
Client ID :	111
Gender :	Male
Age :	8
Grade :	3rd
Test date :	02/12/2015
Test form :	Parent Form
Rater name :	Not Specified
Relationship to child :	Parent

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

Version: 2.4.0.0

Validity

Before examining the Behavior Rating Inventory of Executive Function®, Second Edition (BRIEF®2) Parent Form 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) carries potential rating and score biases. The first step is to examine the protocol for missing data. With a valid number of responses, the BRIEF2 Inconsistency, Negativity, and Infrequency scales provide additional information about the validity of the protocol.

Missing items

The respondent completed 63 of a possible 63 BRIEF2 items. For reference purposes, the summary table for each scale indicates the respondent'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 the respondent answered similar BRIEF2 items in an inconsistent manner relative to the clinical samples. For example, a high Inconsistency score might be associated with the combination of responding Never to the item "Small events trigger big reactions" and Often to the item "Becomes upset too easily." Item pairs comprising the Inconsistency scale are shown in the following summary table. *T* scores are not generated for the Inconsistency scale. Instead, the absolute value of the raw difference scores for the eight paired items are summed, and the total difference score (i.e., the Inconsistency score) is compared with the cumulative percentile of similar scores in the combined clinical sample and used to classify the protocol as either Acceptable, Questionable, or Inconsistent. The Inconsistency score of 4 is within the Acceptable range, suggesting that the rater was reasonably consistent in responding to BRIEF2 items.

Item #	Inconsistency items	Response	Diff
5	Work is sloppy	Often	1
21	Written work is poorly organized	Sometimes	
9	Is not a self-starter	Often	0

Item #	Inconsistency items	Response	Diff
55	Does not take initiative	Often	
10	Does not think before doing (is impulsive)	Often	0
48	Has trouble putting the brakes on his/her actions	Often	
17	Gets stuck on one topic or activity	Sometimes	1
40	Thinks too much about the same topic	Often	
20	Does not realize that certain actions bother others	Sometimes	0
26	Does not notice when his/her behavior causes negative reactions	Sometimes	
22	Small events trigger big reactions	Often	0
56	Becomes upset too easily	Often	
25	Has trouble finishing tasks (chores, homework, etc.)	Sometimes	1
50	Has trouble getting started on homework or tasks	Often	
37	Leaves messes that others have to clean up	Sometimes	1
63	Leaves a trail of belongings wherever he/she goes	Often	

Negativity

The Negativity scale measures the extent to which the respondent answered selected BRIEF2 items in an unusually negative manner relative to the clinical sample. Items comprising the Negativity scale are shown in the following summary table. A higher raw score on this scale indicates a greater degree of negativity, with less than 3% of respondents scoring 6 or above in the clinical sample.

As with the Inconsistency scale, *T* scores are not generated for this scale. The Negativity score of 2 is within the acceptable range, suggesting that the respondent's view of Sample is not overly negative and that the BRIEF2 protocol is likely to be valid.

Item #	Negativity items	Response
14	Has outbursts for little reason	Sometimes
28	Has trouble remembering things, even for a few minutes	Sometimes
30	Gets out of seat at the wrong times	Sometimes
34	Mood changes frequently	Sometimes
39	Acts too wild or "out of control"	Often
41	Forgets what he/she was doing	Sometimes
58	Has trouble moving from one activity to another	Often
60	Is disturbed by change of teacher or class	Never

Infrequency

The Infrequency scale measures the extent to which the respondent endorsed items in an atypical fashion. The scale includes three items that are likely to be endorsed in one direction by most respondents. Marking Sometimes or Often to any of the items is highly unusual, even in cases of severe impairment.

Items comprising the Infrequency scale are shown in the following summary table. A higher raw score on this scale indicates a greater degree of infrequency, with less than 1% of respondents scoring 1 or greater in the standardization sample. As with the Inconsistency and Negativity scales, *T* scores are not generated for this scale. The Infrequency score of 0 is within the acceptable range, reducing the likelihood of an atypical response pattern.

Item #	Infrequency items	Response
18	Forgets his/her name	Never
36	Has trouble counting to three	Never
54	Cannot find the front door of home	Never

End of Validity Section

Introduction

The BRIEF®2 is a questionnaire completed by parents and teachers of school-aged children as well as adolescents ages 11 to 18. Parent and teacher ratings of executive functions are good predictors of a child's or adolescent's functioning in many domains, including the academic, social, behavioral, and emotional domains. As is the case for all measures, the BRIEF2 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, other BRIEF2 and behavior ratings, 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 BRIEF2, including its development and its psychometric properties, is a prerequisite to interpretation. As with any clinical method or procedure, appropriate training and clinical supervision are necessary to ensure competent use of the BRIEF2.

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 BRIEF2 Feedback Report can be generated and given to the interested parents and teachers.

T scores are used to interpret the level of executive functioning as reported by parents and teachers on the BRIEF2 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 represent the percentage of children in the standardization sample with scores at or below the same value. For all BRIEF2 clinical scales and indexes, *T* scores from 60 to 64 are considered mildly elevated, and *T* scores from 65 to 69 are considered potentially clinically elevated. *T* scores at or above 70 are considered clinically elevated.

In the process of interpreting the BRIEF2, 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®, Second Edition (BRIEF®2) on 02/12/2015. There are no missing item responses in the protocol. Responses are reasonably consistent. The respondent's ratings of Sample do not appear overly negative. There were no atypical responses to infrequently endorsed items. 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 GEC, was clinically elevated (GEC T = 78, %ile = $\geq$ 99). The BRI, ERI, and CRI were all elevated (BRI T = 72, %ile = 97; ERI T = 66, %ile = 93, CRI T = 75, %ile = $\geq$ 99), suggesting self-regulatory problems in multiple domains.

Within these summary indicators, all of the individual scales are valid. One or more of the individual BRIEF2 scales were elevated, suggesting that Sample exhibits difficulty with some aspects of executive function. Concerns are noted with his ability to resist impulses, be aware of his functioning in social settings, react to events appropriately, get going on tasks, activities, and problem-solving approaches, sustain working memory, plan and organize his approach to problem solving appropriately, be appropriately cautious in his approach to tasks and check for mistakes and keep materials and his belongings reasonably well organized. Sample's ability to adjust well to changes in environment, people, plans, or demands is not described as problematic by the respondent.

Current models of self-regulation suggest that behavior regulation and/or emotion regulation, particularly inhibitory control, emotional control, and flexibility, underlie most other areas of executive function. Essentially, one needs to be appropriately inhibited, flexible, and well-modulated emotionally for efficient, systematic, and organized problem solving to take place. Sample's elevated scores on scales reflecting problems with fundamental behavioral and/or emotional regulation suggest that more global problems with self-regulation are having a negative effect on active cognitive problem solving. Behavior and emotion regulation concerns do not negate the meaningfulness of the elevated CRI score. Instead, one must simultaneously consider the influence of the underlying self-regulation issues and the unique problems with

cognitive problem-solving skills.
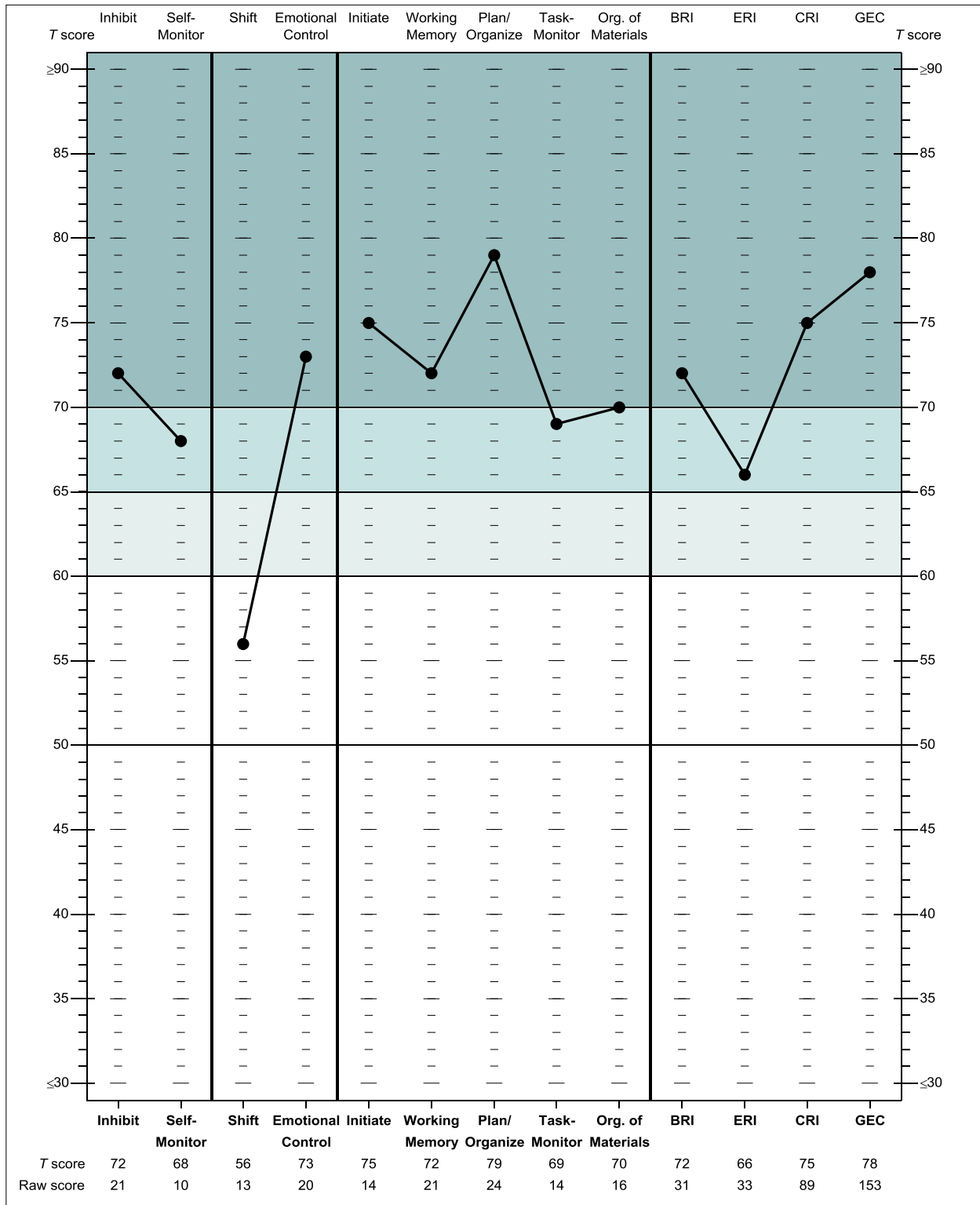
BRIEF®2 Parent Score Summary Table

Index/scale	Raw score	*T* score	Percentile	90% C.I.
Inhibit	21	72	96	66-78
Self-Monitor	10	68	97	61-75
Behavior Regulation Index (BRI)	31	72	97	67-77
Shift	13	56	77	49-63
Emotional Control	20	73	96	68-78
Emotion Regulation Index (ERI)	33	66	93	61-71
Initiate	14	75	≥ 99	68-82
Working Memory	21	72	97	67-77
Plan/Organize	24	79	≥ 99	73-85
Task-Monitor	14	69	97	62-76
Organization of Materials	16	70	97	64-76
Cognitive Regulation Index (CRI)	89	75	≥ 99	72-78
Global Executive Composite (GEC)	153	78	≥ 99	76-80

Validity scale	Raw score	Percentile	Protocol classification
Negativity	2	≤ 98	Acceptable
Inconsistency	4	≤ 98	Acceptable
Infrequency	0	99	Acceptable

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

For additional normative information, refer to Appendixes A–C in the BRIEF®2 Professional Manual.

Profile of BRIEF®2 *T* Scores

	Inhibit	Self-Monitor	Shift	Emotional Control	Initiate	Working Memory	Plan/Organize	Task-Monitor	Org. of Materials	BRI	ERI	CRI	GEC
T score	72	68	56	73	75	72	79	69	70	72	66	75	78
Raw score	21	10	13	20	14	21	24	14	16	31	33	89	153

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

For additional normative information, refer to Appendixes A–C in the BRIEF®2 Professional Manual.

Clinical Scales

The BRIEF2 clinical scales measure the extent to which the respondent reports problems with different types of behavior related to the nine 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 clinically elevated (T = 72, %ile = 96) 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 (1) being less in control of themselves than their peers, (2) having difficulty staying in place in line or in the classroom, (3) interrupting others or calling out in class frequently, and (4) 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.

Item #	Inhibit items	Response
1	Is fidgety	Often
10	Does not think before doing (is impulsive)	Often
16	Gets out of control more than friends	Often

Item #	Inhibit items	Response
24	Talks at the wrong time	Often
30	Gets out of seat at the wrong times	Sometimes
39	Acts too wild or "out of control"	Often
48	Has trouble putting the brakes on his/her actions	Often
62	Becomes too silly	Never

Self-Monitor

The Self-Monitor scale assesses awareness of the impact of one's own behavior on other people and outcomes. It captures the degree to which a child or adolescent is aware of the effect that his or her behavior has on others and how it compares with standards or expectations for behavior. Sample's score on the Self-Monitor scale is potentially clinically elevated, suggesting substantial difficulty with monitoring his behavior in social settings (T = 68, %ile = 97). Children with similar scores tend to show limited awareness of their behavior and the impact it has on their social interactions with others.

Item #	Self-Monitor items	Response
4	Is unaware of how his/her behavior affects or bothers others	Often
13	Has poor understanding of own strengths and weaknesses	Often
20	Does not realize that certain actions bother others	Sometimes
26	Does not notice when his/her behavior causes negative reactions	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 make transitions, tolerate change, problem solve flexibly, switch or alternate attention between tasks, and change focus from one task or topic to another. Mild deficits may compromise efficiency of problem solving and result in a tendency to get stuck or focused on a topic or problem, whereas more severe difficulties can be reflected in perseverative behaviors and marked resistance to change. Sample's score on the Shift scale is within the average range compared with peers ($T = 56$, %ile = 77). 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 day-to-day activities.

Item #	Shift items	Response
2	Resists or has trouble accepting a different way to solve a problem with schoolwork, friends, tasks, etc.	Never
11	Has trouble getting used to new situations (classes, groups, friends, etc.)	Never
17	Gets stuck on one topic or activity	Sometimes
31	Becomes upset with new situations	Never
40	Thinks too much about the same topic	Often
49	Resists change of routine, foods, places, etc.	Never
58	Has trouble moving from one activity to another	Often
60	Is disturbed by change of teacher or class	Never

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 regulate his or her emotional responses. Sample's score on the Emotional Control scale is clinically elevated compared with peers (T = 73, %ile = 96). This score suggests marked concerns with regulation or modulation of emotions. Sample likely overreacts to events and likely demonstrates 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. Children with difficulties in this domain often have overblown emotional reactions to seemingly minor events. Caregivers and teachers of such children frequently describe a child who cries easily or laughs hysterically with small provocation or a child who has temper tantrums of a frequency or severity that is not age appropriate.

Item #	Emotional Control items	Response
6	Has explosive, angry outbursts	Often
14	Has outbursts for little reason	Sometimes
22	Small events trigger big reactions	Often
27	Reacts more strongly to situations than other children	Sometimes
34	Mood changes frequently	Sometimes
43	Angry or tearful outbursts are intense but end suddenly	Often
51	Mood is easily influenced by the situation	Sometimes
56	Becomes upset too easily	Often

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 clinically elevated compared with peers ($T = 75$, %ile = ≥ 99). This suggests that Sample has marked difficulties getting going on tasks, activities, and problem-solving approaches. Poor initiation typically does not reflect noncompliance or disinterest in a specific task. Children with initiation problems typically want to succeed at and complete a task, but they have trouble getting started. Caregivers of such children frequently report observing difficulties getting started on homework or chores, along with a need for extensive prompts or cues to begin a task or activity. Children with initiation difficulties are at risk for being viewed as unmotivated. In the context of psychological assessment, initiation difficulties are often demonstrated in the form of slow speed of output despite prompts to work quickly and difficulty generating ideas such as for word and design fluency tasks. There is often a need for additional prompts from the examiner to begin tasks in general. Alternatively, initiation deficits may reflect depression, and this should particularly be examined if this finding is consistent with the overall affective presentation of the child.

Item #	Initiate items	Response
9	Is not a self-starter	Often
38	Needs to be told to begin a task even when willing	Sometimes
50	Has trouble getting started on homework or tasks	Often
55	Does not take initiative	Often
61	Has trouble organizing activities with friends	Often

Working Memory

The Working Memory scale measures online 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 achieve goals. Working memory is essential to carrying out multistep activities, completing mental manipulations such as mental arithmetic, and following complex instructions. Sample's score on the Working Memory scale is clinically elevated compared with peers ($T = 72$, %ile = 97). This suggests that Sample has substantial 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 Sample cannot remember the rules governing a specific task (even as he works on that task), rehearses information repeatedly, loses track of what responses he 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 sustaining performance and attention. Parents of children with difficulties in this domain report that they cannot stick to an activity for an age-appropriate amount of time and that they frequently switch 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.

Item #	Working Memory items	Response
3	When given three things to do, remembers only the first or last	Often

Item #	Working Memory items	Response
12	Has a short attention span	Often
19	Has trouble with chores or tasks that have more than one step	Often
25	Has trouble finishing tasks (chores, homework, etc.)	Sometimes
28	Has trouble remembering things, even for a few minutes	Sometimes
32	Has trouble concentrating on tasks, schoolwork, etc.	Often
41	Forgets what he/she was doing	Sometimes
46	Needs help from an adult to stay on task	Often

Plan/Organize

The Plan/Organize scale measures a child's ability to manage current and future-oriented task demands. The scale has 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 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 clinically elevated compared with peers (T = 79, %ile = $\geq$ 99). This suggests that Sample has marked difficulty with planning and organizing 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 bring order to oral and written expression and 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.

Item #	Plan/Organize items	Response
7	Does not plan ahead for school assignments	Often
15	Gets caught up in details and misses the big picture	Often
23	Has good ideas but does not get job done (lacks follow-through)	Often

Item #	Plan/Organize items	Response
35	Has good ideas but cannot get them on paper	Often
44	Becomes overwhelmed by large assignments	Often
52	Underestimates time needed to finish tasks	Often
57	Starts assignments or tasks at the last minute	Often
59	Has trouble carrying out the actions needed to reach goals (saving money for special item, studying to get a good grade, etc.)	Often

Task-Monitor

The Task-Monitor scale assesses task-oriented monitoring or work-checking habits. 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. Sample's score on the Task-Monitor scale is potentially clinically elevated, suggesting substantial difficulty with task monitoring ($T = 69$, %ile = 97). Children with similar scores tend not to be cautious in their approach to tasks or assignments and often do not notice and/or check for mistakes. Caregivers often describe children with task-oriented monitoring difficulties as rushing through their work, as making careless mistakes, and as failing to check their work. Clinical evaluators may observe the same types of behavior during formal assessment.

Item #	Task Monitor items	Response
5	Work is sloppy	Often
21	Written work is poorly organized	Sometimes
29	Makes careless errors	Often
33	Has poor handwriting	Often
42	Does not check work for mistakes	Often

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, or clean up his or her belongings. Sample's score on the Organization of Materials scale is clinically elevated compared with children ($T = 70$, %ile = 97). Sample is described as having marked difficulty (1) keeping his materials and belongings reasonably well organized, (2) having his materials readily available for projects or assignments, and (3) finding his belongings when needed. Children who have significant difficulties in this area often do not function efficiently in school or at home because they do not have ready access to what they need and must spend time getting organized rather than producing work. Pragmatically, teaching a child to organize his or her belongings can be a useful, concrete tool for teaching greater task organization.

Item #	Organization of Materials items	Response
8	Cannot find things in room or school desk	Often
37	Leaves messes that others have to clean up	Sometimes
45	Loses lunch box, lunch money, permission slips, homework, etc.	Sometimes
47	Forgets to hand in homework, even when completed	Often
53	Does not bring home homework, assignment sheets, materials, etc.	Often
63	Leaves a trail of belongings wherever he/she goes	Often

Summary Indexes and Global Executive Composite

Behavior Regulation, Emotion Regulation, and Cognitive Regulation Indexes

The Behavior Regulation Index (BRI) captures the child's ability to regulate and monitor behavior effectively. It is composed of the Inhibit and Self-Monitor scales. Appropriate behavior regulation is likely to be a precursor to appropriate cognitive regulation. It enables the cognitive regulatory processes to successfully guide active, systematic problem solving and more generally supports appropriate self-regulation.

The Emotion Regulation Index (ERI) represents the child's ability to regulate emotional responses and to shift set or adjust to changes in environment, people, plans, or demands. It is composed of the Shift and Emotional Control scales. Appropriate emotion regulation and flexibility are precursors to effective cognitive regulation.

The Cognitive Regulation Index (CRI) reflects the child's ability to control and manage cognitive processes and to problem solve effectively. It is composed of the Initiate, Working Memory, Plan/Organize, Task-Monitor, and Organization of Materials scales and relates directly to the ability to actively problem solve in a variety of contexts and to complete tasks such as schoolwork.

Examination of the indexes reveals that the BRI is clinically elevated *(T = 72, %ile = 97)*, the ERI is potentially clinically elevated *(T = 66, %ile = 93)*, and the CRI is clinically elevated *(T = 75, %ile = ≥ 99)*. This suggests difficulties with all aspects of executive function including inhibitory control, self-monitoring, emotion regulation, flexibility, and cognitive regulatory functions including ability to sustain working memory and to initiate, plan, organize, and monitor problem solving.

Global Executive Composite

The Global Executive Composite (GEC) is an overarching summary score that incorporates all of the BRIEF2 clinical scales. Although review of the BRI, ERI, CRI, and individual scale scores is strongly recommended for all BRIEF2 profiles, the GEC can sometimes be useful as a summary measure. In this case, the three summary indexes are not substantially different from each other, with differences between T scores for each seen in 90% of the standardization sample. Thus, the GEC adequately captures the elevation or severity of the overall profile. With this in mind, Sample's T score of 78 (%ile = $\geq$ 99) on the GEC is clinically elevated compared with the scores of his peers, suggesting significant difficulty in one or more areas of executive function.

Comparison of BRIEF2 Working Memory and Inhibit Scales to ADHD Groups

The BRIEF2 Inhibit and Working Memory scales , in the context of a comprehensive assessment, may be helpful in identifying children with suspected attention-deficit/hyperactivity disorder (ADHD). Theoretically, inhibitory control enables self-regulation, and working memory enables sustained attention. It is important at the outset, however, to appreciate the distinction between executive functions and the diagnosis of ADHD: Executive functions are neuropsychological constructs, whereas ADHD is a neuropsychiatric diagnosis based on a cluster of observed symptoms. Although it is well-established that different aspects of executive dysfunction contribute to the symptoms that characterize ADHD, executive dysfunction is not synonymous with a diagnosis of ADHD. Further, problems with inhibitory control and, in particular, working memory are not unique to the diagnosis of ADHD but may be seen in many developmental and acquired conditions. Therefore, the following analysis may be useful when there is a question about the presence or absence of an attention disorder but should not be used in isolation or as the sole basis of diagnosis. Information from the BRIEF2 may be helpful when combined with other information such as parent and teacher ratings on broad-band scales, ADHD specific scales, clinical interviews, observations and performance assessment.

Profile analyses have shown that children diagnosed with different disorders often have recognizable and logical scale profiles on the BRIEF2. Children with ADHD, inattentive presentation (ADHD-I) tend to have greater elevations on Working Memory, Plan/Organize, and Task-Monitor scales than their typically developing peers but lower scores on the BRI and ERI than children diagnosed with ADHD, combined presentation (ADHD-C).

The BRIEF2 Parent Form Working Memory scale exhibits good sensitivity and specificity for detecting a likely diagnosis of ADHD regardless of whether inattentive or combined presentation. In research and clinical samples, *T* scores of 65 or greater on the Working Memory scale discriminated between healthy controls and children with either ADHD-I or ADHD-C with over 80% classification accuracy. The likelihood that a child with a *T* score of 65 or higher is a true case of ADHD was .90 (positive predictive value), whereas the likelihood that a child with a score below 65 would not have ADHD was .80 (negative predictive value). The likelihood of a child being correctly identified as meeting criteria for a diagnosis of ADHD was 7 times greater with a Working Memory *T* score of 65 or greater.

The Inhibit scale can help further distinguish between children with ADHD-I versus those with ADHD-C. Using a *T* score of 65 or greater, approximately 75% of children were correctly classified as being diagnosed with ADHD-C versus ADHD-I in separate

research and clinical samples. Children with *T* scores at or above 65 on the Inhibit scale are 1.5 to 3 times more likely to be diagnosed with ADHD-C than ADHD-I. If the cutoff is increased to a *T* score of 70 or greater on the Inhibit scale, sensitivity is reduced but specificity is increased. Children with *T* scores of 70 or more are 2.3 to more than 5 times more likely to have a diagnosis of ADHD-C than ADHD-I.

While the BRIEF2 may be a helpful and efficient tool in evidence-based assessment for ADHD, it is important that all relevant data be considered in the context of clinical judgment before reaching a diagnostic decision.

In this particular profile, Parent ratings of Sample's working memory (*T* = 72, %ile = 97) are clinically elevated. *T* scores of 70 or greater on the Parent Form of the BRIEF2 were seen in more than 60% of children clinically diagnosed with either presentation of ADHD but were seen in only less than 2% of typically developing children and 4% of children with learning disabilities. Scores at this level are more than 7 times more likely to be seen in students diagnosed with ADHD and one-third as likely to be seen in typically developing students, raising the possibility of the presence of ADHD. In considering ADHD presentations, the Inhibit scale may be useful in the context of a significantly elevated Working Memory scale. Sample's ratings of his inhibitory control were also clinically elevated (*T* = 72, %ile = 96). Students with significantly elevated Working Memory and Inhibit *T* scores in a clinical sample were correctly classified as being diagnosed with ADHD-C approximately 80% of the time.

Comparison of BRIEF2 Shift Scale to Children with Autism Spectrum Disorders (ASD)

Children with Autism Spectrum Disorder (ASD) have difficulties with executive functions related to flexibility, planning, organization, and other aspects of metacognition. Numerous studies have shown a signature BRIEF profile in children with ASD with elevations across most BRIEF scales and a peak in problems captured on the Shift scale. Parent and teacher ratings on the BRIEF2 in large numbers of clinically referred children with well-defined ASD diagnoses showed similar patterns of elevations on most scales with a prominent peak on the Shift scale. While the BRIEF2 is not intended as a stand-alone diagnostic instrument, it can be useful as part of a more comprehensive assessment for a wide range of clinical conditions. For children with ASD, the BRIEF2 adds value to other measures of everyday functioning, social responsiveness, and ASD characteristics in the context of medical history in reaching a comprehensive diagnostic picture.

The BRIEF2 Parent Form Shift scale exhibits good specificity for ruling out children who do not have ASD. This is reflected in the positive predictive values of .91 for parent ratings at or above 65 and .93 when using a cutoff of 70. In clinical samples, T scores of 65 or greater on the Shift scale discriminated between healthy controls and children with ASD with more than 80% classification accuracy, and with 75% accuracy when T scores were greater than or equal to 70. The likelihood of a child being correctly identified as meeting criteria for a diagnosis of ASD was 10 times greater (positive likelihood ratio = 10.61) with a Shift T score of 65 or greater, while the likelihood of a child with an ASD being incorrectly ruled out was reduced by two thirds (negative likelihood ration = .29).

In this particular profile, Parent ratings of Sample's cognitive and behavioral flexibility (T = 56, %ile = 77) are within normal limits. This suggests that Sample does not exhibit the cognitive rigidity and adherence to routine and sameness that is often seen in children diagnosed with ASD.

Executive Function Interventions

Ratings of Sample's everyday functioning revealed some areas of concern. Recommendations for interventions and accommodations are offered according to the identified concerns. While the efficacy of each intervention has not been empirically demonstrated, the majority are common interventions that are likely familiar to the intervention team. These recommendations are general and are intended here as suggestions or ideas that may be tailored to suit Sample's needs. As with any intervention, clinical judgment is paramount.

Inhibit

The ability to inhibit, resist, or not act on a thought or an impulse—and to stop one's own behavior at the appropriate time—is a foundation of self-regulation. Caregivers and teachers often are concerned about social intrusiveness or lack of personal safety with children and adolescents who do not inhibit impulses well. Such students 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 consider the consequences of their behavior at the time. Impulsivity is often accompanied by other executive function difficulties, such as distractibility, poor self-monitoring, and difficulty sustaining attention.

External Structuring, Accommodations, and Modifications

Set clear rules and expectations: Students with inhibitory control difficulties often require additional structure in the environment at the outset to maintain more appropriately controlled behavior. Sample might need a more explicit, extensive, and/or clear set of rules and expectations and might need these reviewed with him regularly. Disinhibited students often require more frequent redirection and limit setting from the teacher.

Limit distractions: Often, it is important to limit distractions that are problematic for students with inhibitory control difficulties. This might include visual and auditory distractions, other students, or activities that can pull Sample's attention away from a task. Open classroom settings often have too many distractions and too many opportunities for impulsive behaviors.

Strategic seating: Students like Sample often benefit from careful placement in the classroom. This is not necessarily in the center

front row; it might be close to the center of activity to help him feel more involved or in a place where frequent eye contact with the teacher is likely. Placement in proximity to the teacher can facilitate greater interaction without disturbing other students.

Positive peer modeling: Sample might benefit from sitting with or near more well-controlled and more focused peers who can serve as models and can resist his distracting tendencies. Working in small groups with good peer models may also be helpful.

Modify student-to-teacher ratio: A lower student-to-teacher ratio may be necessary to allow for more frequent interaction between Sample and his instructors. The inclusion of aides, parent helpers, or other paraprofessionals within the classroom can help provide the additional external structure Sample needs to remain more appropriately controlled.

Modify workload: Often students with impulse control difficulties find homework loads daunting. Sample may need his homework requirements reduced to within his capabilities at the outset, with stepwise increases in expectations as he demonstrates success.

Student-Focused Interventions

Teach response delay: Response-delay techniques can be helpful for some students. Sample might be taught strategies such as counting to 5 or 10 before responding verbally or physically. Several stop-and-think methods are useful for teaching students to inhibit their initial response, to consider the potential consequences of their behaviors, and to further develop a plan of approach to a situation. Some are cognitive-behavioral strategies, and others are available as games for guidance counseling or therapy.

Verbalize plans: If Sample demonstrates an impulsive approach to tasks, he might be asked to verbalize a plan of approach before starting work. This places a short time period between the impulse and the action and can allow for better planning and a more strategic approach. Sample's teacher or parent can ask him to explain how he will approach a task, including his goals for accuracy and time. He might be asked to verbalize a second plan and to consider the benefits and drawbacks of each before proceeding.

Take periodic breaks: Students with impulse control difficulties often need more frequent breaks, particularly with motor activity. Breaks can be a reward for work completed and need to be only 1 to a few minutes in duration. Sample might be asked to complete a set amount of independent desk work within his capabilities before running an errand, taking a bathroom break, or bringing his work to the teacher for review.

Set goals for accuracy: It is often important to set goals for accuracy of work when a student tends to rush through his work. Acknowledging the speed with which Sample completes his work can help him feel good about his accomplishments; increasing accuracy or neatness might be suggested as additional goals.

Control antecedents: Behavior programs geared toward controlling stimuli that precede or lead to impulsivity are likely to be more successful than those that focus only on the consequences following an impulsive action. By definition, students with inhibitory control difficulties cannot consider potential consequences of their actions in the moment, even though they may demonstrate appropriate knowledge of consequences. Controlling antecedents, or what occurs prior to an impulsive behavior, is often an important method of reducing problematic behaviors. Parents and teachers can likely anticipate times when Sample is likely to act in a disinhibited manner. Intervening at that point may be more effective than attempting to apply consequences during or after a problem. Limiting stimuli or situations in which Sample might be impulsive can be important, or discussing the likelihood of impulsive behaviors and expectations may also be helpful. For example, if Sample has difficulty with behavioral control on the playground, he might meet with the teacher for a few minutes before joining his peers to discuss expectations and actions that Sample or his teacher might take to avoid problems.

Highlight salient consequences: Consequence-based systems may be an effective support for Sample. While he may have difficulty considering consequences at the moment, reinforcement for appropriate behaviors and response costs for inappropriate behaviors may be helpful and necessary.

Maintain consistency across settings: It is usually important that

any behavior program be implemented across settings for consistency. Sample's parents, teachers, and other involved individuals should be consistent in their use of behavioral techniques.

Provide ongoing behavioral consultation: Behavioral interventions typically require ongoing adjustments to address new situations or challenges, to modify reinforcers and consequences as needed, and to ensure consistency. Often counselors, a behavioral specialist, or a therapist can serve as the behavior program manager.

Employ strategies for prosocial behaviors: Social difficulties often become apparent for a student with inhibitory control difficulties. A child who behaves impulsively with peers may say or do inappropriate things, and peers will learn to keep their distance. It is important to intervene early to avert social difficulties and the negative effects on Sample's self-esteem and to increase social success. Some suggestions include the following:

♦ Cross-age tutoring or mentoring with an older student can be employed to model appropriate social behaviors.

♦ Sample might benefit from small-group activities with more focused and well-controlled peers. His peers can serve as role models but may need adult guidance in ways to respond to Sample's impulsive behaviors.

♦ Guided observations of peer interactions may be helpful for Sample as a means of learning more appropriate social skills. A teacher or parent might meet with him briefly at the outset of an activity and discuss how other children are behaving.

♦ Sample may need more limited time in unstructured activity to maintain appropriate behavior. He might join an activity with a prearranged expectation that he will take a break from the activity after a set period of time. This break time can be used to review his successes and any areas of difficulty before returning to the activity.

Self-Monitoring

Students need to be aware of the impact of their behavior on others. Self-monitoring refers to the capacity to observe and evaluate one's behavior as others experience it, including understanding strengths and weaknesses, being aware of effectiveness in problem solving, observing outcomes of intended behavior, and noticing impact on others. Children with poor self-monitoring may experience social difficulties.

Student-Focused Interventions

Provide opportunities to learn self-monitoring: Provide Sample with opportunities for self-monitoring his social behavior. Provide cues, as subtly as possible, if necessary. Children and adolescents with self-monitoring difficulties may not be able to see the impact of their behavior in the midst of the situation. It may be helpful or necessary to discuss or review behavior once they are removed from the situation and from peers. It may be helpful to videotape an activity or situation and then review it together. This allows Sample to see himself from another's perspective. Discussion of the videotape with an adult, such as a guidance counselor or therapist, is essential. This method should be considered carefully and approached collaboratively with the consent of Sample, his parents, and other participants. While videotaping can be a powerful tool, there is also potential for emotional consequences and negative effects on self-esteem.

Teach verbal mediation: Verbal mediation can be a useful tool for helping children focus on their own behavior. Sample might benefit from talking through a task or an upcoming social situation, as this can increase attention to the situational demands and, secondarily, awareness of demands on his own behavior. Model, cue, and encourage goal setting (What do I want to accomplish?) and planning (What might work? What might not work?) as self-monitoring tools.

Use group feedback to assist self-awareness: A social skills group may be a helpful venue to increase Sample's awareness of the impact his behavior has on others. This can provide not only direct skill training but also an opportunity for helpful feedback from a counselor or peers in a safe setting.

Compare preactivity prediction of behavior with postactivity outcome: Encourage Sample to identify his strengths and weaknesses for specific tasks or activities. Allow the comparison

of preactivity prediction of performance with postactivity evaluation. Provide guided constructive feedback (teacher, parent, and peer) to increase self-awareness of strengths and needs for similar future activities.

Emotional Control

Regulation of emotion is foundational to other aspects of executive function. Students need to be well-modulated emotionally to plan, organize, and monitor their cognitive performance and to sustain working memory over time. At the same time, executive functions, in particular inhibitory control, facilitate better emotion regulation. Difficulties with emotion regulation are often expressed as emotional lability or emotional explosiveness, with overblown emotional reactions to seemingly minor events.

External Structuring, Accommodations, and Modifications

Control antecedents: It may be useful to manage antecedents or stimuli that appear to produce emotional changes or outbursts in Sample. Some situations, peers, or tasks may need to be initially avoided or limited until he experiences more success in managing his emotional expression. If Sample responds with emotional outbursts to school work, it may be helpful to return to mastery or success levels and to adjust academic demands.

Model appropriate emotional control: It may be helpful for Sample's parents and teachers to model appropriate emotional modulation. They might talk aloud through a situation that provokes feelings of anger or sadness and explain how they will deal with their feelings.

Set clear rules and expectations: Clear rules and expectations for behavior, including emotional modulation, both in the classroom and at home, may be important for Sample. Such explicit expectations can provide predictability and a feeling of control over the situation, which in turn can facilitate better emotional modulation.

Student-Focused Interventions

Assess roots of emotional dyscontrol: Children with executive difficulties, particularly with other primary executive function deficits such as fragile inhibitory control or difficulties adapting to change in their home and school environments, may express their feelings more strongly and more directly than most children. This can make them seem angrier, more irritable, sadder, or sillier than their peers. Such emotional expression should prompt evaluation to rule out mood or affective difficulties. When difficulties with emotional modulation occur in the context of other self-regulatory problems, co-management of

the child's set of executive difficulties may be helpful. For example, difficulties with emotional control may be more primarily an expression of disinhibition. Thus, techniques for supporting inhibitory control and reducing impulsivity may be helpful.

Increase awareness of antecedents: Sample might benefit from opportunities to discuss upcoming situations or events that may provoke an emotional outburst. Increasing his awareness of the potential for emotional reactivity and the likely consequences to follow may help him modulate more effectively in the moment.

Increase awareness of impact on others: Sample might benefit from increased awareness of the strength of his emotional reactions and the impact this has on others. Discussing a recent situation with Sample when he is calm, while also considering other ways he might approach a similar situation in the future, is one way to help increase his awareness. Peer group counseling can provide an opportunity for feedback from peers. Methods for increasing self-monitoring of behavior may be appropriate.

Process emotional outbursts: Processing situations that have led to emotional outbursts with Sample in a nonthreatening setting and manner is important. Choose a situation where he is relaxed and therefore more receptive to objective analysis of what happened. This can help Sample gain better control while increasing his awareness of his reactions.

Use peer models: Peer modeling may be helpful for Sample. Placing him in activity-focused small groups with well-controlled peers may help him emulate their behavior and emotional modulation.

Teach response-delay techniques: Sample might benefit from learning response-delay techniques, similar to those used to help with inhibitory control (e.g., practice leaving the situation, counting before responding, developing two or more possible responses). Also, thinking through potential ramifications of his responses may reduce the frequency or intensity of an immediate emotional reaction.

Use meaningful scripts and metaphors: Some students with difficulty modulating affect require psychotherapy to help them develop a clear, practical, affective vocabulary. Such work can help them differentiate and label complex, overwhelming

feelings of *upset* into more specific feeling states (i.e., angry, nervous, sad) as well as practice alternative ways of expressing emotions. He might benefit from learning an *emotional vocabulary* or *scripts* for dealing with situations that provoke strong emotions.

A student with strong emotional responses to events or situations may benefit from learning a concrete, simple metaphor to help increase emotional monitoring and the likelihood of a more appropriate response. For example, Sample might work in therapy or with a counselor to develop a *thermometer* or *speedometer* metaphor for measuring anger or distress. He might label each temperature or speed to reflect degrees of anger, such as 10 = normal, 20 = irritated, 30 = getting mad, . . . 100 = out of control. Each level can then be tied to a specific concrete behavior, such as counting to delay responses, terminating the conversation, seeking adult intervention, or immediately leaving the situation.

Use cooling-down period: A child who experiences difficulty with emotional control often needs short breaks or a cooling off period to consider his response to an event or situation. This is best taken before an emotional outburst occurs. Sample might be given permission to take a timeout when needed, or to leave the situation and seek an identified adult with whom he can discuss his feelings. It is important to avoid viewing timeout as a punishment and to reward Sample for removing himself from a situation independently.

Reinforce use of emotional control strategies: Behavioral programs that are designed to support independent use of coping skills can be an important aid. Reinforcing Sample's ability to identifying stress-inducing situations ahead of time, his use of relaxation methods, or his implementation of more modulated forms of emotional expression (e.g., verbalizing feelings associated with a stress response or verbalizing the impact of the stressor) may be helpful.

Initiate

Initiation refers to the ability to begin or get started on a task or activity and to independently generate ideas, responses, or problem-solving strategies. Poor initiation typically does not reflect noncompliance or disinterest in a specific task. Students with initiation difficulties typically want to succeed but cannot get started on their own. This can be exhibited in a number of ways: (1) behaviorally, such that they cannot get started on physical activities like getting up to begin physical activities; (2) socially, such that they have difficulty calling friends or going out to be with friends; (3) academically, such that they have trouble getting started on homework or assignments; or (4) cognitively, such that they have difficulty coming up with ideas or generating plans. Basic tenets of intervention include providing additional external structure, prompting and cuing, and helping with organization and planning. It is important to appreciate that different tasks place varying demands on initiation. Tasks that are inherently motivating often require less internal initiation than tasks that are less motivating. Similarly, more complex tasks may require greater initiation.

External Structuring, Accommodations, and Modifications

Increase environmental structure: Increased structure in the environment or in an activity can help with initiation difficulties. Building in routines for everyday activities is often important, as routine tasks and their completion become more automatic, reducing the need for independent initiation. For example, the morning routine can be broken down into a sequence of steps, and these steps can be written down on index cards or a simple list. Sample might then follow the list of steps each day with supervision as needed until the routine becomes automatic. Sample can learn to use such lists as prompts.

Prompt: External prompting may be necessary to help Sample get started. Sample's teacher might stop by his desk at the outset of each task and prompt him to start his work or perhaps demonstrate the first problem of a worksheet. At home, his parents might need to similarly prompt him to get started on homework, to perform chores, or to go out with friends. Provide appropriate supportive signals or cues that remind the child to initiate an activity (e.g., caretaker cues, devices such as alarm watch or personal digital assistant). Use natural cues, such as peers, whenever possible and appropriate in social and academic

situations.

Use peer models: Peers can often help serve as models to get Sample started on tasks, and they serve as external cues in pairs and small groups. Cooperative projects may be most useful since the interaction with peers will continuously prompt Sample.

Reframe the problem: Many children with initiation difficulties are viewed as unmotivated. It is important to reframe the problem as an initiation difficulty rather than lack of motivation.

Reduce overwhelm: Problems with initiating may be exacerbated by the child's sense of being overwhelmed with a given task. Tasks or assignments that seem too large can interfere with Sample's ability to get started. Breaking tasks into smaller, more structured steps may reduce his sense of being overwhelmed and increase initiation.

Increase arousal or energy: Methods designed to increase overall level of arousal or basic energy level can be useful for children like Sample who have difficulty initiating on their own. Physical activity, group interaction, frequent short breaks with motor activity, and variation of pace or stimulation may be explored as means of increasing arousal and supporting initiation. Sample might benefit from more interactive, hands-on, or laboratory learning activities rather than desk work. Active learning methods can be interspersed with more sedentary methods to spark higher levels of motivation and arousal. Topics or activities that Sample finds particularly interesting will likely lead to greater initiation ability. Help Sample find topics or methods that are of interest for projects and assignments. Computer-aided instruction can be a useful means of increasing arousal and initiation. Many educational programs include regular or continuous prompts that will supplant Sample's need to initiate on his own.

Provide structure and examples: Difficulties with initiating are often a problem of knowing where to start. Providing Sample with greater organization for a task and demonstrating where to begin and what steps to follow may help him overcome initiation difficulties. Guidance through the first problem of a set for desk work or homework will often support greater initiation. Stopping by Sample's desk and demonstrating the procedures for the first problem of a worksheet will help him get going on the remainder

of the problems. It is often helpful to provide examples or work samples that serve as a model of what is expected. Sample can then follow the example to help cue what is next.

Support independence: Those who work with Sample should be aware of the natural tendency to do things for him. Instead, it is important to support his own independent task initiation, thus avoiding the risk of learned helplessness. This requires a balance, however, because constant or repeated prompting may feel like nagging to Sample.

Student-Focused Interventions

Structure problem solving: Children who demonstrate difficulties thinking of ideas may benefit from learning a structured, systematic approach to idea generation. They can be taught idea generation strategies to help develop ideas for topics, for performing activities, or for ways to approach problems.

Provide hard copy of routines: Providing to-do lists on paper or index cards can be a method of developing automatic routines and can serve as external cues to begin an activity. Some children benefit from keeping a binder or cookbook with lists of steps for each activity. They can look up a page with steps for completing a specific task and can use the list to guide their activity.

Increase awareness: As with any executive difficulty, it can be helpful to increase Sample's awareness of his difficulty with initiation. As he becomes metacognitively aware of his own difficulties getting started, he can then participate more actively in using strategies.

Set goals for time: Some children benefit from having time limits set for completing a task. Use of a timer may facilitate increased initiation and speed of task completion.

Working Memory

Working memory is the capacity to hold information in mind, typically enabling one to think about problems, to focus on a goal, to carry out multistep activities, to complete multistep problems, or to follow complex instructions. Students with working memory difficulties may have problems remembering things even for a few seconds. They may lose track of what they are doing, forget what they went to get, or struggle with mental problem solving. Many students with problems sustaining working memory are viewed as inattentive and as having poor concentration.

External Structuring, Accommodations, and Modifications

Preteach the big picture to provide meaningful context: Preteaching the general framework of new information and guiding attention to listen for important points can be an essential tool for circumventing working memory difficulties when they interfere with the ability to capture new material. Sample might meet with a resource teacher or aide at the outset of each day and preview the gist of what will be learned that day. Information may need to be preorganized for Sample to reduce demands for working memory and to make encoding more efficient at the outset.

Establish direct eye contact with student: Establishing eye contact with Sample prior to giving essential instructions or new material will help ensure that he is ready to listen carefully. Children with working memory difficulties often need to be alerted when essential material or instructions are being presented.

Manage rate of information flow: The rate of presentation for new material may need to be altered for Sample. He may need additional processing time or time to rehearse the information.

Manage quantity of information flow: A child with working memory difficulties often needs tasks or information broken down into smaller steps or chunks. New information or instructions may need to be kept brief and to the point or repeated in concise fashion for Sample. Lengthy tasks, particularly those that Sample experiences as tedious or monotonous, should be avoided or interspersed with more frequent breaks or other, more engaging tasks. Sample might be rewarded with a more stimulating activity, such as computer instruction time for completing the more tedious task.

Write it Down: One way to reduce the burden on working memory is to provide the student with a hard copy of essential information such as facts, main ideas, or a list of steps for problem solving or an assignment. Providing an outline or set of notes at the start of class can alleviate working memory demands and allow the student to listen actively rather than trying to listen, hold information, and write it down in real time.

Reduce Distractions: Given the negative impact of competing information on working memory, it is important to reduce distractions in the environment that can tax or disrupt sustained working memory.

Provide refresh period: Changing tasks more frequently can alleviate some of the drain on sustained working memory for a child such as Sample, whose focus is likely to fade more quickly than his peers. Changing from one task to the next sooner can help restore his focus for a brief period of time. Tasks can be rotated, such that he might work for 10 minutes on math problems and 10 minutes on reading and then return to another 10 minutes of math.

Provide attention breaks: A child with difficulties sustaining working memory often needs frequent short breaks. Breaks typically need only be 1 or 2 minutes in duration. Observing when Sample's ability to focus begins to wane will help determine the optimal time for a break. Attentional breaks are best taken with a motor activity or a relaxing activity. Sample might walk to the pencil sharpener, run a short errand, get a drink, or simply bring his work to show his teacher or his parent. Teacher check-ins can be an efficacious method of providing a break with motor activity and can also serve as an opportunity for reinforcement. Sample might be asked to complete only a few problems of a set or a few lines of a paragraph before bringing his work to his teacher or his parent for review. This provides a built-in break that Sample can anticipate, forces a stepwise approach to the task, includes motor activity, and provides an opportunity for reinforcement for work completed.

Provide preferential seating: Sample may need increased supervision. Preferential seating can be an important accommodation for children with limited ability to sustain working memory. Placing his seat near the teacher provides

greater opportunity to observe when he is adequately focused and when he is fatiguing, and redirection or breaks can be more easily implemented.

Use cueing strategies for retrieval: Often children with working memory deficits also exhibit word and information retrieval difficulties. They frequently experience the tip-of-the-tongue phenomenon or may produce the wrong details within the correct concept. Sample may need additional time to retrieve details when answering a question. Cues may be necessary to help him focus on the correct bit of information or word. It is often helpful to avoid open-ended questions and to rely more on recognition testing, which does not require retrieval.

If Sample answers an open-ended question such as a fill-in-the-blank or short-answer question incorrectly, it will be important to follow up with increasing levels of questions to determine whether he knows the information. Offering cues for the missed response and then following up with recognition format questions will clarify if Sample missed the answer due to retrieval difficulty or whether he needs to relearn the material.

Optimize daytime schedule: It may be important to observe Sample to determine whether he has greater difficulty at certain times of the day. Some children with difficulties sustaining working memory do better in the morning than in the afternoon as they begin to fatigue. It may be helpful to schedule more demanding tasks in the morning.

Present information in multiple modalities: Children with working memory difficulties often benefit from multimodal presentation of information. Verbal instruction can be accompanied by visual cues, demonstration, and guidance to increase the likelihood that new material will be learned. Hands-on instruction also can be a helpful learning method for children with difficulties sustaining working memory as it places less demand on working memory.

Student-Focused Interventions

Use verbal mediation: Children with difficulties sustaining working memory often show problems remaining focused on a task or activity, particularly for schoolwork or homework assignments. Many demonstrate a natural tendency to use self-talk or verbal mediation to guide their own problem solving

and to direct their attention. Such verbal mediation strategies might be encouraged or taught directly. Initially, Sample might verbalize aloud with supervision as he works through a task. Eventually, talking aloud can be minimized such that Sample relies on subvocalization or only a whisper to direct his focus.

Provide external memory supports: Children with working memory deficits often demonstrate difficulties keeping track of more than one or two steps at a time. Providing a written checklist of steps required to complete a task can serve as an external memory support and can alleviate some of the burden on working memory.

Repeat new information: It is often necessary to repeat instructions or new information for children with working memory deficits so that they may increase the amount of information captured.

Teach strategies for new learning and memory processing: Sample can learn how to actively listen, such as stopping what he is doing at the time, focus his attention, ask questions, restate the information or question, or take notes.

Mnemonic devices (i.e., memory strategies) are important tools to help children such as this learn, and later recall, basic skills and facts. Teaching Sample to chunk information may be useful in helping him increase the amount that he can learn or capture at one time. It may be necessary for Sample's teachers or his parents to help him learn how to approach new information as sets or groups of details rather than as a single series to facilitate chunking.

Rehearsal is often a helpful method of increasing the amount of information encoded into memory. Sample might need to practice a series of steps for solving a problem, memorizing a list of key facts, or completing an everyday activity to accommodate his more limited working memory at the outset. Spaced practice is more effective than massed practice. That is, Sample would benefit more from practicing new skills or information in short sessions over the course of the day rather than in one long session. He might rehearse, for example, a set of key facts for a few minutes two or three times during the school day and then again at home both at night and in the morning.

Have Sample repeat or paraphrase what he has heard or

understood to check for accuracy and to provide an opportunity for rehearsal. Ultimately, teaching self-initiated comprehension-checking strategies (e.g., the child asking for repetition of instructions) helps to promote independent management of working memory weaknesses.

Planning

Planning encompasses the ability to anticipate future events, set goals, and develop appropriate steps ahead of time to carry out a task or activity. It requires imagining a goal or end state, strategically determining the most effective approach, and sequencing a series of steps to attain the goal. Students with planning difficulties may not start assignments in a timely fashion or may start projects without thinking through the materials or steps needed.

External Structuring, Accommodations, and Modifications

Provide examples of planning: It is often helpful to provide examples of how students might plan differently to complete the same task. In this way, Sample can see options for alternative methods. Students with difficulties planning may benefit from having a binder or cookbook of steps for common routines or assignments. They might have a section for approaches to specific types of math problems, writing assignments, or reading materials and can reference the plans as needed.

Model planning: Parent modeling is an important means of teaching good planning skills. Sample's parents can discuss plans for the day at the breakfast table or verbalize their thinking about how to approach a series of errands. The use of the student's planning guide for the parent's multistep activities may serve as a good model. Developing an overall plan for the day, week, month, and year with a calendar can also serve as a useful exercise.

Student-Focused Interventions

Practice goal setting: Involve Sample maximally in setting a goal for the activity or task. Encourage him to generate a prediction regarding how well he expects to do in completing the task or activity. Structure planning and organization efforts around the stated goal.

Involve student in planning: Active, maximal involvement of the student in the development of plans is important. The use of a planning guide may be necessary to reduce the organizational and working memory demands of this multistep process.

Verbalize planning strategies: Have Sample verbalize a plan of approach at the outset for any given task, whether it is an everyday chore or routine or an academic activity. The plan can

be broken down into a series of steps, arranged in sequential order, and written down as a bullet list. The plan can be guided interactively with his parent or his teacher to achieve sufficient detail and to increase the likelihood of success. Sample might be asked to develop more than one plan for a task or activity to increase his awareness of alternative approaches. For example, he might plan to approach a writing assignment by starting with the introductory paragraph but might also plan to start with a detailed outline and to write paragraphs for the body of the text first and then an introduction. It may be helpful to begin learning strategic planning by practicing with only a few steps at the outset and then gradually increasing the number of steps and the amount of detail.

Practice planning with familiar, everyday tasks: Strategic planning can be practiced with familiar, everyday tasks. Sample might develop a plan for completing familiar routines such as getting ready for school in a more efficient manner. Developing plans for meaningful, complex activities (e.g., his own birthday party, baking his favorite treat) provides inherent motivation for the child.

Teach use of timelines: Teach Sample to develop timelines for completing assignments, particularly long-term projects or term papers. Sample may need assistance in budgeting his time to complete each step or phase in larger projects or tasks. Break long-term assignments into sequential steps, with timelines for completion of each step and check-ins with the teacher to ensure that he is keeping pace with expectations.

Organization

Students who have difficulty organizing their thinking, behavior, or work may have difficulty grasping key points or the main idea of new information. They may show problems forming written or spoken communication and may struggle to keep their tasks and school work in order. They may have good ideas but be unsuccessful in expressing them and may feel overwhelmed by large tasks or amounts of information.

External Structuring, Accommodations, and Modifications

Preorganize new information: Present information in a well-organized manner at the outset. Students with difficulties grasping new concepts or the gist or framework of new material often do best when material is given in a structured fashion. Teachers that offer a higher degree of structure in their courses may be a better fit for Sample.

Provide school-to-home communication: A resource or special education teacher may need to serve as the communication facilitator between home and school to help Sample stay on track with his assignments. Often, communication can be accomplished via an assignment or planning notebook, but more direct communication via e-mail or phone can be helpful on a regular basis.

Provide extra books at home: Keeping an extra set of books at home can be a powerful tool for helping a child with organizational difficulties, as it alleviates a need to remember what books to bring back and forth and provides ready access to materials both at school and at home. Rather than relying entirely on having books at home, however, coaching the student in remembering materials, including books, to bring home can help develop better organizational habits.

Break down complex tasks into smaller steps: Worksheets or desk work may seem overwhelming for Sample, and he may need additional structure to get started. Worksheets can be separated into smaller problem sets, or divided on the page with a marker and prioritized for approach.

Work on complex tasks one step at a time: Given the particular difficulty managing complex, long-term assignments, students with organizational difficulties often benefit from working on only one task, or one step of a larger task, at a time. Tasks may need to be broken down into smaller steps to facilitate

organization and planning. Long-term assignments, such as term papers or projects, are often insurmountable for children with organization and planning difficulties. Because such tasks can feel overwhelming, Sample may not begin work until the night before the assignment is due. It may be necessary to break down longer assignments into smaller, sequential steps and to develop a timeline for completion of each step. At each step, it is important to review what has been accomplished and to plan for the next step.

Provide individualized strategy instruction with study skills classes: Study skills classes are often available in middle and high schools. Students with organizational difficulties should avail themselves of the opportunity to approach planning and organization as an academic subject. It is important that key concepts and methods be communicated with parents and teachers so that they can be practiced across all environments for consistency. Although study skills classes can provide important information to students about academically relevant organizational strategies, the student may need ongoing assistance with the executive application of these strategies. Thus, individual application of strategies with review, cuing, and generalization should be strongly considered.

Provide organization time at beginning and end of day: Sample may need extra organization time at the outset or the end of the day. He might review his assignment notebook or planner with his parents each morning and perhaps with a designated teacher at the end of the school day.

Provide supervision study supports: A supervised study hall can be an important tool for helping Sample keep pace with his work, particularly as he enters the middle and high school years. Organizational difficulties often do not become apparent or problematic until middle school, when the organizational demands increase and supports decrease. Many schools offer study halls with direct supervision for organization and content. Alternatively, having a study period at the end of the day in a resource room where access to a special education teacher is readily available can help Sample stay on track more successfully.

Work in small groups with peer models: Students with organizational difficulties can benefit from working in small

groups with more organized peers who serve as models.

Provide cross-age tutoring of organizational skills: Cross-age tutoring can be helpful as a means of modeling better organizational strategies for Sample. It is important to choose an older peer tutor carefully, considering the tutor's own organizational skills and the likelihood of he or she being a good fit with Sample.

Student-Focused Interventions

Teach pretask organizational strategies: Call to Sample's attention the structure of new information at the outset of a lesson or lecture. It may be helpful to provide an outline or list of major points prior to the lesson. Preview the organizational framework of new material to be learned in a bulleted or outline format to increase appreciation of the structure and enhance Sample's ability to learn associated details.

Teach posttask summarizing organizational strategies: Have Sample restate the overall concept and structure of the information or task following a lecture. This will provide an opportunity to ensure accurate understanding and to correct any misunderstanding.

Teach strategies for detecting organizational structure: As Sample becomes more aware of his difficulties grasping organization of new information, he may be able to learn to search for the organizational frameworks inherent in novel material. He might be taught to listen or look for the structure in a strategic manner.

Teach one generalizable organizational system to start: Many teachers prefer different organizational and planning systems. This can be confusing for children with organizational difficulties. It is best for Sample to learn one system that is sufficiently flexible to be used for all or most subjects and can be maintained or expanded as needed over the years. It is essential that the system or the book fit well with the student's style and needs. Sample might enjoy choosing a planner book with which he feels comfortable. Size and appearance are important first considerations. Layout of the daily pages (e.g., columns, one page per day, one week at a time) also needs to fit with Sample's preferences and organizational needs.

Teach the use of organizational systems and materials: Students with difficulties keeping track of their assignments may benefit

from learning to use an organizational system, schedule book, or daily planner. Use of such a system can help facilitate many aspects of organization and planning but requires effort on the part of the student, parents, and teachers.

Teach flexible use of organizational strategies: Flexibility is the key to a successful organizational notebook or planner. Ring-bound books that allow addition of pages or features (e.g., sticky note pads) and removal of unnecessary pages are often best. Essential information can be written or typed and placed in a plastic sheet protector at the front of the book for quick access. This might include important phone numbers, locker combination, and overall schedule. There are many options for ways to organize material including by date, by subject, or by priority. Deciding on one method and devising a system, such as separate color-coded tabs for each subject, is important.

Access peers for assistance: Often students with organizational difficulties are inconsistent in completing homework or turning in completed work. This may be a problem of remembering assignments or writing them down accurately. It may be helpful to maintain a list of students in each subject with phone numbers that Sample can call if he forgets an assignment.

Tracking work with organizational notebook: An assignment sheet or organizational notebook can serve as an essential tool in helping Sample keep on track with his work. Before leaving each class, Sample might show his teacher what he has written down as an assignment. The teacher can initial the assignment to indicate that it is correct and complete. Sample's parents can then review the assignment with Sample, help him plan an approach, and initial that each assignment has been completed. Should Sample not turn in his work, this communication device can uncover the problem more quickly.

Teach organizational strategies for reading: Specific strategic approaches for reading can be taught to facilitate Sample's efficiency in learning new material. For example, Sample might learn to first examine the chapter outline or list of headings and then read the chapter summary and focus questions before approaching the body of the text.

Teach organizational strategies for writing: Strategic approaches to structured writing can be helpful for students like Sample who

have difficulties organizing their written output. A cookbook of methods for responding to basic types of writing tasks (e.g., short answer, short essay, expository paper) can be developed with Sample. He might need to learn what goes in the first sentence or paragraph, what goes in the second, and so on.

Teach organizational strategies for note taking: Outlining and note-taking skills can be taught directly in a study skills course or in a resource room. These are essential skills that Sample will need to practice for future academic success.

Task-Monitoring

Task-monitoring refers to a student's ability to attend to his own work output. Students with difficulties in this area often miss minor errors, such as math operation signs, spelling errors, or details in text. Such students often make minor errors that interfere with showing their actual abilities.

External Structuring, Accommodations, and Modifications

Teach reviewing and checking: Often, children with difficulties monitoring their output do not recognize their own errors. It may be helpful to build in editing or reviewing as an integral part of every task to increase error recognition and correction. Provide Sample with opportunities for self-monitoring his task performance and social behavior. Provide cues, as subtly as possible, if necessary.

Set accuracy goals: Setting goals for accuracy rather than speed can help increase attention to errors. Reward Sample for accuracy to support continued focus on monitoring his work.

Student-Focused Interventions

Increase self-awareness: Ask Sample to predict how well he will do on a particular task and then compare his prediction with the actual outcome to increase his awareness of his strengths and weaknesses. Encourage Sample to chart his performance or behavior to provide a tangible record of activity for ongoing monitoring. Encourage Sample to identify his strengths and weaknesses for specific tasks or activities. Provide guided constructive feedback (teacher, parent, and peer) to increase self-awareness of strengths and needs for similar future activities.

Use verbal mediation: Verbal mediation can be a useful tool for helping children like Sample direct their focus to their own behavior or work. Sample might benefit from talking through a task, as this can increase attention to the task and, secondarily, error recognition. Model, cue, and encourage the use of the phrases "What works?" and "What doesn't work?" as self-monitoring tools.

Organization of Materials

Some students have difficulty maintaining order or organizing their environment and belongings, such as their room, backpack, desk, and homework papers. This can interfere with their ability to function efficiently when they do not have their materials readily available. Teaching students to organize their belongings

can be a useful, concrete tool for facilitating better performance in school and reducing stress at home.

External Structuring, Accommodations, and Modifications

Increase structure: Children with difficulty maintaining reasonable organization of their environment and materials may benefit from increased external structure for organization and from the development of good organizational routines in general.

Provide materials at home and school: Having an extra set of books at home can be a simple yet effective means of ensuring that Sample has the required materials in both places for completing assignments. Rather than rely entirely on the extra set of books at home, however, it may be helpful to coach Sample in bringing the correct books home each day.

Use checklists to support routines: Some children can benefit from having a checklist of needed materials to review on a daily basis before leaving home for school or at the end of the school day.

Use external organization systems: Some children benefit from having external tools for organization, such as backpacks, pencil cases, color-coding systems, and organizers. It is important that the materials be to Sample's liking so that he will be more likely to use them.

Model organizational routines: Parents and teachers can model good organizational habits or routines by explicitly calling his attention to their organizing behavior. Sample's parents might talk aloud, describing their goal and the process, while organizing a desk or room. To facilitate development of good organizational habits, Sample might review his plans for the day with his parents each morning, the associated materials needed to accomplish his goals, and the organization of these materials in his backpack or desk. Similarly, he might have some organization time at the end of the school day to arrange his materials.

Student-Focused Interventions

Coach setting goals and developing plans for organization: Often children with difficulties organizing their environment or materials have difficulty knowing where to begin or how to structure the process. It can be helpful in approaching an organizational task to ask him about his goal and plan of

approach, and to provide appropriate guided support as needed.

Develop Routines for Organizing: Developing routines for tasks can help alleviate the demand for executive functions. Teaching Sample a routine for organizing his materials at the beginning or end of the day, or for organizing his room, removes the executive demand and can facilitate better organization.

To facilitate development of good organizational routines, Sample might, with his parents, review goals and plans for the day, develop and organize a list of materials needed to accomplish the goals, and the review materials in his backpack.

Taking some "organization time" at the beginning and end of the school day to collect and arrange materials can help him stay on top of things and head off or reduce the problem of disorganization.

General Intervention Framework

Introduction

Given the unique nature of the executive functions in playing a supervisory or conductor role in terms of guiding and regulating behavior, emotion, and thought, an approach to intervention can be considered globally. The general principles of many intervention models for enhancing executive functions are based largely on the pioneering work of Mark Ylvisaker and colleagues (Ylvisaker, 1998; Ylvisaker & Feeney, 1998; Ylvisaker, Szekeres, & Feeney, 1998), who advocate for positive everyday routines (i.e., make behaviors routines so that they are less demanding of executive functions) in a contextualized (i.e., in the child's real world so that it is meaningful), collaborative (i.e., together with, not for, the student), assessment and treatment approach. These authors relied on a coaching model of intervention now widely regarded as an effective approach.

Goal of Intervention

The ultimate goal of executive function intervention is to establish regular behavioral and cognitive routines to maximize independent, goal-oriented problem solving. Good outcomes might include demonstrating behavioral or emotional control, initiating activity, engaging in planful and well-organized problem solving, or monitoring one's own social success or problem-solving outcomes.

In structuring an executive function intervention, we advocate the use of everyday executive routines in a meaningful, real-world everyday context as opposed to teaching specific skills out of context. Given the difficulties with working memory seen in many individuals with executive dysfunction, using a written copy of the multistep executive routine is often helpful. The student should become increasingly more active in formulating and carrying out the plans and reviewing his performance, thus promoting internal executive control. The goal of executive function intervention is maximal independence, which necessitates the active involvement of the student in each phase via a coaching model.

Develop Problem-Solving Routines

A critical feature of any intervention is to establish external environmental conditions that will enable the student to develop and make automatic or habitual, behavioral, and cognitive routines. Making an approach to problem solving a routine reduces the demand on executive functions. For individuals just starting to learn executive control behaviors, for young children, or for individuals with extreme executive dysfunction, the focus of intervention may need to be more externalized or environmental (i.e., to organize and structure the external environment and to organize and provide cuing for behavioral strategies and routines). Many such individuals do not have the internal

resources available to initiate behaviors without significant individualized structuring, cuing, and reinforcement. They often need help to know when and how to apply the appropriate problem-solving behavioral routine. Direct rewards and positive incentives are often necessary to motivate the student to attend to and practice new behavioral routines. Once these behavioral routines are established, positive cuing becomes the crucial factor; cuing can then be faded as autonomy increases. Several basic tenets are advocated, including the following:

- Teach explicit, goal-directed, problem-solving processes.

- Implement processes within positive, meaningful everyday routines.

- Provide real-world relevance and meaning.

- Involve everyday people (parents, teachers, and peers) as models and coaches.

- Include the student in the design of the intervention as much as possible.

For example, a student who does not show independent organization of writing might be taught a structured approach to developing a piece of writing that is within his grasp. Each day, he could be coached by teachers, aides, or parents to use this method to complete a homework assignment more successfully and efficiently, providing relevance and value that becomes self-reinforcing.

Provide Structure and Support

Many students with executive function difficulties do not yet possess the internalized routines needed for well-regulated problem solving. Therefore, intervention often begins from an external support position with active modeling, coaching, and guidance by important everyday people, which gradually transitions into an internal process as the direct coaching and cuing is faded. The general intervention process includes the following:

- Externally model multistep problem-solving (i.e., executive) routines.

- Externally guide with the development of everyday executive routines.

- Practice using executive routines in everyday situations.

- Fade external support and cue internal generation and use of executive routines.

- Coach for generalization to new situations or new coaches.

- Provide feedback throughout the process.

Intervene Across Activities

It is possible to have an executive system focus in any and all activities, including classroom, therapy activities, social and recreational, and daily home-living activities.

Furthermore, this may take little time or effort once parents and school personnel develop coaching habits. For example, any activity can include:

♦ Goal setting: What do I need to accomplish?

♦ Self-awareness of strengths and weaknesses: How easy or difficult is this task or goal?

♦ Organization and planning: What materials do we need? Who will do what? In what order do we need to do these things? How long will it take?

♦ Flexibility and strategy use: When or if a problem arises, what other ways should I think about reaching the goal? Should I ask for assistance?

♦ Monitoring: How did I do?

♦ Summarizing: What worked and what didn't work? What was easy and what was difficult, and what will I do next time?

Example of an Executive Function Intervention System

The use of a general executive problem-solving routine that promotes (1) systematic goal definition, (2) planning, (3) action, (4) self-monitoring and evaluating, and (5) flexible, strategic adjustment of plans and actions may serve as a general framework or vehicle within which specific executive function intervention methods and strategies can be incorporated. The goal-plan-do-review (GPDR) method is one such system (Ylvisaker, Szkeres, et al., 1998). Several goal-oriented problem-solving methods may also serve as models (e.g., Braga et al., 2012; Chan & Fong, 2011; Kenworthy et al., Levine et al., 2000; Marlowe, 2001; Wade, Wolfe, Brown, & Pestian, 2005; Wade, Wolfe, & Pestian, 2004). The complexity of the problem-solving routine should be adapted to the competency of the student. The GPDR system is presented in Figure 1.

GOAL

What do I want to accomplish?

PLAN

How am I going to accomplish my goal?

MATERIALS/EQUIPMENT	STEPS/ASSIGNMENTS
1.	1.
2.	2.
3.	3.

PREDICTION

How well will I do? How much will I get done?

Self-Rating	1	2	3	4	5	6	7	8	9	10
Other Rating	1	2	3	4	5	6	7	8	9	10

DO

REVIEW

How did I do?

Self-Rating	1	2	3	4	5	6	7	8	9	10
Other Rating	1	2	3	4	5	6	7	8	9	10

What worked?	What didn't work?
1.	1.
2.	2.
3.	3.

What will I try differently next time?

Note: From "Cognitive Rehabilitation: Executive Functions," by M. Ylvisaker, S. Szekeres, and T. Feeney, in *Traumatic Brain Injury Rehabilitation: Children and Adolescents* (2nd ed., p. 244), by M. Ylvisaker (Ed.), 1998, Boston: Butterworth-Heinemann. Copyright ©1998 by Butterworth-Heinemann. Adapted with permission.

Figure 1. Goal-plan-do-review problem-solving system.

Application of Executive Function Interventions to the IEP/504 Process

For educational purposes, the goals for promoting executive system functioning are interrelated with all of the academic subjects and social and communication situations if they meet the following conditions (as most will): (1) novel learning or processing tasks; (2) necessitating goal-oriented performance; (3) requiring a delayed response; and (4) involving multiple steps over a period of time. Therefore, for the student with executive and organizational deficits, the executive and organizational strategies are important to link directly with each academic content area (e.g., reading, writing, math, science).

One's executive and organizational skills are increasingly in demand as the curriculum in the higher grades becomes more complex. The relationship between these two factors is direct (i.e., greater complexity of learning necessitates greater use of efficient executive skills). The curriculum in the later elementary grades and into middle and high school requires the student to derive information from increasingly complex text, reproduce this information in appropriately organized written form, and do so in an increasingly independent manner. Thus, tasks for which students may have difficulty are those that (1) are long term (requiring planning); (2) require organization of a great many pieces of detailed information (e.g., a specific multistep task); and (3) are to be completed in a certain time frame (requiring time management).

It is important to incorporate active educational interventions into the translation of executive function interventions within the context of the individualized education plan (IEP) or the 504 plan. A set of sample IEP/504 plan goals and objectives follows. Importantly, rather than specific academic curriculum content, these goals focus on the development of a learning or problem-solving process designed to enhance the efficient learning and memory of academic information. Implementation of the methods to achieve these unique, nontraditional learning process goals will likely require additional training and guidance of school personnel. The emphasis of support should be on teaching, modeling, and cuing an approach to self-management of learning through active planning, organization, and monitoring of work.

Thus, the overarching, long-term goal for the student could be stated as follows: "The student will independently employ a systematic learning and problem-solving method (e.g., goal-plan-do-review [GPDR] system) for tasks that involve multiple steps or require long-term planning." Domain-specific goals and objectives can then be articulated. For students who are younger or who have more severe executive dysfunction, the objectives might be prefaced with: "With directed assistance, Sample will ...."

Goal Setting

(1) Sample will participate with teachers in setting instructional goals. For example, "I want to be able to… read this book; write this paragraph."

(2) Sample will accurately predict how effectively he will accomplish a task. For example, he will accurately predict whether or not he will be able to complete a task; predict his grade on tests; predict how many problems he will be able to complete in a specific time period.

Planning

(1) Given a routine (e.g., complete a sheet of math problems, clean his room), Sample will indicate what steps or items are needed and the order in which events will proceed.

(2) Given a selection of three actions necessary for an instructional session, Sample will indicate their order, create a plan on paper, and follow the plan.

(3) Given a task that he correctly identifies as difficult for him, Sample will create a plan for accomplishing the task.

(4) Having failed to achieve a predicted grade on a test, Sample will create a plan for improving performance for the next test.

Organizing

(1) Sample will follow or create a system for organizing personal items in his locker.

(2) Sample will select and use a system to organize his assignments and other school work.

(3) Given a complex task, Sample will organize the task on paper, including the materials needed, the steps to accomplish the task, and a time frame for completion.

(4) Sample will prepare an organized outline before proceeding with writing projects.

Self-Monitoring, Self-Evaluating	(1) Sample will keep a journal in which he records his plans and predictions for success and also records his actual level of performance and its relation to his predictions.
	(2) Sample will identify errors in his work without teacher assistance.
	(3) Sample's rating of his performance on a 10-point scale will be within 1 point of the teacher's rating.
Self-Awareness	1) Sample will accurately identify tasks that are easy and difficult for him.
	(2) Sample will accurately identify his strengths and weaknesses.
	(3) Sample will explain why some tasks are easy or difficult for him.
Self-Initiating	(1) When Sample does not know what to do, he will ask the teacher.
	(2) With regular or minimal prompting from the teacher, assistant, or parent, Sample will begin his assigned tasks, initiate work on his plan, and so forth.

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BRIEF®2 Parent Form Item Response Table

Item	Response	Item	Response	Item	Response
1	Often	22	Often	43	Often
2	Never	23	Often	44	Often
3	Often	24	Often	45	Sometimes
4	Often	25	Sometimes	46	Often
5	Often	26	Sometimes	47	Often
6	Often	27	Sometimes	48	Often
7	Often	28	Sometimes	49	Never
8	Often	29	Often	50	Often
9	Often	30	Sometimes	51	Sometimes
10	Often	31	Never	52	Often
11	Never	32	Often	53	Often
12	Often	33	Often	54	Never
13	Often	34	Sometimes	55	Often
14	Sometimes	35	Often	56	Often
15	Often	36	Never	57	Often
16	Often	37	Sometimes	58	Often
17	Sometimes	38	Sometimes	59	Often
18	Never	39	Often	60	Never
19	Often	40	Often	61	Often
20	Sometimes	41	Sometimes	62	Never
21	Sometimes	42	Often	63	Often

*** End of Report ***