Cognitive Control Therapy with Children and Adolescents

Therapy with the Focal Attention Cognitive Control

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The focal attention cognitive control concerns scanning information to perceive its properties and attributes. Two programs are designed to restructure and rehabilitate this mechanism so that it functions efficiently when scanning external information as it is, as well as when information is transformed with symbols and fantasies within the process of symbolic functioning. One program provides the child with experiences in tracking moving information (passive scanning), a developmentally early part of the focal attention process, the other provides the child with experiences in actively scanning stationary information.

To benefit from these programs the child should have achieved, either in the course of development or with the assistance of the program described in Chapter 5, the ability to use the body and its movements as vehicles for communicating symbols and a stage-adequate sense of body self.

Although children for whom these programs are intended do not present hyperactivity as a major symptom, it should not be presumed that the child has developed adequately the body and its movements as vehicles for symbolic functioning. Therefore, some diagnostic assessment should be made

of body ego-tempo regulation, and, if indicated, treatment with this control should be administered before the programs described here are introduced.

Relative to therapy in body ego-tempo regulation, the experiences provided by the programs in focal attention represent a major shift away from the body as a source of information. In developmental terms, this represents a shift from the use of proximal to the use of distal sources of information.

PROGRAM 2A: *FOLLOW ME*

Purpose: To provide experiences directing and sustaining attention on information that is moving; to develop the capacity for efficient, passive scanning during the process of symbolic functioning.

Materials: Various objects presented as moving targets. Examples of more neutral objects: wooden, geometric cutouts; beams from a flashlight; marbles; individual letters or signs printed on cardboard cutouts; recordings of tone beeps. Examples of objects with conventional meanings: toy cars, fire engines, police cruisers; animal and human toy figures; a pair of scissors; a knife; words printed on cardboard cutouts such as: *spider, mother, dad, blood;* flashlight projecting images of spiders; airplanes; recordings of various sounds (e.g., cars traveling, sirens, weapons firing); plastic figures of insects and mythical outer-space characters.

Introduction and General Procedure

The child is asked to orient her eyes and body in order to follow a stimulus moved through space by the therapist. For convenience the stimulus the child is asked to track is referred to as a target. The targets used require primarily visual perception but also auditory perception. Visual targets are presented first, since the visual mode is dominant, followed by auditory targets.

Seven steps are followed as outlined in Table 6.1. With the first two, the child tracks moving targets that are neutral and, therefore, likely to be perceived as they are, without images or fantasies aroused (e.g., a wooden square). The mode the child uses to track the stimulus is systematically varied. The child tracks the moving target walking alongside of it, then while standing or sitting and by moving only her head, and then while sitting and holding her head still, by moving only her eyes. With Step 1, familiar targets travel a relatively short distance and with Step 2, ambiguous targets, a longer distance.

With Step 3 the targets arouse images and fantasies. In this way the child tracks information while simultaneously experiencing and balancing affects and fantasies. The first targets used are less provocative (e.g., doll figure of a workman) and later more provocative (e.g., doll figure of a policeman or of a wolf). As discussed below, provocative targets are selected

by the therapist according to the child's history, and the child selects targets that are especially potent in arousing fantasies and anxieties. When tracking these targets, the child may spontaneously convey a fantasy being experienced, but at this point these fantasies are only acknowledged. During this step, the focus is to provide the child with experiences in tracking while balancing fantasies and affects, a prerequisite for efficiently scanning in the service of symbolic functioning.

The next steps imbed the focal attention process within symbolic functioning. The child actively construes the stimulus being tracked as something other than what it is (Step 4), and, following the method of directed fantasy discussed in Chapter 4, cultivates a fantasy situation within which targets are tracked. In the last step the child initiates and directs increasingly elaborated fantasy situations within which tracking activity is emphasized.

Table 6.1. Steps in Therapy with Focal Attention-Passive Scanning: Follow Me

Step 1.	Child tracks neutral, concrete, and familiar targets, perceived as they are, and moved through short distances by therapist	
	Part A	Child walks alongside moving target while tracking target
Part B	Child stands and/or sits and tracks moving target	
Part C	Child sits, holds head still, and tracks moving target with eyes	
Part D	Therapist and child evaluate child's tracking behavior	

Step 2.	Child tracks neutral/ambiguous, tangible and intangible targets, perceived as they are, and moved through long distances by therapist
Parts A-D	Same as Step 1
Step 3.	Child tracks targets that therapist continuously changes; Child required to anticipate information and shift points of view
Parts A-D	Same as Step 1
Step 4.	Child tracks targets that stimulate images, fantasies, emotions and that are moved through short and long distances by therapist
Parts A-D	Same as Step 1
Step 5.	Child tracks targets that are construed as something other than what they are and that are moved through short and long distances by therapist
Parts A-D Same as Step 1	
Part E Child and therapist evaluate whether symbols constructed are conventional or personal and whether they fit attributes of the target	
Step 6.	Child tracks targets that are construed as something other than what they are, that are moved through short and long distances by therapist, while child fantasizes a situation and an identity
Parts A-D Same as Step 5	
Step 7.	Child tracks targets that are construed as something other than what they are while enacting a fantasy directed by therapist. The distance tracked and the mode of tracking are not restricted
Part A	Same as Step 5, Part D

When administering the program to an outer-oriented child, the steps are followed in the sequence described. In this way the child initially tracks information as it is, without the participation of fantasies against which cognition is defended and later develops the capacity to track information

that arouses images and emotions and that is transformed by fantasy.

With the inner-oriented child the reverse sequence is followed. Beginning with Step 7, the therapist attempts to enter the child's fantasy world through tracking activity. As an alliance is established the therapist helps the child to track information that is construed in terms of conventional as well as personal symbols and to appreciate the difference. And, in the final steps the child develops the capacity to sustain attention on moving targets, perceived as they are without the interference of fantasies.

Once the outer-oriented child achieves Step 7, and the inner-oriented child Step 1, both children frequently engage in activities in which flexible tracking coordinates the requirements of stimuli and fantasies, shifting from one to the other. Passive scanning is now available as a tool to register information in everyday living as well as to serve the process of non-directed verbal/play therapy if indicated.

Throughout, the therapist is alert for opportunities to teach the child to observe and evaluate her tracking behaviors. For example, a child directs a fleeting glance at the moving target, looks away for several seconds, redirects attention at the target, and so on. Another may look away and appear "occupied," or stare out the window, or look at a picture on the wall; another may appear to be orienting himself and his gaze at the moving target but

simultaneously vigorously scratch his legs. When such behaviors are noted, the therapist asks the child, "While you were looking at the (object), did you notice anything about the way you were looking?" As might be expected, the responses of children with dysfunctions in focal attention frequently reflect no awareness of such behaviors (e.g., "My eyes were hurting"; "I was looking hard"; "I was looking funny"; "The thing was flying through the air.").

Initially the therapist accepts such responses and repeats the inquiry at other appropriate moments. Also, when it is appropriate, the therapist offers observations, for example, "While you were looking at (target) you scratched yourself. Do you remember doing that?" Initially the therapist draws attention to large behaviors (e.g., walking away, moving about restlessly) and gradually to smaller ones (e.g., scratching an arm). As the therapist requests observation and offers observations, the child gradually becomes more observant and aware of his tracking behaviors.

When the child reaches those steps that require imaging the target, the therapist introduces the child to evaluating the degree to which the image fits the attributes of the target and whether the image is more conventional or personal. For example, while construing a paper clip, during Step 4, a child imaged it as a "key ring," and later as "something to stick in your nose; my brother did." Following the guidelines presented in Chapter 4, the child developed an understanding that the images of a key ring and something in

your nose both fit the properties of a paper clip, but the first is a conventional and the second a personal symbol.

The age and developmental status of a child should be kept in mind when engaging the child in self-observation and evaluation. A 5-year-old would not be expected to sustain attention on a moving target over as great a distance as would be expected of a 12-year-old. With a 5-year-old attention is drawn primarily to the most blatant interruptions of the tracking process (e.g., the child walks away and picks up an item off the floor). With the 12-year-old, attention is drawn to more subtle behaviors (e.g., looking away for moments).

A word about the mechanics of presenting moving targets. Of course, the therapist can hold the target, stretch his/her arm out, and walk across the room for some distance. The therapist can also stand and move the target from right to left and vice versa, crossing the midline. In addition, we have found it useful to hang targets at the end of a long stick which the therapist holds while walking. This method is desirable for children who, when tracking, are disrupted by the proximity of the therapist's body (e.g., running away, becoming very sleepy).

Introducing the Child to the Program

The Outer-Oriented Child. Say, "Mary, we are going to play a game called

Follow Me. What am I holding in my hand? (Child responds.) That's right, it's a wooden square. I am going to move it through the air. You walk along and follow it; try to keep your eyes on it as long as it is moving."

The therapist moves the target 4 or 5 feet. Then ask the child to move the target, and follow it, making appropriate comments such as, "Do you see, Mary, I am following the square, and I keep my eyes on it all the time while you move it?" This is repeated as needed to insure that the child understands the task.

The lnner-Oriented Child. Observe the child's behavior during the first session (or several sessions if the child is severely withdrawn) and note items the child handles more than others. Frequently these children bring some item of their own to the session which may also be used as a target. The therapist takes the item and says, "Mary, follow this as it goes through the air. Keep your eyes on it as you follow it." After the child engages the task for a few seconds the therapist says, "That's fine. Now you hold it and move it through the air, and I'll follow it. See, I keep my eyes on it all the time while I'm following it." This is repeated as often as the child's general behavior permits. Severely inner-oriented children may engage the therapist in this task only once in a session, refusing other invitations, and occupying themselves with some "private" activity. In such cases, while the therapist may relate to the child's private activity and to the child, the therapist

remains patient and ever alert for opportunities to enter the child's world through the process of tracking. As these interactions increase, the therapist becomes familiar with ingredients in the child's private world and uses these to invent ways in which the process of tracking can be performed within that world.

Specific Instructions

Step 1. The goal is to develop the child's ability to sustain attention on targets moving through a short distance and perceived as they are. The task is made more complex by systematically varying the mode of tracking, the content of the target, and the pathway through which it moves. Each of these dimensions is varied within each part and from one to another. With Part A the child tracks a large, familiar target (e.g., wooden cube) which travels a linear course, by walking alongside of it. Gradually the size of the target is decreased (e.g., a marble), and the pathway it travels becomes "wavy" and then takes many complex turns. With Part B the sequence from large to small targets and from linear to curvilinear pathways is repeated, but now the child sits or stands and follows the target by moving only the head and eyes. When appropriate competence is achieved the child sits holding his head still and tracks the target by moving only his eyes (Part C).

In another variation of these techniques, a child may be treated more

effectively if the same simple target (wooden cube) is used, and Parts A through C are followed. Then a slightly more complex target (marble) is used repeating the same parts.

If a child shows extreme difficulty tracking a target with only the eyes, keeping the body and head stationary, have the child straddle a chair backwards and rest her chin on a pillow placed on the back of the chair. This technique is usually effective in helping a child keep her head oriented forward while following the target only with her eyes.

While some children may not require large targets or tracking by walking alongside the target, it is usually best if a child receives at least a few trials, if only to orient the child to the task and to observe the child's unique tracking behavior. Conversely, because some young children, or those severely dysfunctional in tracking, become stressed when tracking very small targets, these would not be used.

The following examples of targets are intended to encourage therapists to invent targets that meet the special needs of a child: (a) lids of cooking pots, 12, 8, 6, and 4 inches in diameter, concluding with a circular cutout 1 inch in diameter; (b) a wooden cube is attached to a long stick. One side of the cube is painted black, another white, another half black and half white, and another in a 2 x 2 inch black and white checkerboard. The therapist rotates

the cube while moving it through a pathway, presenting one or another side, and the child calls out "white," "black," "half and half," depending on the face of the cube exposed. In the early stages, this method helps to determine whether the child is watching and "sees" the target.

Step 2. Use the methods of the previous step but now present targets that are smaller, increasingly ambiguous, less familiar, and/or intangible. Examples of less familiar, tangible targets are ambiguous line drawings on 3x5 inch cards, pieces of metal from small motors, hair dryers, etc. Almost any piece of "junk" will do. Examples of intangible targets include a beam of light from a flashlight and recordings of tone beeps, ocean waves, or whistles. To present the latter, a cassette player or the microphone is moved through space. To maximize the sound as the target, rather than the microphone, the latter could be covered with gray cloth. The therapist, with electronic aptitude, could set up a series of speakers and a switch system that passes the recorded sound from one speaker to another, generating a stimulus of sound traveling through space. There is another, less complicated way of moving sound across space. The cassette player can be attached to a ring (or some other suitable fixture) located on a rope that is strung across the room. By pulling a string attached to the ring the cassette player is moved across space.

Step 3. The child tracks information while at the same time shifting points of view and anticipating information. The target is a six-sided

cardboard or wooden block, attached to a stick, and containing various stimuli on the sides of the cube (e.g., numbers, letters, words, silhouettes of animals, and human figures). Stickers are ideal since they can easily be fixed to the block and then removed and replaced with others. As the block is moved through space, the therapist rotates the stick and therefore the cube, presenting one side and then another at uneven intervals. While tracking the block, the child calls out the name of the stimulus presented.

Since the goal is to provide the child with experience shifting among points of view while tracking, the therapist must be creative in constructing stimuli that fit the child's cognitive abilities and that require the child to shift without notice; for example, from the point of view of numbers, to types of animals, to profiles of famous presidents. In another approach one block could contain various living things and the child could call out whether the side displayed presents a mammal, an insect, a bird, and so on.

In the latter phases of this technique, the therapist presents stimuli that are symbols of some aspect of the child's difficulty and therefore bridges the next step, which emphasizes tracking targets that arouse fantasies and emotions. For example, if a child characteristically gets lost in fantasies of warfare, the therapist uses pictures of weapons as targets.

Step 4. This step emphasizes more formally the experience of tracking

information while balancing emotions and fantasies. To select appropriate targets present the child with a wide array of objects. Examples are: doll figures of animals (e.g., wolf, alligator, snake); humans (e.g., policeman, worker, father, mother, infant); rubber figures (spiders, insects, monsters); a jackknife; a pair of scissors; an addition problem printed on a 3 x 5 inch card. Sound recordings that can be used as targets include: a baby crying; the siren of a fire engine; voices of children in a playground; and others readily obtained from sound effects records. Ask the child to share thoughts and feelings about each—those she likes or dislikes; those that make her feel happy, nervous, scared; those that make her "think of angry things or bad things." The child could also be encouraged to bring items into the office.

In addition, on the basis of an understanding of the child's difficulties, history, and behavior in therapy to this point, the therapist selects items as targets that are likely to arouse fantasies and emotions. For example, one child was suspended from school because he had carved "designs" into chairs and desks. At one point in this step, a jackknife (provided by the therapist) was used as a target. Another child focused much of his rage on an infant sibling so that a small infant doll and a picture of an infant nursing were used. Because a child had difficulty eating, frequently refusing food, pictures of food and toy replicas of food were used as targets.

The child tracks the targets selected following the same approach

described in Step 1. Say, "Now I am going to move this (baby; jackknife; hamburger) through space. Try to follow it like the other things you followed. Let's see how you follow it." In general, the therapist follows a sequence presenting less provocative targets first, then more provocative ones, and reserving for the last phase those targets that hold a special connection with some current difficulty for the child (e.g., a jackknife for the child described above who carved school furniture).

During these trials, the therapist has the opportunity to help the child evaluate her tracking behavior comparatively by relating observations made with these emotionally arousing targets with observations made of previous, more neutral targets. During these evaluations the therapist begins to teach the child to observe how tracking information varies as the emotions/fantasies aroused by the information vary.

When tracking these targets, a child may make spontaneous comments, describing some recent event, or may express some fantasy. For example, while tracking a wolf puppet, one child exclaimed, "Watch out, he's going to bite!" While tracking an addition problem, another child exclaimed, "I hate math! Mr. (math teacher) is a (expletive deleted)." When this happens the therapist helps the child stick with the tracking activity. The therapist does not explore the fantasy or issue expressed. Rather, he reserves it for a later phase in therapy. For example, in response to the child who exclaimed that

the wolf might bite, the therapist said, "Keep your eyes on him, Jimmy; let's make sure we know where he moves to so he won't come after us." In addition, this child became more restless and crouched, as if in a posture of vigilance. The therapist invited the child to creep along, tracking the wolf puppet "so you can watch his every move and be on guard."

Step 5. The process of tracking is embedded into the process of transforming information and symbolic functioning. To accomplish this the therapist uses as targets various cardboard cutouts or clay figures (much like 3-D inkblots) that vary in ambiguity, while at the same time lending themselves to being transformed. For example, a cutout or clay figure could lend itself to being construed as a "worm" or a "snake" or a "twisted stick." While another object might lend itself to being construed as a "bagel," a "dog's turd," or "a coil of rope."

The therapist says, "Mary, now I'm going to hold up something for you to follow, but as I move it tell me what it could be—what it reminds you of." Once the child has produced an image, ask the child to produce another, when appropriate. Repeated trials are administered, varying the targets used, and the distance and course of the pathway traveled by the target as outlined in Steps 1 through 3.

In addition to evaluating the tracking behavior displayed, the child and

therapist also evaluate the degree of fit between the image/symbol produced and the physical attributes (form) of the target and whether the image is a conventional or a personal one.

Step 6. Embedding the tracking process within symbolic functioning is extended with this step. In addition to construing a target as something other than what it is, the child imagines a scene and assumes a pretend role within that scene and in terms of the construed target. Here the child may spend 15 minutes or a whole session with one target, scene, and role. Present the child with an ambiguous target and say, "This time I want you to imagine first what this could be or what it reminds you of." To illustrate, let us assume the child answers, "A snake." The therapist then says, "Fine. Now, think of a place where we could be and where the snake could be." The child responds, "The zoo; it's in a cage in the zoo." The therapist continues, "That's fine. Now pretend you are someone in that zoo with the cage and the snake." The child responds, "The zoo guy getting ready to feed it." The therapist asks, "What happens?" The child responds, "The zoo guy goes into the cage." The therapist continues in this way helping the child elaborate the scene and theme as much as possible. When the setting, role, and theme are established, the therapist says, "O.K., let's pretend the snake is moving around in the cage. You be the zoo guy and keep your eyes on him. Follow him carefully as you get ready to give him food. Let's make this (wooden cube) the food."

The therapist should look for opportunities within the imagined scene created by the child to incorporate dimensions used in other steps, such as moving the target through increasingly long distances that are linear and curvilinear, and varying the mode of tracking. As an example of the latter, after the child enacts walking around the cage while keeping his eyes on the snake, the therapist could direct the child to follow the target only with his eyes, "Let's say you came out of the cage and stood between two bars so your head and body are still and you watch the snake with your eyes to make sure he gets the food."

Step 7. With this step the treatment process takes on aspects of the form of "free play" in which the child images a succession of scenes and a number of objects, persons, and animals. These scenes may be unrelated or they may become integrated into a theme. However, unlike free play, the therapist emphasizes within each scene and theme the process of tracking moving information. For example, one child centered a series of scenes on imagined warfare: In one scene the child tracked a large radar screen for enemy rockets (the therapist moved wooden cutouts through a large frame designated by the child); in another the child was in a field tracking the movements of enemy tanks. The therapist should be active helping the child create scenes that lend themselves to experiences with tracking moving information.

PROGRAM 2B: WHICH IS BIG? WHICH IS SMALL?

Purpose: To provide experiences actively and systematically scanning information; to develop the capacity for efficient active scanning during the process of symbolic functioning.

Materials: Wooden rods varying in length from 4 to 12 inches; clay; glasses containing water and varying in diameter and height; dishes containing water in varying depths and diameter; various materials that can represent differences in number, weight, density, texture (e.g., marbles, paper clips, balls made of varying materials).

Introduction and General Procedure

Throughout this program the child is asked to scan actively and to compare a series of two sets of information that vary in terms of one or more dimensions (e.g., height, number, weight, volume, with the left-right location of the pair randomized). When related to passive scanning (tracking) described above, the tasks described here require focal attention functioning at higher developmental levels. The aim then is not to train the child to estimate accurately the relative heights of two rods, for example, but to use the task of comparing rods as a way of promoting vigorous, systematic, and broad scanning.

The seven steps that make up the program, outlined in Table 6.2, parallel those of the preceding program. With the first two, the child actively

scans and compares sets of neutral information that are not likely to arouse fantasies and emotions. Further, the tasks require increasingly more vigorous and active scanning as the distance between the two sets of information is increased and as the difference between them, reflected in some attribute, is decreased.

Table 6.2. Steps in Therapy with Focal Attention-Active Scanning: Which Is Big? Which is Small?

Step 1.	Child scans and compares two sets of neutral, familiar information that vary in terms of one or more dimensions
Part A	Therapist locates two sets near together then increasingly further apart
Part B	Therapist presents two different sets and then increasingly more similar ones
Part C	Therapist does not restrict body movements while child scans and then gradually requires head and body to be stationary
Part D	Therapist does not restrict time child scans and then gradually restricts time
Part E	Therapist and child evaluate the child's scanning behavior
Step 2.	Child scans and compares two sets of neutral, more ambiguous information that vary in terms of one or more dimensions
Parts A-E	Same as Step 1
Step 3.	Child scans and compares two sets of information while shifting points of view and anticipating information
Parts A-E	Same as Step 1
Step 4.	Child scans and compares two sets of information that arouse fantasies/emotions

Parts A-E	Same as Step 1
Step 5.	Child scans and compares sets of information construed as something other than what they are
Parts A-E	Same as Step 1
Part F	Child and therapist evaluate whether symbols constructed are conventional or personal and degree to which they fit attributes of stimuli
Step 6.	Child scans and compares sets of information construed as something other than what they are as part of a fantasy and pretend identity directed by therapist
Parts A-F	Same as Step 5
Step 7.	Child scans and compares sets of information construed by the child and within a more elaborate fantasy. There are no restrictions on the number of sets of information compared, the distances between them, the degree of similarity among them, and the time taken to compare them

With Step 3 the child actively scans and compares sets of information in a format that emphasizes shifting points of view and anticipating information. These experiences prepare the child for the tasks in Step 4, which require scanning sets of information while balancing fantasies and emotions. With gains made in cognitive-affective coordination, a prerequisite for symbolic functioning, the child is prepared for Steps 5 and 6, which require the child to image situations and events and to assume fantasized roles within which the child engages in the process of active scanning and comparing information. The last step, resembling aspects of free play, guides the child in elaborating pretend themes consisting of a series of situations, but throughout every effort is made to emphasize the process of active scanning now exercised

within elaborate pretending.

When administered to an outer-oriented child, the seven steps are followed in the sequence described. The child cultivates active, broad scanning while engaging information as it is and without the participation of fantasies against which cognition is defended. Then the child cultivates active scanning while flexibly shifting points of view and anticipating information. Flexibility is then applied in scanning emotionally arousing information. At this point the child is prepared to engage in active scanning within a deepening process of pretending and symbolic functioning.

With the inner-oriented child the reverse sequence is followed. The therapist begins with Step 7, modifying the technique as needed, and sets out to help the child invite the therapist into the child's private world. To accomplish this, and to set the stage for a treatment program that will restructure focal attention, the therapist asks the child to scan and compare sets of information that are part of the child's fantasy world. As the child observes the therapist scanning and comparing information, and as the child scans information designated by the therapist, an alliance is formed. With this alliance the therapist proceeds with the next steps. The child engages in active scanning within fantasies constructed by the child, but the fantasies become increasingly more organized, and the ingredients of the fantasies are brought closer to real events and stimuli.

Then the child gains experience shifting points of view as she scans and compares information that is transformed by conventional and personal symbols. As gains are made, the next steps emphasize tasks in which the child scans sets of neutral-ambiguous and then neutral-familiar information.

Once the outer-oriented child reaches Step 7, and the inner-oriented child achieves Step 1, they are equipped to engage in therapeutic activities and tasks which require them to actively scan information and flexibly coordinate the properties and uses of actual stimuli with those of fantasies associated with them. Active scanning as a tool can now serve more efficient learning and adaptation as well as the non-directed process of verbal/play therapy if indicated.

Throughout, the therapist is alert for opportunities to teach the child to observe and evaluate her scanning behaviors. The guidelines described in the previous program are followed. In the first sessions the therapist notes unique aspects of the child's scanning behaviors, gradually bringing these to the child's attention. For example a child gives each piece of information being compared only a fleeting glance and then looks away; a child looks at one piece of information for 15 seconds, looks away, looks at the other for 1 second, looks at the first again for 20 seconds, obviously centering on only one piece of information; a child directs attention at one set of information then, while looking at the other, blinks his eyes vigorously several times; a

child shows unsystematic scanning and then "tunes out," seemingly occupied with private thoughts, or stares out the window, or becomes irritated, or scratches his arm nervously.

When such behaviors are noticed, the therapist asks the child whether or not she "noticed anything while you were looking at the two things." The therapist accepts the child's response and initially points out the most obvious part of the child's behavior. For example, "Johnny, you didn't notice anything. I noticed that you blinked your eyes very hard when you looked at that stick." Since children dysfunctional in focal attention usually are not aware of such behaviors, the therapist inquires, as often as is appropriate, and offers observations, until the child shows some capacity to observe attentional behaviors that occur immediately after or during a task.

In the early phases of treatment, attention is directed only to the child's behavior. In later phases, the therapist connects the dysfunctional scanning to a particular stimulus used in the task or to its complexity. For example, "When you said the stick was shorter than the policeman, did you notice what you did when you looked at the policeman?" The child responds he did not notice anything in particular. "Did you notice you blinked very hard, but you didn't blink when you looked at the stick?" As another example, "When you looked at those two sticks (differing in height by only *1/2* inch) did you notice anything about what you did that was different than before (the sticks

differed in height by 2 inches)?" The child responds, "I did not look at the sticks as hard." "That's right. And, I notice that you began to jiggle your leg in that nervous way we talked about before. These sticks are harder to figure out and you got extra- nervous."

When the child is engaged in imaging the information being scanned, the therapist guides the child in evaluating the degree to which the image fits the attributes of the target and whether the image is more conventional or personal.

Again, the age and developmental stage of the child governs the requirements the therapist expects the child to meet in this evaluation process. For example, the scanning of a 5-year-old is expected to be more vigorous and systematic when the sets of information are 3 feet apart, but not as vigorous and systematic when 15 feet apart, while a 10-year-old would be expected to scan objects 15 feet apart, without showing disruptions in the process. The same issue would apply when the child is asked to evaluate the fit between an image and the attributes of the object in question. If a 5-year-old images a paper clip as a cup it may be sufficient to help the child articulate that the paper clip has round sides like a cup "but you can't put water in it." With a 10-year-old it would be appropriate to help the child articulate that the paper clip is not round like a cup.

Introducing the Child to the Program

The Outer-Oriented Child. Set two rods (one 8 inches and one 12 inches tall), for example, two feet apart, and say, "Mary, we are going to play a game called *Which Is Big? Which Is Small?* You see these two sticks? Look at one and then look at the other and then look at the other one again. Keep looking at each of them as many times as you need to until you are sure which is the bigger one." The therapist repeats these preliminary trials primarily to insure that the child understands the task format to be used. The more simple the task the better. Once the child understands the task, continue with Step 1.

The Inner-Oriented Child. Observe the child's behavior during the first session noticing which materials the child tends to manipulate or which material the child has brought to the office. Let us assume that the child tended to fiddle with paper clips while looking in a dreamy way at various items on the shelves. The therapist sets six paper clips on one sheet of paper, and three paper clips on another about 2 feet away and says, "Mary, look at these and look at these. Which has the most? Look at them as much as you need to, to tell me which one has the most."

Repeat tasks as often as possible until the child seems to be engaging the therapist and shows signs of inviting the therapist into her fantasy world. As noted earlier, some severely inner-oriented children may engage the therapist in a task only once in a session or refuse to perform, occupying

themselves with "private activity." In such cases the therapist should be patient and look for other opportunities to engage the child. As the therapist becomes familiar with ingredients of the child's private world, the therapist should be in a position to introduce tasks that lend themselves to the process of active scanning while at the same time connect with the child's private world. As one example, while moving about the playroom a child showed that he was especially centered on lining things up straight. Therefore, the therapist constructed pairs of lines, asking the child which line was most straight. The more the therapist connects with aspects of the child's private world, the more a working alliance is established.

Specific Instructions

Step 1. The goal is to develop further the child's ability to scan neutral, familiar information actively and systematically while the tasks increase in complexity. The tasks are made more complex in a stepwise fashion by orchestrating four variables: (a) presenting two sets of information close together and gradually farther apart; (b) presenting two sets of information that are very different in terms of an attribute by which they are to be compared and then gradually presenting sets of information that are increasingly similar in terms of the attribute; (c) not restricting the child's body while the child scans and then gradually requiring the child to sit and hold his head and body stationary while scanning; (d) giving the child

unlimited time to scan and compare the two sets of information and then gradually restricting the time.

Any neutral and familiar material that is easily varied in terms of height, number, size, weight, and texture can be used to form sets of information to be scanned and compared (e.g., wooden dowels or rods varying in height and thickness, paper clips varying in size, marbles, balls varying in diameter, color, and texture).

To illustrate how the four variables are orchestrated, wooden rods are used as an example. The therapist sets two rods upright, 2 feet apart (close together Part A); one 12 inches tall, one 6 inches tall (Part B very different in terms of height). The child, who is standing or sitting about 6 feet away from the rods, is asked to look the rods over and to point to the taller (or smaller one), taking as much time as needed, while the mode of scanning and time to scan are not restricted (Parts C and D).

In a later trial, the therapist sets two rods 4 feet apart (further away); one 12 inches, the other 8 inches tall (the rods are now more similar in height). The child is allowed to scan the rods for only 15 seconds (time is restricted), and asked to keep his body still and move only his head and eyes (body restricted). To limit time, the therapist places cardboard screens in front of the rods at the end of the time interval.

In a still later trial, two rods are set 15 feet apart (further apart), one 10 inches and one IIV2 inches (more similar). The child is given 5 seconds to examine the rods (greater time restriction), and the child is asked to sit still, keep his head stationary, and move only his eyes while looking at the rods (greater body restriction). This illustration should be viewed as points in a sequence. One child may require only one trial with two items close together and another several trials.

In an alternative approach, only one or two of the variables are manipulated at one time if the child's needs indicate. For example, two rods are placed 2 feet apart (one rod 12 inches, the other 6 inches tall). The succeeding pairs are also placed 2 feet apart but the difference in their heights is gradually decreased (e.g., 12 and 8 inches; 12 and 10 inches; 12 and 11 inches; 12 and 11% inches), with the left-right location of the rods randomized. During these trials the child takes as much time as is needed and is not asked to restrict body movements. When the child shows efficient scanning comparing two rods very similar in height and 2 feet apart, the therapist repeats this approach now placing rods further and further apart, from trial to trial, while at the same time decreasing the difference in height. Next the therapist gradually reduces the amount of time the child is given to scan the information (e.g., 15, 12, 9, 6, and 3 seconds) while at the same time increasing the distance between the rods and decreasing the difference between their heights. Restricting the mode of scanning would be phased in

last in the same way.

When other material is used, such as beakers of water and paper clips differing in size and shape, the task can be made more complex by manipulating two attributes simultaneously. For example, if large and small, circular and elliptical paper clips are used, the therapist could ask the child to point to the sheet of paper which contains the larger number of small, circular paper clips. Similarly, if balls of different diameters and textures are used, the child could be asked to point to the ball that is smoother and bigger or rougher and bigger. The more complex the comparison being made, the more vigorous and systematic the scanning required.

Using two different materials is also an effective way to increase the complexity of the task. For example, the child is asked to compare two clusters, each containing marbles and paper clips and to indicate which one has fewer marbles than paper clips. Two glasses that vary both in height and diameter when filled with water require more extensive, systematic scanning to determine which has the larger volume, than two glasses that vary only in diameter.

Throughout this step, whenever a child appears especially unsure, or makes many errors comparing the items, the therapist encourages the child to examine the items by touching them, counting them, and so on.

Step 2. Following the same approach described for Step 1, the child scans and compares information that is more ambiguous and whose designated attributes are more independent of external/physical properties. Examples of stimuli that are used in this step consist of cards on which are printed: (a) Mueller-Lyer illusions; (b) Delbeouf illusions; (c) wavy and zig zag lines; (d) rows of dots spaced unevenly. With each pair of cards presented, the child points to the longer stimulus, for example (e.g., wavy line versus rows of dots).

Step 3. The tasks are designed to require scanning while simultaneously shifting points of view. The stimuli used vary in terms of three or more dimensions and are placed behind cardboard screens. The therapist lifts the screens and calls out the dimension in terms of which of the two items are compared. The cardboard screens are returned for some seconds, the screens are lifted again, and the therapist calls out another dimension along which the same items are compared. This technique is repeated as often as is possible given the materials used. The time interval between trials is varied randomly.

As one example, the therapist places two balls that vary in diameter, density, texture, and color 4 feet apart. The therapist raises the screen, and says, “the heavy one." The child responds by pointing. The screen is lowered; after a delay of 10 seconds the screen is raised, and the therapist says, "the taller one." The child responds and the screen is lowered; after a delay of 4

seconds the screen is raised, and the therapist says, "the rough one," and so on. In this way the child actively scans in a state of anticipation and while shifting among the points of view of size, density, texture, and color.

Squares of cloth can be used in a similar way. The therapist asks the child to point to the "bigger one," "softer one," "heavier one," "smoother one," "darker one," etc. Other examples of stimuli are wooden, metal, and Styrofoam cubes or cylinders; glasses of different heights and diameters filled with oil, syrup, water; squares and circles of construction paper; and cardboard varying in size, thickness, texture, weight, and color.

Step 4. The child scans sets of information while balancing fantasies and emotions aroused by that information. Present the child with pairs or clusters of the following material intended as examples: plastic insects, spiders, monster figures; doll figures of doctors, policemen, father, mother, infant; two glasses containing water colored with food dye (here, child and therapist participate in labeling the liquids; e.g., if the child labels the deep red liquid "blood," the therapist labels the pink-red liquid "a strawberry drink," or the reverse; see earlier discussion.); two glasses colored with brown food dye, one labeled "a chocolate drink" (light brown), the other "a BM" (dark brown); sets of knives and scissors.

As discussed in the previous program, *Follow Me,* the child participates

in selecting and constructing material and shares thoughts and feelings about each item. For example, if the child labeled water tinted with red color "blood," the therapist colors another vessel of water lighter red, which the child indicates is a "strawberry drink." If plastic insects and animals are used the child identifies those that arouse intense anxiety or fear, those construed as "nice," "strong," "angry," etc. If doll figures are used the child identifies attributes for each (e.g., "mad," "nice," "strong," "bossy").

Pairs of these items are presented in various scanning tasks in terms of the attributes the child construed. For example, when the red liquid the child called blood is placed in beakers, the therapist asks the child to point to the glass "with the most blood." As another example, if the child construed an animal figure and a human doll figure both as mad, these items could be paired and the child is asked to point to the one that's "most mad." The variables of distance, mode of scanning, degree of difference, and time to scan are manipulated in these tasks, as in previous steps, to increase gradually the complexity. With this step the therapist also has the opportunity to explore pairing various emotions and attributes fantasized by the child and to note whether and how they affect the efficiency of scanning.

The therapist also selects material on the basis of the child's current difficulties, unique personality conflicts, and history. For example the child described in the previous program who carved "designs" into school furniture

had also threatened a peer with a knife. This child was eventually presented with pairs of different knives (e.g., jackknife, hunting knife, butter knife, toy knife) and asked to point to the one that is "sharper," "can hurt someone more," "heavier," "longer," "lighter." As might be expected, his scanning was much less efficient with these items than with others; he became very excited and took fleeting glances at a particular knife while centering on another; when asked which one could hurt someone more, he struggled, looked at the pair many times and concluded both could hurt someone equally. These scanning behaviors were brought to the child's attention and no interpretations were made, following the guidelines discussed in the previous program. And, the child was engaged in appraising the attributes of the knives presented (very sharp, dull, rubber blade) and whether and how they could hurt someone.

When engaged with this step children sometimes spontaneously produce fantasies, express comments about some event, and become quite emotional. When this happens the therapist helps the child remain focused on the task requirements and does not engage the child in addressing the fantasy or event described. Rather, the behaviors that disrupt the cognitive process are recruited into the task. For example, the child described above impulsively took a knife and passed the blade over the table- top leaving the task. At this point, the therapist modified the task, setting a ball of clay next to each knife to be compared. When the child decided which knife was sharper,

the therapist then permitted the child to test his conclusion by using each knife to cut the ball of clay.

Step 5. Scanning is embedded into the process of transforming information and symbolic functioning. The child points to one of three or more stimuli that are imaged as something other than what they are. Much of the same material used in previous steps can be used here (e.g., balls and cubes of different sizes, colors, textures; paper clips of different sizes and shapes; squares of cloth varying in texture, color, size, and thickness).

Three or more stimuli are presented and the guidelines that vary the distance between stimuli, the time allowed to scan them, and whether or not the mode of scanning is restricted are followed. To illustrate, the therapist presents four balls, varying in terms of several attributes, and says, “Let's pretend these are people. Point to the father. Point to the mother. Point to the uncle. Point to the kid." As another example, a set of balls is presented with the request, “Which one has a smooth face? Which one is strong? Which one is fat?"

These examples are intended to illustrate several issues. First, the scanning activity is now embedded in the process of imaging and pretending that an object is something else. Second, the therapist asks for designations that belong to one category or to several categories. The request for a father,

mother, big brother, and so on, in one trial, concerns scanning and judgements that belong to the category of family. The dimensions to be designated could also shift from one to another category and point of view. In the illustration above, when the child points to the smooth face, the guiding category is facial features; and when he points to the “fat one," the guiding category is weight, and so on.

Later, with this step, the therapist asks the child to designate a category beforehand (e.g., present a row of cubes and say, “Let's pretend all of these are something, what could they be?" The child responds, "horses" or "spacemen" or "cars"). The therapist accepts the category and then invents attributes along which the items are compared (e.g., "Which one is the fastest, the slowest, the heaviest."). Here there is an opportunity to engage the child in evaluating the fit between the items selected and the attributes imaged.

Step 6. Scanning is embedded further into the process of symbolic functioning by including scanning activity as a major part of a fantasized situation. Ask the child to imagine material as something other than what it is, a situation in which child and therapist could be, and to assume a pretend role. For example, the child calls a cluster of paper clips "spaceships" and designates the setting as outer space. The therapist asks the child to pretend he is someone. The child responds he is king of the fifth world. The therapist then joins the child in organizing and enacting a pretend theme with scanning

as a major activity. The therapist asks the child to give a different identity to each type of paper clip (e.g., friendly, enemy, warship, cargo ship) and indicates there are two places through which spaceships can enter; and the king has to keep an eye on things and notice who is trying to enter the fifth world. The therapist locates two sheets of paper as points of entry into the imaginary world, places various paper clips on each, and asks the king to determine which entry point has, for example, more cargo ships than spaceships. The distance is varied between the items compared by asking the king to pretend that the enemy has found other points of entry which are located further apart. The king could also be restricted in how much time he is allowed to examine the information and whether or not he can move his head.

Step 7. At this point the process takes on aspects of "free play" but active scanning remains a major ingredient. Frequently the scenes and episodes that take place in this phase are integrations of previous themes and scenes. We can use as an example the child who pretends to be king of the fifth world. Paper clips remain spaceships; marbles are transformed into spacemen—some are warriors, others repairmen, others pilots; pieces of cloth become space stations orbiting in the fifth world. The king has to keep track of everything and show everyone he has the greatest mind. The therapist spreads across the floor clusters of paper clips and squares of cloth containing clusters of different marbles, asks the king to point to that part of

the sky where there are more of one type of spaceship or more space stations, and asks him to point to the space station on which there are more fighters or more workers and so on.

Concluding Remarks and a Note About Resistance

Once the outer- and inner-oriented child develop the capacity to track and scan information flexibly, managing information as it is and as it is imagined, the child has the mechanism of focal attention as a tool in learning and adapting and also, when indicated, to serve the process of non-directed play/verbal therapy.

Over a number of sessions the therapist begins to construct an understanding of the child's unique focal attention functioning. For example, one child may habitually blink vigorously while attempting to sustain attention in passive tracking or when scanning two sets of stimuli; another may direct a rapid series of dart-like glances; another may habitually rock her body; another may keep her body and head oriented away from the target while directing her eyes toward it; and other children may regularly become "sleepy," "bored," or "irritated" when scanning information. The therapist brings these habitual behaviors to the child's attention, bit by bit, later connects these attentional behaviors to an increase in task complexity, and still later to particular images, emotions, or fantasies experienced in response

to stimuli. When these behaviors become obstacles to the treatment process, they are integrated within the task requirements as illustrated above.

It is not until the latter phase that the therapist begins to ask the child to explore possible connections between attentional behaviors experienced and observed in the office with behaviors experienced at school and at home. For example, "John, we notice again that you got very nervous and blinked hard when you were following that car. Can you think of a time when that happens in math class?" This comment illustrates that the therapist is as concrete and specific as possible in helping the child center on some recent moment and specific place. The question, "Does this happen elsewhere?" for the cognitively disabled child is too global and does not help the child construct connections between behaviors in the office and behaviors in other settings.

The outer-oriented child usually shows focused resistance in Step 4 of each program when tasks require tracking and scanning information that arouses fantasies and emotions. The inner-oriented child frequently shows major resistance when tasks require tracking and scanning ambiguous information while subordinating fantasies (Step 2 in each program). Episodes of resistance are managed following the technique discussed in Chapter 4.

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