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Author Ennio Cipani, PhD, has prepared several multimedia presentations for this edition of *Functional Behavioral Assessment, Diagnosis, and Treatment* to enhance the reader's understanding of key material in the book. You'll see special text in the book's margins, which direct you to a presentation by Dr. Cipani that will help deepen your knowledge of the issues discussed in the text. These presentations can be accessed at the following website:

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**Narrated PowerPoint Presentations:** Dr. Cipani discusses several important issues in these audio-enhanced PowerPoint lectures.
FUNCTIONAL BEHAVIORAL ASSESSMENT,
DIAGNOSIS, AND TREATMENT

A COMPLETE SYSTEM FOR EDUCATION AND
MENTAL HEALTH SETTINGS, SECOND EDITION
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FUNCTIONAL BEHAVIORAL ASSESSMENT, DIAGNOSIS, AND TREATMENT

A COMPLETE SYSTEM FOR EDUCATION AND MENTAL HEALTH SETTINGS, SECOND EDITION

ENNIO CIPANI, PhD

and

KEVEN M. SCHOCK, MA, BCBA

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PURPOSE OF THIS BOOK

This book provides a comprehensive approach to designing behavioral treatments for children in homes and residential facilities, students in special and general education settings, and adults residing in inpatient units and facilities. Providing effective behavioral treatment strategies in these settings requires a greater knowledge of behavioral assessment and intervention than simply identifying the target behavior. An understanding of the problem behavior’s environmental function is essential in designing behavioral interventions. This book provides a comprehensive approach to functional behavioral assessment, function-based diagnostic classification of the target problem, and functional behavioral treatment.

How is a functional approach different from merely prescribing treatment based on the form of behavior? Let’s say we have identified the following target behaviors for a student in a special education class for behavior disorders: aggressive behavior, noncompliance, and tantrum behaviors. Suppose behavioral assessment data reveal that all these behaviors occur when the student is asked to read a passage aloud. The child may initially refuse to read when called upon. If this is unsuccessful, as the teacher moves closer to the child to “coax” him, he then throws a tantrum. If the tantrum doesn’t work, the teacher becomes more coercive. Finally, the student gets out of his seat and issues profanities about the assignment. By understanding that all these behaviors have the same environmental function, a functional treatment can address them as a response class. Further, one may be able to determine why such a task generates escape behavior with this child.

In the 21st century, selecting effective treatment for specific individual problem behaviors requires a greater understanding of the environmental function of problem behavior. This book addresses that need for a variety of potential users of behavioral technology. At the heart of this approach are three phases: (1) Functional Behavior Assessment (FBA), (2) function-based diagnostic classification of problem behavior, and (3) functional behavior-analytic treatment.

This functional approach is suited for cases in which the problem behaviors are primarily operant in nature. The rate of operant behaviors is determined by their consequences. In some cases, referred problems may be respondent in nature (e.g., crying due to extreme physical pain; see Bailey & Pyles, 1989, for greater delineation of these factors). In these cases, this system is not applicable because the behavior may not be a function of any desired consequence (on the part of the client). Under these circumstances, it might be advisable to consult with a professional who may have experience with such problems.

AUDIENCE

This book can serve as a primary text for university graduate training programs in applied behavior analysis (ABA). This book is also intended for applied personnel who design behavior programs for persons with challenging behaviors in a variety of settings, such as
individual or group residences; public or private facilities; schools; hospital, community, or clinic settings; and inpatient settings. This book should be helpful to people who are trained in ABA and are looking for an additional resource to guide them in their assessment and treatment design activities. It also is written to serve personnel who have some familiarity with behavioral programs but have not discerned how to provide a functional behavioral treatment for specific functions of target problem behavior. The following areas are particularly pertinent for personnel with knowledge in functional behavior analytic treatments.

**Personnel Who Work in Inpatient Units and Residential Facilities**

The use of behavior analytic treatments is finding its way into inpatient units, residential facilities, and community settings for persons with severe mental illness, developmental disabilities, and sustained brain injury. Although there is no federal or state imperative requiring an FBA or functional behavioral intervention plan in these settings, simply designing arbitrary contingency interventions can lead to ineffective treatment or worse, disastrous treatment. Mental health providers in these settings who determine what the function of presenting problem behaviors serve will be more capable in ameliorating behavior problems. The client’s possible reintegration into mainstream settings will hinge on such progress.

**Personnel Who Provide Parent Training/Consultation**

Parent training and consultation, from a behavioral framework, has been verified as an efficacious treatment for child problems in home settings. Psychologists, psychiatrists, nurses, and other mental health providers should be providing technical behavioral assistance to parents who need specific help for problem behaviors. This book provides such professionals with a resource for designing individualized functional behavioral treatment programs.

**OVERVIEW OF NEW MATERIAL IN SECOND EDITION**

This book is divided into the same five chapters as appeared in the first edition. However, there is significant additional material to this second edition, including a greater number of illustrative clinical real-life cases from both authors (delineated by initials E.C. or K.S. in each case example). In Chapter 1, material will be presented that will allow the reader to acquire the basics of an ABA approach to understanding human behavior. This second edition provides a greater analysis of the role of establishing operations (EO) and abolishing operations (AO) in the section of the first chapter titled “What Makes a Reinforcer a Reinforcer?” This aligns the current edition with material on motivative variables from Michael’s chapter in the Cooper, Heron, and Heward (2007) text. Also, a section discussing the nature of contrived contingencies and their relation to behavioral function was added at the end of Chapter 1. Understanding why contrived contingencies may work is important for behavior analysts who intervene at a group level, not just at an individual case level.

Chapter 2 allows the user to develop skills in collecting the requisite behavioral data needed for an FBA. Each step of data collection is detailed with multiple examples of hypothetical data provided for the reader. In a departure from the first edition, the behavioral contingency is defined in this edition as the A-B-C analysis, but the consequent events are divided into socially mediated effects and direct effects. Also, the analysis of EO variables in descriptive analyses is given greater consideration than in our first edition. An additional section on problems with descriptive analyses is included, followed by a procedure to utilize a trigger analysis with behavioral descriptions as a new innovation in descriptive assessment methods.
While this book provides content on functional behavioral assessment, not all applied problems in clinical settings require only an individual analysis of behavioral function. It can often be the case that problem behaviors are generated by the systemic contingencies that are misdirected. The last part of Chapter 2 involves a presentation of an ecosystemic assessment within classrooms to determine if classroom contingencies might be at the heart of a referred student’s problem behavior. By conducting such an assessment, the behavior analyst might uncover systemic contingencies that do not facilitate student or client performance, which allow other contingencies that detract from such to flourish. For example, in a classroom, one might find that a system that provides powerful reinforcers for academic performance is lacking. The installation of such a class-wide reinforcement system across the group would significantly alter performance problems in the target student and others.

Chapter 3 covers the four major categories of our unique function-based, diagnostic classification system for problem behavior. This function-based classification system provides a distinctive numbering system for delineating major diagnostic categories as well as subcategories within each major category. The current edition is very similar to the first edition, but we have included more real-life case examples.

Chapter 4 covers the identification of the replacement behavior and the delineation of a number of replacement behavior options for each major function. The second edition provides some additional methods for assessing the feasibility of reinforcing the replacement behavior instead of the current functional problem behavior. Chapter 4 in the current edition presents a method for evaluating potential extinction bursts and their severity and length via a trigger analysis. The unique, three-category classification system for determining the current strength of the replacement behavior(s) is still presented in Appendix A. This second edition has added analogue experimental tests to the end of Appendix A. This methodology provides a test to determine whether a misdirected contingency diagnosis or inept repertoire diagnosis best explains why the replacement behavior is at low or non-existent levels. With permission, Appendix B is taken from the book *Triumphs in Early Autism Treatment* (Cipani, 2008b). It provides an analysis of persistent error patterns through the findings of basic research in stimulus overselectivity.

Chapter 5 provides the same compendium of behavioral treatment protocols as the earlier edition. A hypothetical example taken from the previous chapters is used to illustrate how all the phases are linked in designing a functional treatment. Each functional treatment program follows a uniform format in Chapter 5. First, we present a brief description of the procedures involved, as well as definitions of terms. Next, we delineate the procedures for collecting baseline data, and we present the procedural components of the treatment. Lastly, we present a hypothetical example illustrating the application.

**A Note to Instructors**

This new edition has also been enhanced with several features that will expand students’ learning experiences as well as provide instructors with resources for teaching. Dr. Cipani has worked with the publisher to prepare several multimedia presentations that students can directly access online. More information on these multimedia features, along with additional resources that can be assigned to students—including directions for accessing them—is found on the inside front cover of the book.

In addition, an online Instructor’s Manual is available for qualified faculty who use this book as a text for their course. Instructors can send an e-mail to textbook@springerpub.com to request access to these useful materials.
The functional behavioral diagnostic systems delineated in this text are an outgrowth of both authors’ collective experience in clinical and teaching positions over several decades. An earlier version of this system, called the Cipani Behavioral Assessment and Diagnostic (C-BAD) System, had many behavior analysts who provided feedback and input into that system. Such feedback improved the basic concepts and instructional content presented in the first edition. In particular, the authors would like to recognize Dr. Heidi Toro of the Florida Department of Children and Families, Dr. Merrill Winston of Professional Crisis Management, Dr. Steve Eversol of Behavior Development Solutions, and Mr. Chris Clay of the Community Re-Entry Program for their valuable suggestions over the years. Our association with them has allowed us to improve our analysis and presentation of the C-BAD system into its current form. Finally, I wish to thank Dr. Jose Martinez-Diaz of the Florida Institute of Technology for making the distinction between motivative variables and discriminative stimuli more clear to me (E.C.).
WHY DOES HE DO THAT?

Why does he do that? This is the age-old question that people ask when they see a child throw a fit in public. Why does he behave like that? To date, an oft-cited explanation of such undesirable behavior involves a hypothesis about the brain’s development in the child who is “afflicted” with such behavior. The underpinning of the undesirable tantrum behavior is hypothesized to be the result of some abnormality or underdevelopment of some part or parts of the brain. As further evidence of brain involvement, in some cases, such behavior along with other behaviors form the basis of a mental disorder. Following is an excerpt from a hypothetical lecture in a child psychology class.

Student: Dr. Trait, I have a question. Why do some children have tantrums that are clearly inappropriate for their age?

Dr. Trait: The child throws the tantrum because he is immature for his age; his brain has not fully developed. Once his brain matures—particularly the frontal lobe, which is responsible for executive functioning—he will not respond to social situations in that manner. Until that point, we can expect this child to continue behaving in such a fashion because of his inability to process events adequately. Teenagers have a similar problem with brain immaturity when they behave impulsively. Their brain is not like the adult brain; hence, they too cannot be fully responsible for their impulsivity.

Variations and extensions of this immature brain explanation exist. The following is a continuation of this conversation in a class in developmental psychology, with a slightly different explanation.

Student: In Dr. Trait’s class, we were told that children who have severe tantrums that are clearly inappropriate for their age do so because their brain is not fully developed. Is there any experimental cause-and-effect evidence for such an assertion?

Dr. Stager: Well, I believe there is more to it than just the brain’s development, although I would concur that neurological issues are part of the problem. Children behave in a certain manner because they have not proceeded through certain invariant developmental stages. I would say that these children have not progressed past the egocentric stage. Of course, once the brain has developed, it is more likely that these children will interpret the actions of others as reasonable and not view everything from a “me first” perspective. When this happens, he will not react in such a manner, but will respond to conflict in a more age-appropriate way.

Suppose we believe that the child throws a tantrum because his brain is not yet fully developed. What are the ramifications of dealing with such behavior when the supposed cause is brain malfunction? Do we wait until his brain becomes more fully developed? For clients who have continued such “immature” behaviors throughout their adolescence and into adulthood, do we still continue to wait? What can be done in the interim to reduce the child’s tantrums and develop a more acceptable manner of dealing with his social environment?

What is wrong with these interpretations about tantrum behavior? The role of the environmental response to such behavior is trivialized. If the brain has not developed, apparently what people do in response to the child’s behavior, whatever the form, is insignificant
and, therefore, irrelevant. One can only hope that the child’s brain becomes more fully developed. We believe there is a better conceptualization of why tantrum behavior occurs.

Instead of saying that the child throws a tantrum because he is immature, we would possibly ascribe such an incident to the purpose or function such tantrum behavior serves in that child’s environment. That conceptualization would generate an examination of observable events in the social environment. In the case of a child’s tantrum behavior, one would examine what the social environment does when the child has a fit in public. What is the antecedent context for such tantrum behavior? How does the social environment react to these tantrums in the short and long term? This examination of temporally ordered environmental events can reveal the purpose of this behavior in this context.

This approach is termed a functional behavior-analytic approach to understanding human behavior (Bailey & Pyles, 1989; Cipani, 1990; Cipani & Trotter, 1990; Iwata, Vollmer, & Zarcone, 1990; LaVigna, Willis, & Donnellan, 1989; Lennox & Miltenberger, 1989). In a functional behavior-analytic approach, all behavior is viewed as serving an environmental function, either to access something or to terminate/avoid something (not withstanding genetic influences for some behaviors). Although other psychological explanations invoke hypothesized traits or developmental stages to explain behavior, a functional behavior-analytic viewpoint examines the roles of both the social and physical context—it deals with events that are both observable and measurable.

For example, to say that a hypothetical 7-year-old child named Oskar who is diagnosed with oppositional defiant disorder (see the Diagnostic and Statistical Manual of Mental Disorders, 4th edition, text revision [DSM-IV-TR]) is aggressive, is sufficient for many mental health professionals. When asked why this child is aggressive, their response would be: “It is a symptom of his underlying disorder—oppositional defiant disorder. He acts aggressively because he has this disorder.” As you can see, this is a trial lawyer’s dream. People do things because they have a disorder. If they have this disorder, they cannot help it.

Whenever the behavior occurs, it is the disorder that made him do it. One should expect that he will engage in this behavior from time to time. It further presumes that such a behavior will occur irrespective of context and consequences. The child engaged in the aggressive behavior because of his malfunctioning brain. Such brain malfunctions are not predicated on the presence of any environmental context. One never knows when the neurons misfire; when they misfire, aggressive behavior results.

In contrast, a functional behavior-analytic view would explain such behavior more from the social context of the behavior. One would examine Oskar’s history of aggressive behavior and how, when exhibited, it alters his existing social environment. An understanding of why the behavior occurs is accomplished through an analysis of the behavior’s ability to either produce desired events or terminate undesirable events.

For example, we may discover that Oskar often engages in aggressive behavior when he comes home from school. Oskar’s mother wants him to stay in the house for a while and either do his homework or finish cleaning his room. Oskar, of course, wants to go outside and play with his friends. He sometimes will complain and whine. His mother will respond to such complaining with the following retort: “You need to finish your homework. How do you expect to pass third grade? Once you are done with your homework, then you can go outside.” This parental response to his behavior incurs more arguing from him, with retractions for each assertion by his mother. When Oskar sees that his arguing with his mother is not helping his cause (i.e., getting to go outside) he tries another tact. He states, “I’m going to leave and you can’t stop me.” When he begins to exit the house, she grabs him. At this point, he yells at her, calls her names, and hits her. After a struggle, Oskar pulls away and heads out the door. His mother, tired of fighting with her son, lets him go, complaining he is just like his father.

With this information, what is a more plausible explanation for Oskar’s behavior during these circumstances? Does he act out because he is disordered? Or does the explanation
lie in an understanding of how such a behavior impacts his environment? Does arguing with his mother result in him going outside? Or does he get to go outside when he becomes assertive (walking to the door) and combative (when he hits his mother as she tries to get him to stay inside)? What is the best explanation for Oskar’s aggressive behavior in the afternoon? He does it because it “works” for him when he wants to go outside, and other behaviors such as complaining are less effective.

**WHY IS TRADITIONAL COUNSELING OFTEN NOT EFFECTIVE WITH MANY CHILDREN WITH SEVERE PROBLEM BEHAVIORS?**

In 2010 many people believe that sending children with severe problem behaviors to counseling is the best method for changing these behaviors. Can anyone (through counseling) convince Oskar that aggressive behavior is not in his best interest? What is in a child’s best short-term interest when he is placed in time out? It is getting out of time out. As a reader of these materials, do you believe that any adult, no matter how many advanced degrees she or he may possess, can talk to Oskar once or twice a week and convince him not to behave aggressively toward his mother when he is told he cannot go outside?

How will Oskar’s behavior change? Ultimately, it is up to the care providers and parents to change their own behavior in order to change the child’s behavior. If Oskar’s mother continues to handle this situation in the same manner, I cannot see where anyone can convince him to respect his mother’s wishes and do his homework before going outside. In a functional behavioral-analytic approach, the presenting problem is not just with the child. It is also with the way the child’s environment responds to his behavior.

You change child behavior by changing the behavior of the adults who deal with that child. Pure and simple!

**THE CORNERSTONE FOR UNDERSTANDING WHY**

In a functional behavior-analytic approach, behavior is viewed as functional (i.e., purposeful) for certain antecedent contexts because of the contingency or contingencies involved. A contingency is the temporal relationship between behavior and a consequence. It is often stated as an “if, then” rule. If you get an A on your quiz, then I will take you out for ice cream. If you stick your hand in the door and it closes on your hand, then you will experience pain and yell loudly. Such social and environmental consequences influence whether the behavior that produces them will become more or less probable in the same or similar context.

For example, the manner in which Oskar’s mother responds to his complaining behavior makes that behavior ineffective. If Oskar wants to go out, and he complains, it seems that such behavior is not instrumental in getting him outside in the immediate future. Therefore, complaining behavior becomes less likely in subsequent afternoons when Oskar wants to go outside. The current arrangement between complaining and not getting to go outside makes complaining a less viable alternative in these circumstances.

However, the story for verbal and physical aggression is quite the opposite. These behaviors, including defying her wish to stay inside by physically leaving, are functional in accessing the desired event. The next day, when Oskar’s request to go outside is denied, what would he likely do? You guessed it. If Oskar’s mother continues to respond to her son’s defiance and aggression in the same manner, such behaviors become functional in that context. If this relationship between aggressive behavior and going outside becomes strengthened, under certain motivative and antecedent conditions, then such a relationship defines a maintaining contingency. There are two types of maintaining contingencies for problem (or other) behavior: positive reinforcement and negative reinforcement.
DISCUSSION QUESTION

What argument(s) can be advanced for understanding a client's behavior from the perspective of maintaining contingencies?

MAINTAINING CONTINGENCIES INVOLVING POSITIVE REINFORCEMENT

Positive-reinforcement contingencies involve behaviors that produce an environmental event that subsequently increases the level of occurrence of that behavior under the same or similar conditions. In other words, the operation of positive reinforcement involves a behavior that produces an event (activity, object) that subsequently strengthens the occurrence of that behavior in the future (under certain motivational contexts). The two requirements for identifying a contingency as one involving positive reinforcement are: (1) the level of the behavior is at higher or increased levels than the level without the contingent relation, and (2) the contingency is one of a behavior producing an environmental event. For purposes of the function-based diagnostic system delineated in Chapter 3, behaviors that are maintained because of positive reinforcement are termed access behaviors, that is, these behaviors access positive reinforcers.

What are some hypothetical illustrations of behaviors maintained by positive reinforcement? Milton, an inpatient client with schizophrenia, is reported to frequently pinch other clients. Is this pinching behavior the result of his schizophrenia? Is it the result of his inability to control his impulses? I believe neither explanation would serve a useful or parsimonious purpose. When Milton pinches others, after some duration and frequency (to be explained in Chapter 2) we find that staff take him for a walk. Their rationale for such a response to his pinching is that they want to get him away from other clients. They report that Milton seems to be less anxious when he is on his walk and that the walk calms him down. Facility staff thereby interpret their use of a walk as an anxiety-reductive procedure and believe that this practice is clinically sound. However, what escapes them is the long-term result of this reliable contingency between what Milton does and what they do. The behavior of pinching others subsequently increases to a level that constitutes a major problem, which now jeopardizes Milton’s ability to remain in the current inpatient unit. Note that the result of the staff providing a walk to Milton, contingent on the pinching behavior, is an increase in the level of the behavior across time. Milton has learned how to get a walk with staff—pinch someone! We would say that pinching other people is a functional behavior when Milton desires a walk. Unfortunately, other more appropriate behaviors do not appear to be more functional in getting a walk.

Bea, a residential adult female client, throws a tantrum (consisting of screaming and slapping herself) at certain times during the day. Bea’s tantrum behaviors are reported to consist of yelling, hitting or slapping herself, calling staff profane names, claiming she was placed in this facility by the Mafia, and making verbal threatening statements to staff and other residents. When she engages in such behavior for a period of time, one can observe staff members give her something to eat. These staff members interpret her behavior, after some duration, as a sign that she is hungry. Of course, feeding her certainly stops the threats made to them and others. Although feeding Bea may produce the desired result, it creates long-term disaster. Such tantrum behaviors then become more probable for Bea when she is relatively hungry (or at least when she wants certain food items). You might conclude that Bea’s tantrum behavior is maintained because it is capable of acquiring food when she is hungry. Bea may also learn to engage in the same type of tantrum behavior when she wants her CD player and is told she has to wait until after dinner for...
it. If such behavior reliably results in Bea getting the CD player before dinner, then such tantrum behavior also becomes functional under those conditions. When that transpires, tantrum behavior is also positively reinforced under the context conditions of Bea desiring the CD player. We would expect an increase in the frequency of tantrum behavior across the next few weeks as it becomes strengthened as a functional behavior when she desires the CD player.

A 4-year-old child named Elvira, diagnosed with autism, will engage in screaming and hitting herself multiple times during the day. Many people will explain such behavior by referring to her developmental disorder. They will proclaim, “Elvira throws a tantrum because she is autistic. Her autism is the cause of this behavior.” But is this really a good explanation? Can one predict that all autistic children will engage in such behaviors independent of social context? Does such behavior differentiate children with autism from children with other developmental and/or mental disorders (i.e., only autistic children hit themselves)? If such behavior is caused by autism, what options remain for the successful treatment of such behaviors, ameliorating or eliminating autism? Although eliminating or curing autism is certainly a laudable goal, is it reasonable to suspect that this will occur in time to help Elvira before she enters school? Before she becomes an adult?

A more functional approach focuses on the current maintaining variables. For Elvira, screaming might reliably access parental attention, or hugging, under conditions in which she desires such activities or events. When Elvira desires parental attention because it has been some time, tantrum behavior becomes more probable. The production of attention for some level and duration of tantrum behavior then maintains Elvira’s behavior as functional in accessing positive reinforcement.

**DISCUSSION QUESTIONS**

Can you describe a maintaining contingency involving positive reinforcement for self-injury? Can you describe a maintaining contingency involving positive reinforcement for refusal to comply with a task demand?

**MAINTAINING CONTINGENCIES INVOLVING NEGATIVE REINFORCEMENT**

Although many people are familiar with positive reinforcement, negative reinforcement is often misunderstood (Cipani, 1995; Cipani & Spooner, 1997; Iwata, 1987). An understanding of negative reinforcement operations is critical to the design of effective treatments, particularly if you serve individuals who more often engage in behavior problems during task demands, compliance situations, instructional conditions, or chores and work.

In negative reinforcement, the effect of the behavior is to terminate the existence of, or postpone (for some time) the presentation of, an aversive event. Such an event is commonly referred to as aversive or unpleasant (relative to the individual), and it is fine to refer to such stimuli or events as aversive if you realize that the term is relative. What is aversive to one person may not be to another; what is aversive today may be less aversive next week. The subsequent effect of a negative reinforcement contingency on behavior is one of increasing its probability under the same or similar conditions in the future. All behaviors that are maintained as a result of negative reinforcement are called escape behaviors, that is, escape (or avoid) negative reinforcers.

Examples of negative reinforcement of problem behavior can be used with the previous hypothetical cases by altering the behavioral effect of the problem behavior. The form
or topography of the behavior does not usually dictate what environmental function exists. Bea’s tantrum behavior was illustrated previously as a functional behavior in accessing food, thereby demonstrating a positive reinforcement function. However, tantrum behavior can also be maintained by its ability to terminate an already existing antecedent condition (e.g., noise, task demands, instructional requests, presence of an individual, or other conditions deemed aversive to the individual). For example, Bea is asked to clean up her room. She will often refuse such an initial request. When staff persons at the facility warn her that she will not get to watch television that night, she screams and yells at them. After an intense episode, Bea sometimes gets put in time out and loses her television privileges. However, with certain staff persons, if she promises not to raise a commotion, the staff person will clean up Bea’s room for her so she can watch television. Such a behavioral effect subsequently increases the probability of Bea screaming in those conditions (or similar conditions) in the future.

Can pinching people occur for a different reason than wanting a walk? Let us say that Milton also pinches people when he is asked to go to group therapy (which he finds aversive). Why would he now do this? Suppose the following events play out when Milton pinches a staff person when it is time to go to group therapy. When he pinches a staff person, someone decides that he should be taught that this is wrong. Milton should be put in time out to teach him that pinching is inappropriate. The staff keep him in time out until he is quiet and is able to say he is sorry for pinching the staff person. This does not occur readily and the minutes go by. By the time Milton is allowed to leave time out, his group’s therapy hour is almost over. He therefore is able to shorten his participation in group therapy by going to time out and being adamant about his right to pinch people. Unfortunately, Milton does not learn the lesson that the time out was intended to teach, and he exacerbates his rate of pinching people before group therapy. One staff person remarks that it almost seems as if Milton pinches to avoid going to therapy, but others quickly dismiss such a contention. After all, he is schizophrenic so he lacks rational thought when he engages in bizarre and unacceptable behavior.

As a result of this imposed time out for pinching, Milton is pinching more often when it is time to go to group therapy. Consequently, he misses most therapy sessions in a given week. Can you see why he is pinching when it is time to go to therapy? Pinching avoids an activity Milton dreads—going to group therapy. As a side note, it might be interesting in this case to find out why Milton does not like to go to group therapy (i.e., what does he wish to avoid) in order to solve this behavior problem in the long term. Beyond that, one might question why he should go to group therapy. If it was to help him uncover the reasons for his pinching mode of interaction, we could now dispense with such a requirement (given its obvious lack of effectiveness).

Another example illustrating a negative reinforcement function is the self-abusive behavior of a child with pervasive developmental disorder (PDD). As a general note, very often in classroom situations, problem behaviors such as self-abuse can often function to avoid or terminate instruction. Hence, under such conditions certain behaviors become very “adaptive.” This child hits his head with his open hand or closed fist, and such behavior often seems to occur during group instruction. Self-abuse is a difficult behavior to work through. Hence, a teacher will often stop instruction or remove the child to deal with his self-abuse. Self-abuse becomes functional in lessening or avoiding such a context.

Unfortunately, self-abuse is often unintentionally exacerbated. The severity of the head hitting may intensify as a result of staff trying to ignore minor forms of self-abuse. If staff feel that he hits himself for their attention, they think that ignoring such a behavior will make it decrease and eventually disappear. When the function of self-abuse is misdiagnosed (or undiagnosed), ignoring minor forms can lead to more disastrous results. Perhaps, at the beginning of the year, the teaching personnel reported to the individual education plan
(IEP) team that this child does engage in self-abuse, but they can handle it. Of course, this was under the presumption that their ignoring strategy would work. Now, at mid-year, this child may no longer be suitable for this classroom because his self-injury has resulted in a broken nose and gashes on his forehead. He may now require a placement where a more intensive behavioral approach is available.

**DISCUSSION QUESTIONS**

Describe a maintaining contingency involving negative reinforcement for self-injury.

Describe a maintaining contingency involving negative reinforcement for tantrum behavior when presented with a task demand.

**CONTRASTING THE TWO TYPES OF MAINTAINING CONTINGENCIES**

Table 1.1 provides more examples of behaviors that illustrate positive reinforcement contingencies. Note that in all instances the effect of the reinforcement contingency is one that strengthens the behavior that produces the desired event.

Now examine how the same topographical behaviors in each of the four circumstances in Table 1.1 can have a different behavioral function, which maintains their likelihood in given circumstances. In Table 1.2 the middle column illustrates how behaviors that previously produced desired events now function to terminate aversive events. We conclude that the form of the client’s problem behavior does not usually give a clue as to behavioral function. Hence, a diagnostic system that focuses exclusively on symptoms to differentiate clients misses the mark.

Tables 1.1 and 1.2 illustrate how the same behavior can produce different environmental effects, that is, consequences that maintain such behaviors. Note that the motivation of the individual is different in each circumstance, and the behavior (although the same form of response) produces two different outcomes. In Table 1.1, the behavior of Bobby hitting his brother resulted in his mother intervening and giving him the toy that his brother had. If hitting reliably results in mom’s mediation of the conflict via giving in

**TABLE 1.1 ■ EXAMPLES OF MAINTAINING CONTINGENCIES INVOLVING POSITIVE REINFORCEMENT OPERATIONS**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Contingency Produced</th>
<th>Effect of Contingency on Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child cries</td>
<td>Gets cookie</td>
<td>Increases likelihood of crying when child wants cookie in the future</td>
</tr>
<tr>
<td>Man on inpatient unit stomps foot on floor, kicks wall</td>
<td>Gets nurse to come over and give social attention, engage him in pleasant conversation</td>
<td>Increases likelihood of such behaviors when man wants to socially interact with that nurse in the future</td>
</tr>
<tr>
<td>Child hits brother</td>
<td>Mom tells brother, “Give Bobby the toy; he is not as mature as you are” and gets toy</td>
<td>Increases likelihood of aggression when child wants some toy or item his brother has</td>
</tr>
<tr>
<td>Student says, “This is not fair, I never get a turn”</td>
<td>Teacher gives child a turn on tetherball</td>
<td>Increases likelihood of such demand/tantrum behaviors when child wants to get tetherball or other activity and does not want to wait for peers to give him access</td>
</tr>
</tbody>
</table>
to Bobby’s desire for some object or item, hitting becomes more probable when Bobby wants something his brother has.

In contrast, in Table 1.2 note how hitting serves to remove an aversive stimulus for the same topography (form) of behavior. Bobby hitting his brother makes his brother leave the room. Hence, whenever, Bobby wants to be alone without his brother in the room, what behavior will he now resort to? Hitting! To summarize, hitting that occurs under the context of his brother playing with a toy that he wants functions to get the toy via mediation of such behavior by his mother. Hitting that occurs when Bobby wants to be alone results in the removal of the unwanted party via the brother leaving the room. This is the same behavior with two different functions.

Compliance situations involve a parent issuing a request or directive toward a child to engage in some requested behavior (called a “do” command), or in some cases to desist a behavior (called a “don’t” command). Examples of compliance situations involving a do command are: (1) “pick up your trash and place it in the trash can,” (2) “open the door to the laundry room,” (3) “put your sneakers on.” Examples of don’t commands are: (1) “stop running through the hallway,” (2) “stop yelling,” (3) “do not throw the ball against the house again.” When oppositional behavior occurs in compliance situations (i.e., the child refuses to follow through with the request), it can be analyzed in terms of function (Cipani, 1998).

In some cases, noncompliance takes an innocuous form, such as the individual simply not attending to the person issuing the command. Such a lack of response is maintained by negative reinforcement. A command is issued and the child or client does not respond but rather continues engaging in the ongoing activity. The form of noncompliance at this moment is simply nonresponding. If the adult making these requests often forgets about what task was requested as a result of inactivity on the part of the client, one can see that such behavior (nonattending) is negatively reinforced.

Compliance situations can be examined from the perspective of what the client is currently doing and what she is asked to do. What the client is currently doing is more preferred than what she is asked to do. Therefore, the client must stop a higher probability behavior to engage in a lower probability behavior. This sets up the conditions for negative reinforcement of escape or avoidance behaviors.

With some children or clients, their opposition to the request or command is comprised of more than just ignoring the request. For example, the child is “forced” to engage in other forms of protest when the adult fails to leave them alone when they simply opt out of compliance peacefully. The response of the adult to the child’s deaf ear approach (i.e.,

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**Table 1.2** Examples of Maintaining Contingencies Involving Negative Reinforcement Operations

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Contingency Produced</th>
<th>Effect of Contingency on Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child cries</td>
<td>Released from “room time”</td>
<td>Crying is more likely when child is placed in room for discipline</td>
</tr>
<tr>
<td>Man on inpatient unit stomps foot on floor kicks wall</td>
<td>Gets nurse to leave him alone for awhile instead of taking his medication</td>
<td>Such aggressive behaviors are more probable when nurses are trying to get this man to do something he does not desire</td>
</tr>
<tr>
<td>Child hits brother</td>
<td>Brother leaves room</td>
<td>Aggressive behavior becomes more probable when this child wants to be left alone</td>
</tr>
<tr>
<td>Student screams, “This is not fair, I always get more work”</td>
<td>Teacher talks to student, agrees to reduce assignment by half</td>
<td>Increases likelihood of such demand/tantrum behaviors when child wants to do less (or no) work</td>
</tr>
</tbody>
</table>
to request again) does not provide escape from the compliance situation. When the adult responds with another request the child now retorts, “I’m not doing it!” Because simply ignoring the request did not work, maybe becoming insolent at the person making the request will force him to leave. The form of noncompliance can then become exacerbated as mild forms of opposition do not have the effect desired (i.e., termination of the request). To illustrate this point, following is a hypothetical scenario with an adult client in a group home.

Staff member: Mr. Smith, please pick up your dirty clothes from the floor and place them in the hamper.

Mr. Smith: Leave me alone. I'm watching American Idol.

Staff member: Mr. Smith, I need you to pick up your clothes. Someone may trip over them when they are in the middle of the day room.

Mr. Smith: Then that would be their own stupid fault!

Staff member: (Moves closer to Mr. Smith) Mr. Smith, would you like me to help you?

Mr. Smith: I would like you to leave me alone! If you are so interested in my dirty clothes, you pick them up.

Staff member: Please address me with respect.

Mr. Smith: Quit ragging on me, you——.

Staff member: Okay, Mr. Smith. I will get Raul and Robert to help me assist you.

Mr. Smith: (Gets up and runs out of the day room with staff in tow. He hides in the bathroom and does not come out. After 25 minutes, he finally opens the door and is allowed to go back and watch television with the clothes now having been picked up by someone else.)

Note that in this scenario, simply protesting was not an effective method of being left alone. Such behavior only resulted in continued verbal requests on the part of the staff member. However, with continued requests and the threat of having several staff members help him get his clothes off the floor, Mr. Smith engages in more than just noncompliance. He runs out of the room and locks himself in the bathroom, which of course makes picking up his clothes very unlikely. Do you think Mr. Smith will conclude that the bathroom is a good place to escape from staff?

**DIRECT VERSUS SOCIALLY MEDIATED CONTINGENCIES**

There are two ways to access positive reinforcers: direct and socially mediated. Escape behaviors can function to produce termination of an aversive event (i.e., negative reinforcement operations) in the same two ways: direct and through social mediation. This leaves four ways reinforcement can be produced.

<table>
<thead>
<tr>
<th>Positive Reinforcement</th>
<th>Negative Reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct access</td>
<td>Direct escape</td>
</tr>
<tr>
<td>Socially mediated access</td>
<td>Socially mediated escape</td>
</tr>
</tbody>
</table>

**Direct Access**

With a direct access behavior, the client’s behavior immediately produces access to positive reinforcement (Cipani, 1990, 1994; Michael, 1982; Vargas, 1988). In other words, the behavior produces the positive reinforcer. An individual is hungry and therefore goes
to the refrigerator, opens the door, selects an apple, and eats it. This chain of behaviors involved in getting the apple directly produced the reinforcer—the ingestion of the apple. We would not say that the individual exhibits those behaviors because of the attention someone gives to him, regardless of whether such attention is positive, negative, or neutral. Attention is a tangential consequent event. Getting the apple is the desired reinforcer. This is an example of a direct access behavior.

What are some other examples of direct access behaviors? Putting the key in the car and turning it produces the desired result (car starting). Lying down on the bed when one is tired is a chain of behaviors that produces the reinforcer (rest). It is important to note that these behaviors produce the reinforcer immediately and directly.

How many people do you know that sing in the car while driving to work? Or sing in the shower? What motivates this behavior? Does someone reinforce this behavior? Probably not! Their behavior is maintained as a result of the direct environmental effect produced, that is, the sound (hopefully of a somewhat melodious nature). Particularly in the shower, the sound reverberation can be sensorial reinforcing. Such singing behavior in the absence of an audience is reinforced because it produces an inherent pleasurable event. The behavior produces its own reinforcer.

Too often, personnel assume that the problem behavior is maintained because it is mediated, for example, it receives attention, results in physical contact, and so on. However, there are behaviors that occur under specific conditions, not as a result of anything staff or teachers do after the behavior. Rather, some problem behaviors are maintained because of the immediate result they produce. Let’s look at an example.

A client in a residential facility for persons with developmental disabilities jumps out of a wheelchair with some frequency (J. S. Bailey, personal communication, 1989). On one of these jumps, he falls to the ground, and his head begins to bleed. Obviously, the behavioral treatment program needs some adjustment. The facility calls in a nationally recognized expert in applied behavior analysis (Dr. Jon Bailey). Staff claim to Dr. Bailey that the client jumps out of his wheelchair because he loves the medical attention he receives upon getting hurt.

What is the natural result of jumping out of the wheelchair? On some occasions, it does seem to be contusions and abrasions to this person’s body. However, the one result that always occurs is being on the floor (or, conversely, being out of the wheelchair).

Every time this person pushes himself out of the wheelchair, he gets the freedom to roam around on the floor. Could sitting in a wheelchair for sometimes 12 to 16 hours a day, every day, be a motivational context for desiring “out of wheelchair” time? Any person who has driven a long time in a car or flown on a transcontinental nonstop flight may be able to relate. The problem with this behavior is not what the client wants but the manner in which he seems to have to access it. If this client was unable to verbally communicate his desire to staff, it would seem plausible that he would take matters into his own hands.

**Socially Mediated Access**

Other behaviors achieve their effect through the behavior being mediated by someone else (Cipani, 1990, 1994; Michael, 1982; Sundberg, 1983). These behaviors produce the desired positive reinforcer through the efforts of someone else.

The following scenario utilizing the previous example can provide the contrast between direct access behaviors and socially mediated access behaviors. Previously, the individual wanting to eat an apple (the person is hungry) performed a chain of behaviors that directly produced the apple. The same behavioral effect can occur when the individual requests someone standing next to the refrigerator to hand him an apple. Note the different manner in which the reinforcer (ingesting apple) is gained. In the current example,
the requesting behavior is mediated by another person, and subsequently, the reinforcing event is produced.

Socially mediated access often occurs through some form of vocal request, but it need not be so. A celebrity gestures to his driver, who subsequently opens the door to the limousine for him. The gesture functioned in the same manner as a verbal request, “Henri, the door please.” A child at a residential facility comes to the dinner table, and staff provide him with his snack for the afternoon. Coming to the dinner table is interpreted as “he is hungry.” In some cases, the vocal request may not even appear to be a request. A client with schizophrenia mutters about people stealing her money. Subsequently, after meeting with the facility administrator, she gets a few dollars to spend on candy and soda in the vending machines.

In the previous case involving a client jumping out of a wheelchair, other behaviors might also produce the same function through mediation of the behavior from staff. This client may also have learned how to have toileting accidents if these accidents reliably result in getting pulled out of the wheelchair in order for staff to clean him up. If he is then placed on the floor for some period of time, one can begin to see that urinating in one’s pants is a less dangerous manner of getting the desired event. However, if staff clean him up and then place him back in the wheelchair, such a response is not as effective as jumping out of the wheelchair. Note the role staff, care providers, and adults play in the maintenance of this type of problem behavior.

**Direct Escape**

Behavior can also produce direct termination of existing environmental events, serving a direct escape function (Cipani, 1990, 1994). For example, an individual walks into a noisy room, finds the level of noise aversive, and subsequently walks out. Note that the removal of the aversive stimulus (i.e., the heightened noise level in the room) was terminated through a chain of behaviors ending in leaving the room. Walking out of the room is a direct escape behavior because it directly produced the removal of the negative reinforcer. Closing the blinds when the sun is too bright (for you) directly terminates the aversive stimulus (i.e., bright sun light). Taking a shower involves a chain of behaviors that is highly probable for many of us under conditions of being hot and sweaty (after physical exertion) because it directly terminates that condition (being hot and sweaty). These are all examples of chains of behaviors that produce escape (or avoidance) of aversive stimulation in a direct manner.

**Socially Mediated Escape Behaviors**

Escape behaviors can often achieve their effect of removing or postponing an aversive condition through the behavior of someone else (Cipani, 1995; Iwata, 1987; Iwata, Dorsey, Slifer, Bauman, & Richman, 1982). In the case of the noisy movie theater, an individual verbally protests to the manager of the facility, who then gets the crowd to quiet down. The verbal protest behavior exerted its desired effect through the behavior of another person—the manager. If the individual yells loudly, “let’s have some quiet in here,” and the room quiets down, the desired result was produced through a verbal request. The result (cessation of noise) was produced through other people becoming more quiet as a result of this behavior. Both of these examples involve a behavior that achieves its effect indirectly, through the behavior of someone else. However, if this annoyed person simply leaves the theater, thus terminating the noise, such a behavior produced its effect when the chain of behaviors ended in leaving the theater.

Negative reinforcement effects can also explain why care providers, parents, and staff respond to their child or client’s behavior in the manner they do. In conducting workshops,
I (E.C.) have seen participants begin to realize how much of a role the client’s social environment plays in the rate of problem behavior. Invariably, someone will make the following comment: “Why doesn’t the parent [care provider/staff members, teachers, aides, etc.] see that they are enabling [now you would say maintaining] the child’s misbehaviors?”

Before ascribing a dim view of such people, realize that maintaining contingencies also explain the behavior of parents, care providers, and teachers as well! Analysis of behavioral function is not just for explaining why clients do what they do. Recall the case of the child who cries when he is put in the time out room. As delineated previously, crying in this circumstance is probable because it affects the length of time the child stays in the time out area. When the child cries, he is more likely to get out early. When he does not cry, he is less likely to get out early. That is an analysis of the child’s crying behavior in time out. But what analysis fits the parent who reinforces (mistakenly) that crying behavior by letting the child out?

When the parent removes the child from the time out, what environmental effect do you think that produces? Does the child exacerbate his crying upon being let out? No, in fact the opposite. The child stops (at some point) his crying and whining. As you can see, the child’s behavior also affects the parent’s behavior. If you put the child in time out, then you fill the room or house with crying. If you take the child out of time out, the crying stops. What operation explains the contingency that results in increasing a behavior that terminates an aversive event? Negative reinforcement! The parent’s response to the child’s crying is under control of the presence of the aversive event (crying). When the parent’s response results in the child stopping his tantrum in time out, such a response becomes more likely in the future. The parent learns to terminate (escape) the aversive state of her child crying by terminating the time out prematurely.

In fact, the parent can avoid the crying in the first place by not putting the child in time out when he misbehaves. Instead of placing the child in time out, mild warnings are issued, but not often followed by time out. Therefore, time out becomes less frequent even though the parent “knows” that the child should go for the target behavior. The parent learns to avoid the aversive stimulus by not producing time out as frequently as needed. Unfortunately, this does not help the long-term effectiveness of time out in reducing the rate of the child’s target behaviors. This phenomenon explains why follow through on consequences by some personnel and parents is weak and inconsistent. It would be nice if children and clients made it easy for us to administer consequences for behavior, but unfortunately, they do not.

**DISCUSSION QUESTIONS**

Contrast the difference between a behavior that produces direct access versus one that produces socially mediated access. Contrast the difference between a behavior that produces direct access versus one that produces direct escape.

**WHAT MAKES A REINFORCER A REINFORCER?**

What can function as a reinforcer for one person may not function as a reinforcer for another person. For the hypothetical client Milton, who pinches to get staff to take him for a walk, the walk would be termed the reinforcer. Is getting a walk a reinforcer for all inpatient clients with schizophrenia? Obviously not. Different strokes for different folks. But is a walk always a desired event for this hypothetical client? Again, obviously not. A walk becomes a desired event for Milton (i.e., reinforcer) when he has not had one for awhile.
Milton may want a walk around 9 A.M., but after having a walk, he does not want one for another 5 or 6 hours. Hence, pinching will cease for a period of time until getting a walk becomes more of a desire on the part of this client. Pinching as a means to get a walk only becomes functional under the conditions where Milton desires a walk. Realize that the longer the time since Milton’s last walk, the greater the value of a walk. In layman’s terms, he wants to take a walk. In day-to-day communication this explanation is not a problem. However, when we attempt to engage in a scientific examination and explanation of how Milton comes to “want” a walk, we need a more precise terminology that allows us to analyze the environmental factors that lead a person to “want” a particular item or event.

Keller and Schoenfeld (1950) first used the term establishing operations (EO) to refer to the operations (deprivation or stimulation) that establish drives. Many years later the concept was refined by Dr. Jack Michael at Western Michigan University who proposed a precise terminology that designated the role of motivative variables as (a) an antecedent variable and (b) separate from the role of a discriminative stimulus (Michael, 1988, 1993). Motivating operations (MO) are environmental events that affect an organism’s behavior by altering the reinforcing or punishing effectiveness of some environmental change (consequence) and the frequency of occurrence of the behaviors that have in the past been associated with the occurrence of those consequences. They differ from the layman’s terms motivation, desire, drive, or want in that they are quantifiable and verifiable changes in the person’s environment that affect the value of a particular outcome for that person. The first articles regarding these variables referred to motivative variables as establishing operations (Michael, 1983, 1988); however, more recent articles and text have labeled these variables motivating operations (Laraway, Snyderski, Michael, & Poling, 2003; Michael, 2007).

Motivating operations can be divided into two distinct operations (see Table 1.3): (1) establishing operations (EO) refer to the process by which the value of a particular outcome is increased; and (2) abolishing operations (AO) refer to the process by which the value of a particular outcome is decreased. Motivating operations affect the current rate of behavior by increasing (EO) or decreasing (AO) the value of the outcome associated with that behavior. For example, behavior that is associated with obtaining food is more likely when you have not eaten for several hours (EO: value of food is increased) than it is right after a five-course meal (AO: value of food is decreased).

The other antecedent variables that affect the current rate of behavior are the discriminative stimulus (S^D) and the delta stimulus (S^Delta). The S^D is a stimulus associated with the availability of an outcome. The S^Delta is a stimulus associated with the outcome not being available. Although there is little direct research in this area it appears that MOs also have the effect of altering the value of an S^D as a conditioned reinforcer/punisher (Michael, 1983, 1988; Cooper, Heron, & Heward, 2007; Laraway et al., 2003). The simplest abol-

<table>
<thead>
<tr>
<th>TABLE 1.3</th>
<th>COMPONENTS OF THE MOTIVATING OPERATION (MO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) Establishing operations (EO)</td>
<td>(B) Abolishing operations (AO)</td>
</tr>
<tr>
<td>a. Environmental changes that increase the value of some outcome (value altering effect) and increase the likelihood of occurrence of behaviors that in the past have been correlated with that particular environmental change (behavior altering effect—Evocative)</td>
<td>a. Environmental changes that decrease the value of some outcome (value altering effect) and decrease the likelihood of occurrence of behavior that in the past has been correlated with that particular environmental change (behavior altering effect—Abative)</td>
</tr>
<tr>
<td>b. Increase the value of an S^R as a conditioned reinforcer and an S^P as a conditioned punisher</td>
<td>b. Decrease the value of an S^R as a conditioned reinforcer and an S^P as a conditioned punisher</td>
</tr>
<tr>
<td>c. Increase the value of an S^D as a conditioned reinforcer and an S^P as a conditioned punisher</td>
<td>c. Decrease the value of an S^D as a conditioned reinforcer and an S^P as a conditioned punisher</td>
</tr>
</tbody>
</table>

Note: Environmental change here refers to the environment both outside and inside the person’s skin.
ishing operations are a resolution of the conditions that established the value of a particular environmental change. For example, food deprivation operates as an EO for food, and eating food operates as an AO for food; sleep deprivation operates as an EO for sleep, and sleeping operates as an AO for sleep; deprivation of social interaction operates as an EO for social interaction, and interacting with friends operates as an AO for social interaction. It is not only resolving the environmental change that establishes the value of the reinforcer that acts as an abolishing operation. Consider the graduate student who has been sleep deprived: sleep deprivation operates as an EO for sleep, and consumption of caffeine or other stimulants operates as an AO for sleep.

Additionally, one can look at the behavior of an animal that has been food deprived for 48 hours such that food has been established as a reinforcer (EO). If there is an S^0 for food availability present, the animal will engage in behavior that produces food. This will hold true unless we establish the value of another reinforcer, such as escape from tissue damage, by introducing a predator to the area in which the food is located. Under these conditions the value of food is temporarily abolished, and the behaviors associated with food are abated until such time as the predator leaves the area.

**TYPES OF MOTIVATING OPERATIONS**

There are two general types of motivating operations: **conditioned and unconditioned** (Michael, 2007). Unconditioned motivating operations (UMOs) do not require any learning history to establish the reinforcing value of a particular outcome. These are the genetically selected items or events that are needed for basic survival of the individual and the species. Consider that from birth, for all organisms, after some period of time without food, food or calorie intake is established as a reinforcing event. No learning has to take place for the food to be valuable to the organism.

Unconditioned motivating operations have also been identified for sleep, thirst, sexual stimulation, breathing, activity, temperature regulation, and pain or tissue damage (Michael, 2007). Any environmental change that alters the organism’s physiology such that it is outside the optimal level for continued survival will operate as an unconditioned establishing operation (UEO), increasing the value of an environmental change that restores physiological homeostasis. Conditioned motivating operations (CMOs) acquire their reinforcing value as a result of the individual’s unique conditioning history. CMOs acquire their properties to make some events reinforcing to some people and not others via stimulus pairing with UMOs or with other CMOs.

Consider how the value of an umbrella might be established. If rain falls on your head, it will reduce your body temperature. A reduction in body temperature establishes the value unconditioned establishing operation) of increased body temperature (warmth). By being paired with a reduction in body temperature, rain on the head becomes a conditioned establishing operation. Rain on the head is now sufficient to establish the value of terminating rain on your head (CEO).

Let’s say you have never experienced an umbrella before, and rain is falling on you (CEO). Another person joins you, deploys their umbrella, and places it so that you are no longer being rained on. The umbrella has now been paired with the termination of an aversive event (conditioned abolishing operation). Because it has been associated directly with terminating rain on your head, the value of an umbrella will now also be established (CEO) when rain is falling on your head.

Three subtypes of CMOs have been identified as of this writing: surrogate, transitive, and reflexive (Michael, 2007).

**Surrogate conditioned motivating operation (CMO-S)**—A stimulus that acquires its affect as an MO by being reliably paired with the occurrence of another UMO or CMO.
and has the same value-altering and behavior-altering affects as the MO with which it was paired.

Examples: A weather forecast for rain can act as a surrogate CMO establishing the value of umbrellas by being reliably paired with rain on the head.

Reading an outdoor thermometer that indicates the temperature is minus 20 degrees can act as a surrogate CMO establishing the value of warm clothes by being associated with the UMO of being cold.

**Transitive conditioned motivating operation** (CMO-T)—A stimulus that acquires its reinforcing value by being paired with an item or event that is needed to access another CMO or UMO.

Examples: If the value of food has been established and you only have access to food in a can, this condition will also establish the value of a can opener.

If the value of food has been established and the only food you have access to is in a locked cabinet, this condition will increase the value of the key and also increase the value of interaction with any person that has the key.

**Reflexive conditioned motivating operation** (CMO-R)—A stimulus that acquires its reinforcing value by systematically preceding avoidable worsening and establishes the value of its own termination as effective reinforcement.

Examples: Some students find lengthy tasks aversive. The delivery of a task demand for a lengthy task may establish its removal as a reinforcer. If task demands reliably precede or warn of any type of worsening situation, then any behavior that removes the warning signal (task demand) will be strengthened.

**Motivating Operations Are Idiosyncratic**

Based on current research, all motivating operations (UMO and CMO) appear to be unique to the individual person. Each person will differ regarding the specific conditions that establish the value of a particular outcome. In the case of UMOs this is primarily determined by biological variables. In the case of CMOs this is primarily determined by the person's conditioning history.

Consider the question “What is the point at which food will operate as an effective reinforcer [i.e., food deprivation, increased calorie expenditure]?” For some people it is four hours after they finished eating lunch. For other people, the point at which food will operate as an effective reinforcer does not occur until the end of the day. One cannot say food will operate as an effective reinforcer when we deny access to food for a 10-hour period (absolute value), nor can one say that it will be a static time period for that individual without considering the level of calorie expenditure for that person. Food deprivation is relative to the individual under consideration and dependent on level of activity.

Therefore, the point in time when a given individual will engage in behaviors that make access to food highly likely is different for each individual and each situation. However, each of the variables that determine when food will be effective as a reinforcer for a particular person are quantifiable and can be determined with a high degree of accuracy using one of the various analog assessment procedures (see Chapter 2).

**Establishing Operations for Access Diagnosis**

Establishing operations relative to positive reinforcement (access diagnosis) typically involve some period of deprivation of that item or event. However, many people will mistakenly consider that only deprivation increases the value of some outcome. The value of a positive reinforcer can also be established when an item or event is added to the person's environment.
You are all familiar with the saying “You can lead a horse to water but you can’t make him drink.” Restated behaviorally, when you present the $S^D$ for a particular behavior the organism does not always engage in the previously learned behavior. If we include the MO (in this case the establishing operation), it is clear that there are at least three conditions that will increase the value of fluids: (1) deprive the organism of fluids for some period of time, (2) increase the amount of salt the organism consumes, and (3) increase the level of fluid loss (sweating, blood loss). Therefore, reformulating the old saying slightly, “You can lead a horse to water, but you cannot induce drinking behavior unless you have increased the value of water to the maximal level for this horse.”

Table 1.4 presents several motivating operations and the more informal, layman’s term used to describe these events in general conversation. Note that in some cases the layman’s explanation is consistent with the actual abolishing operation, but in other cases it is not. The more precise analysis made possible by the use of the MO in many cases allows for the design of more effective interventions. In the first example, a person may have eaten breakfast but missed lunch, so by the time dinner is being prepared the value of food is very high. Therefore, any behavior or set of behaviors that result in obtaining food will be strengthened. The value of food will be abolished when some volume of food has been ingested causing the stomach to expand. In the second example, a person may have eaten the same number of calories as she usually intakes, however, on this day she engages in strenuous exercise for several hours. This unusual level of calorie expenditure will increase the value of calories (food), and the loss of fluids secondary to sweating will increase the value of fluids. Here again, any behavior or set of behaviors that results in obtaining food or fluids will be strengthened. In the third example, if a person has not had any fluids for several hours the value of fluids will be established. Any behaviors that result in obtaining fluids will be strengthened. In this case, ingesting fluids will operate as an abolishing operation.

<table>
<thead>
<tr>
<th>Establishing Operation</th>
<th>Lay Term</th>
<th>Reinforcer for Some Behavior</th>
<th>Abolishing Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Deprived of food</td>
<td>Hungry</td>
<td>Food</td>
<td>Intake of some volume of food (Expansion of stomach)</td>
</tr>
<tr>
<td>2. Strenuous exercise for several hours</td>
<td>Hungry and thirsty</td>
<td>Drink and food</td>
<td>Intake of some volume of food and fluids</td>
</tr>
<tr>
<td>3. Deprived of drink</td>
<td>Thirsty</td>
<td>Drink</td>
<td>Intake of some volume of fluids</td>
</tr>
<tr>
<td>4. Ingested salt</td>
<td>Thirsty</td>
<td>Drink, liquids</td>
<td>Intake of some volume of fluids</td>
</tr>
<tr>
<td>5. Deprived of physical contact</td>
<td>Wants hugs</td>
<td>Physical contact (specific type)</td>
<td>Some duration of physical contact</td>
</tr>
<tr>
<td>6. Deprived of attention</td>
<td>Annoying, wants attention</td>
<td>Attention (specific person)</td>
<td>Some duration of attention</td>
</tr>
<tr>
<td>7. Deprived of TV</td>
<td>Wants TV</td>
<td>TV</td>
<td>Some duration of TV</td>
</tr>
<tr>
<td>8. Deprived of stimulation, all varieties</td>
<td>Wants stimulation</td>
<td>Stimulation (specific kind)</td>
<td>Some duration of stimulation</td>
</tr>
<tr>
<td>9. Smoker deprived of cigarettes</td>
<td>Wants to smoke</td>
<td>Inhalation of cigarette smoke</td>
<td>Some level of nicotine in system</td>
</tr>
<tr>
<td>10. Smoker deprived of nicotine with cigarette but no way to light it</td>
<td>Wants to smoke</td>
<td>A light and inhalation of cigarette smoke</td>
<td>Lit cigarette</td>
</tr>
</tbody>
</table>
In the fourth example, consider that bartenders have long understood how to effectively establish the value of fluid intake. Have you ever been to a bar at happy hour? There are typically many food items available for free. Have you also noticed that when you eat the free food you seem to get thirsty much more quickly than usual? Most of the food items served at happy hour are either high in salt content or very spicy. This, of course, tends to establish the value of fluids, and the $S^D$ for availability of fluids is typically the bartender. The fifth example considers that for most people not having physical contact (or a specific type of physical contact) for an extended period of time will establish the value of physical interaction. Under this condition any behavior that results in some level of physical interaction will be strengthened. It appears that there is a UEO for some level of physical contact. It also appears that most people develop multiple CEOs for specific types and durations of physical contact.

The sixth example demonstrates that for most people access to tangible reinforcers has been paired with social interaction; this results in a CEO for attention. Having no social interactions for a specific period of time will increase the value of any interaction. Acquiring attention will act as an abolishing operation. In regards to attention, the EO may be for a specific person, which means the abolishing operation would be attention from the specific person. All of the socially mediated access and escape diagnoses involve a CEO for attention. In the seventh example we consider the case of a child with a history of watching TV every day after school. The television stops working, so the child does not have access to TV after school for a period of about 1 week. The value of TV watching will increase such that, given the opportunity, he will engage in high levels of behavior to get access to viewing TV.

Example eight presents that some level of stimulation appears to be a UMO as demonstrated by various sensory deprivation experiments. Deprivation of all types of stimulation for some period of time will increase the value of any type of stimulation. Consider the case of an individual with restricted mobility living in an environment that is deprived of stimulation. Under this condition individuals will frequently engage in “mouthing” of clothing, hands, or any item they can manipulate. These behaviors produce some level of stimulation, and therefore, under this condition the mouthing behaviors will be strengthened.

The ninth example demonstrates that people who smoke certainly value cigarettes, and we can clearly establish the value of a cigarette by ensuring the person does not smoke for some period of time (CEO). Under this condition any behavior that produces access to cigarette smoke will be strengthened. The abolishing operation in this case appears to be levels of nicotine in the persons body. In example ten, considering that same person who smokes, we can also increase the value of matches or a lighter (CEO) by giving the person a cigarette with no means to light it. If we set up a situation such that the only way to access a lighter is by talking to another person, we will also increase the value of social interaction that results in obtaining a means to light a cigarette (CEO). The abolishing operation in this case would be obtaining a means to light the cigarette. Note that the social mediation here is only important as a way to get a light. Under the same conditions, if a vending machine were available that dispensed lighters the value of the social interaction would not be established. This CEO would be consistent with a socially mediated access to tangible items diagnosis (2.3 SMA—Tangible reinforcer).

It is important to remember that we tend to talk in general terms regarding the events that operate as an establishing operation. We generally would refer to food deprivation as the EO, however, in some cases it is valuable to talk about deprivation of specific nutrients as establishing the value of particular foods. A person who has low levels of potassium will be particularly reinforced for consuming food high in potassium, such as bananas.

The same is true for deprivation of attention as an EO. In many cases it is deprivation of attention from a particular person that acts as an EO. If I (K.S.) am at a conference I will
interact with many people so the EO for attention in general is very low; however, the EO relative to attention from my wife is still at strength. It is important to note that the person does not need to be able to verbalize this relation for it to affect their behavior.

Establishing Operations for Escape Diagnosis

Thus far we have only considered MO for behaviors maintained by positive reinforcement (access diagnosis). MO for behaviors maintained by negative reinforcement (escape diagnosis) have the same characteristics (see Table 1.4), however, the environmental event in this case is related to an outcome that the organism is acting to avoid or terminate (see Table 1.5).

In the first example, a teacher may present a relatively difficult task to the child. Because the child is not capable of performing such a task or demand, he finds the presence of such a task demand aversive (CEO). Therefore, a behavior, or set of behaviors, in the repertoire of this child that results in its removal (CAO) will be strengthened. Realize that what is difficult for one child may be easy for another, hence, difficult task is a relative term.

In example two, a behavior that terminates the presence of a person’s obnoxious behavior will be strengthened under conditions involving the presence of the noxious conditions

<table>
<thead>
<tr>
<th>Establishing Operation</th>
<th>Lay Term</th>
<th>Reinforcer for Some Behavior</th>
<th>Abolishing Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Presence of difficult task</td>
<td>Lazy</td>
<td>Removal of task</td>
<td>Removal or delay of task or removal of that portion of the task that is difficult</td>
</tr>
<tr>
<td>2. Person acting in an obnoxious manner</td>
<td>Annoyed</td>
<td>Terminating engagement in social situation</td>
<td>Removal or avoidance of specific person or type of interaction</td>
</tr>
<tr>
<td>3. Presence of pain</td>
<td>In pain</td>
<td>Termination of painful stimulus</td>
<td>Reduction or avoidance of pain stimulus</td>
</tr>
<tr>
<td>4. Rain on the head</td>
<td>Does not want to get wet</td>
<td>Termination of rain on head</td>
<td>Removal or avoidance of rain on head</td>
</tr>
<tr>
<td>5. Request to complete a long task</td>
<td>Unmotivated</td>
<td>Shortening or termination of the long task</td>
<td>Removal or avoidance of the request or reduction in the length of the task</td>
</tr>
<tr>
<td>6. Occurrence of extra pyramidal symptoms (EPS)</td>
<td>Wants symptoms to stop</td>
<td>Termination of the EPS</td>
<td>Removal, reduction, or avoidance of the symptoms</td>
</tr>
<tr>
<td>7. Allergic rhinitis</td>
<td>Want relief from allergies</td>
<td>Termination or reduction in allergy symptoms</td>
<td>Removal, reduction, or avoidance of the symptoms</td>
</tr>
<tr>
<td>8. Drug withdrawal symptoms</td>
<td>Wants more drugs</td>
<td>Termination or reduction of withdrawal symptoms</td>
<td>Removal, reduction, or avoidance of the symptoms</td>
</tr>
<tr>
<td>9. Alcohol withdrawal symptoms</td>
<td>Wants more alcohol</td>
<td>Termination or reduction of withdrawal symptoms</td>
<td>Removal, reduction, or avoidance of the symptoms</td>
</tr>
<tr>
<td>10. Presence of auditory hallucinations</td>
<td>Hearing voices, crazy, mentally ill</td>
<td>Termination of auditory hallucinations</td>
<td>Removal, reduction, or avoidance of the symptoms</td>
</tr>
</tbody>
</table>
(CEO). Let us say this person’s obnoxious behavior is using foul language. If a person does something that affects this person whereby he lessens or eliminates such language (CAO), such behavior will be strengthened in the future when faced with this person’s foul language. But let us say that nothing seems to perturb this individual, and he goes right on with his rude language. Leaving the area then becomes probable. Why? Because it terminates the person having to listen and put up with such language (CAO). In example three, painful stimulation establishes the value of termination of the discomfort (UEO). Any behaviors that produce escape or avoidance of such painful stimulation (UAO) will be strengthened. Again, painful is a relative phenomenon, varying according to the individual.

In example four we consider that for many people rain on the head establishes the value of terminating rain on the head (CEO). This group of people will therefore engage in behavior that results in rain no longer falling on their head (CAO). This may include using an umbrella, holding something else over their head, or simply going under cover. Any of these behaviors have the same effect of stopping rain on the head (CAO) and will therefore be strengthened. Example five is similar to example one, however, in this case, the teacher may present a relatively long task to the child. Because the child is not capable of performing such a task or demand for that long period of time, the task demand is aversive (CEO). Therefore, a behavior, or set of behaviors, in the repertoire of this child that results in its removal (CAO) will be strengthened.

Example six considers the behavioral effects of extra pyramidal symptoms (EPS), which are side effects associated with many antipsychotic medications. These EPS can be quite aversive. The occurrence of EPS will establish the value of (UEO) terminating the EPS. The most direct means to terminate the EPS (UAO) is to stop taking the medications that cause the EPS. This MO is frequently the major factor in medication noncompliance for people diagnosed with major mental illness. In example seven we consider that for people who have allergies and experience the private event of a sinus headache, the value of terminating that stimulus is established (UEO) when they are in the midst of a sinus headache. Most have found multiple means to do this: (1) take sinus medication; (2) take a hot, steamy shower; and (3) apply ice packs to the affected area. Consider, however, if you are living in an institution, and you are not verbal and unable to communicate that you have a sinus headache. The most direct way to terminate the sinus pain (UAO), albeit briefly, is to press on or hit the sinus area that is producing the pain, thus these behaviors would be strengthened.

Examples eight and nine review how the occurrence of drug or alcohol withdrawal symptoms will establish the value of terminating the withdrawal symptoms (UEO). The most direct means to terminate the withdrawal symptoms (UAO) is to take the drug associated with the withdrawal symptoms, thus strengthening this behavior. This UEO can be a major factor in the initial termination of drug use. The first use of drugs and long-term abstinence is associated with several other CEOs. The particular CEOs involved are typically idiosyncratic but can and should be delineated when approaching the treatment of substance abuse.

In example ten we review the MOs involved in auditory hallucinations. Many people report private events that could be classified as auditory hallucinations. For some people these events are aversive either due to content or duration. For this group of people the onset of auditory hallucinations establishes the value of terminating that private event (UEO). Any behavior that results in a reduction or elimination of the event will be strengthened. Many people report that increasing doses of alcohol and other substances will temporarily act to suppress (UAO) the private event. This process may help to explain the high rate of substance use in people who are later treated for a mental illness. Identifying the motivating operation that is at strength is a fairly straightforward process in people with relatively normal physiology. However, in clinical populations it is often the case that physiological
Functional Behavioral Assessment processes are in some way disrupted. There is clear evidence that people with brain injuries and most major mental illnesses differ significantly from the norm in the way that their brains function. These differences appear to affect the MO both in establishing and abolishing the value of particular outcomes as reinforcers.

Consider some people with the genetic syndrome called Prader-Willi. They never seem to ingest enough food or calories to abolish food as a reinforcer. For these individuals the value of food is established anytime they are not ingesting food. For people diagnosed with borderline personality disorder the value of adult or peer attention is difficult to abolish, and the value of attention is established very quickly after the last social interaction. Both of these examples are probably best analyzed as difficulties associated with ineffective abolishing operations. In both cases you could reduce the value of the reinforcer (food, attention) by continuous, noncontingent reinforcement, but in both cases this presents pragmatic and ethical concerns.

How Do Other Antecedent Stimuli Interact with the MO?

You should now understand the role of motivation in the current and future rate of any behavior. However, you may be asking the question “Why would a person exhibit a particular behavior [e.g., pinching] that has in the past been paired with the occurrence of a specific reinforcer [e.g., going for a walk] at a specific time and not engage in that behavior at other times? Especially if the criterion to establish the value of the outcome has clearly been met [e.g., it has been 5 days since Milton's last walk, but he has not pinched anyone]?”

The answer lays in the other antecedent variables that affect the current rate of behavior: (a) the discriminative stimulus (SD), and (b) the delta stimulus (SDelta). The SD is a stimulus associated with the availability of an outcome. The SDelta is a stimulus associated with the outcome not being available. In order for the behavior to occur the person has to be motivated to get the item or event (the value of the outcome has to be established), and there needs to be some stimulus indicating that the outcome is available. If it has been several hours since you have eaten (value of food is high), and you are close to a favorite restaurant, will you go in to get food? It depends! If the sign on the door says OPEN (SD: food is available), you are likely to go in and order food; if the sign says CLOSED (SDelta: food is not available), you are not likely to go in and obtain food (Table 1.6).

Note that the Open/Closed sign on the restaurant is a neutral stimulus if the value of food has not been established. One could argue that seeing the Open sign acts as conditioned reinforcement for looking at the sign, but only if the value of food has been established. Once you have consumed some quantity of food, the intake of that food will abolish the value of food as a reinforcer (Cooper et al., 2007; Hesse, 1993; Laraway et al., 2003; Michael, 2005).

In some cases there may be a considerable delay between the EO and the actual occurrence of any behavior related to that specific EO. Some clients in treatment facilities will retaliate against a peer that has assaulted them. This is easily explained when the retaliation

<table>
<thead>
<tr>
<th>MO-EO</th>
<th>Stimulus</th>
<th>Behavior</th>
<th>Consequence</th>
<th>MO-AO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deprived of food for several hours (food is more valuable)</td>
<td>“Open” sign (SD), indicates food is available</td>
<td>Enter and order food</td>
<td>Obtain food</td>
<td>Consuming food (food is now less valuable)</td>
</tr>
<tr>
<td>Deprived of food for several hours (food is more valuable)</td>
<td>“Closed” sign (SDelta), indicates food is not available</td>
<td>Test door, unable to enter</td>
<td>NO Food</td>
<td>Food is still valuable</td>
</tr>
</tbody>
</table>
Basic Concepts and Principles

is immediate, but how do you explain retaliation that occurs several days later? Clearly the EO establishing the value of damage to the other person is already at maximal value immediately after the person is assaulted. What would account of the delay? The most likely explanation is related to the availability of retaliation (damage to the other person) as a reinforcing event. Specifically, after an assault event, staff are more likely to be vigilant in order to avoid the retaliation. They are more likely to be present when the two clients are in the same area. Staff presence is an \( S^{\text{Delta}} \) for retaliation because the staff would prevent the occurrence of damage to the other client. Over time the staff are less vigilant, and eventually the two clients are left alone. Under this condition assault is highly likely to produce damage to the other client because the staff are unlikely to be close enough to intervene, so the retaliation then occurs. Because this may occur several weeks after the initial assault event, staff my report that it happened for no reason or “out of the blue.”

**Is It an MO or an \( S^D \)?**

As Michael (2007) points out, it can be difficult at times to distinguish an MO from an \( S^D \). There are two simple questions to answer in making this determination:

1. In the presence of this stimulus is a particular environmental change more or less **valuable**? If the answer is yes, you are dealing with an MO.
2. In the presence of this stimulus is a particular environmental change more or less **available**? If the answer is yes, you are dealing with an \( S^D \).

Consider the following example. A squirrel is engaged in eating when a predator approaches. The squirrel stops eating and runs up a tree to avoid the predator. Escape is **equally available** if the predator is there or not there; the squirrel could run up the tree at any time. Escape is much **more valuable** when the predator is present than when it is absent. The presence of the predator is an EO; specifically, it establishes the value of escape or avoidance of physical damage.

A more pragmatic example would be the smell of good food cooking. The smell of the food does not make food more **valuable** as a reinforcer. The smell of food does, however, indicate that food is more **available**, so it is therefore an \( S^D \). In applied settings the pragmatic questions to consider regarding motivating operations and discriminative stimuli relative to a particular behavior-consequence relation are

1. What conditions would make that particular outcome valuable?
2. What conditions would reduce the value of that particular outcome?
3. Are there known biological conditions that would increase or decrease the value of that particular outcome?
4. What level (amount or duration) of the conditions that make a particular outcome valuable must occur before the targeted behavior is highly likely to occur?
5. What level (amount or duration) of the particular outcome must occur before the targeted behavior will stop?
6. After the behavior stops, how long is it before it reoccurs?
7. When the reinforcer is valuable, what are the stimulus conditions that indicate the outcome is available (\( S^D \))?
8. When the reinforcer is valuable, what are the stimulus conditions that indicate the outcome is not available (\( S^{\text{Delta}} \))?

**CHANGING BEHAVIOR BY ALTERING THE MOTIVATING OPERATION**

When considering behavior change at the MO level it is important to be aware that the greater the value of the EO the greater the strength of the behavior. A person deprived
of food for 24 hours will be much more likely to engage in behavior that is associated with food than a person who has just finished eating a full meal. As the value of the EO increases, the frequency (both absolute and relative), duration, and intensity of behaviors associated with abolishing that EO will also increase. As the value of the EO increases, the response latency following onset of the \( S^P \) will decrease. In short, the higher the value of the EO the more rapid, frequent, and intense the behavior associated with that EO.

**Decreasing Targeted Behaviors by Altering Motivating Operations**

In most cases we can decrease, if not eliminate, the behavior associated with a particular EO by ensuring that it never becomes valuable. In the case of access diagnosis (1.0 Direct Access, 2.0 Socially Mediated Access) this involves providing the reinforcer frequently and at high enough levels such that the value is never established. While this antecedent manipulation does not alter the function of the target behavior directly, it will reduce the behavior in frequency, duration, and intensity as well as increasing response latency. Table 1.7 provides some examples of this methodology.

For example, if a child engages in a behavior to get a certain preferred activity, such as computer time, then increasing the child’s time on the computer two- or three-fold over the current access level will do two things. First, such a manipulation will reduce the value of this particular event. Second, it will alter the frequency of the target behavior as a result of the alteration of the EO for this target behavior. In regards to target behaviors maintained by escape diagnosis (3.0 direct escape, 4.0 socially mediated escape), the method of changing the motivational condition for such behaviors is to eliminate the presence of the aversive event, make it less aversive, or terminate the aversive condition noncontingently (see Table 1.8).

In regards to behaviors maintained by negative reinforcement, another methodology has been developed that impacts the motivational condition. It may also be possible to

<table>
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<tr>
<th><strong>TABLE 1.7</strong></th>
<th>ANTECEDENT MANIPULATIONS AFFECTING MOTIVATING OPERATIONS FOR BEHAVIOR MAINTAINED BY POSITIVE REINFORCEMENT (ACCESS DIAGNOSIS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maintaining Reinforcer</strong></td>
<td><strong>Antecedent Manipulation</strong></td>
</tr>
<tr>
<td>Adult attention (food)</td>
<td>Increase frequency/duration of attention</td>
</tr>
<tr>
<td>Tangible reinforcer (food)</td>
<td>Increase availability of food throughout the day/time period</td>
</tr>
<tr>
<td>Tangible reinforcer (free time)</td>
<td>Increase availability of free time throughout the day/time period</td>
</tr>
<tr>
<td>Tangible reinforcer (preferred activity)</td>
<td>Increase availability of preferred activity throughout the day/time period</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>TABLE 1.8</strong></th>
<th>ANTECEDENT MANIPULATIONS AFFECTING MOTIVATING OPERATIONS FOR BEHAVIOR MAINTAINED BY NEGATIVE REINFORCEMENT (ESCAPE DIAGNOSIS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maintaining Negative Reinforcer</strong></td>
<td><strong>Antecedent Manipulation</strong></td>
</tr>
<tr>
<td>Presence of unpleasant social situation</td>
<td>Avoid presenting such events, or reduce the level of aversion by altering some aspect of the situation</td>
</tr>
<tr>
<td>Presence of relatively lengthy task, chore, or assignment</td>
<td>Avoid presenting such tasks, chores, or assignments, or reduce the level of aversion by altering the length of the task</td>
</tr>
<tr>
<td>Presence of relatively difficult task, chore, or assignment</td>
<td>Avoid presenting such tasks, chores, or assignments, or reduce the level of aversion by altering the difficulty of the task</td>
</tr>
<tr>
<td>Presence of physically aversive stimulus</td>
<td>Avoid presenting such aversive stimuli, or reduce the level of aversion by altering some critical aspect of the stimulus</td>
</tr>
</tbody>
</table>
alter slightly the conditions, removing just the factor or factors that establish the value of the escape behavior. In the previous example, making the instructional task less difficult by teaching the student how to perform such tasks would reduce the problem behavior. By teaching the child directly how to perform the task to mastery, two effects are created. First, the aversiveness of the event is altered, thus reducing the value of escaping such a task. Concurrently, it will alter the frequency and intensity of the target behavior and increase the response latency of the target behavior. For example, if a student engages in oppositional behavior when given a difficult task, then not providing that task will do two things. First, such a manipulation will ensure that the value of escape or avoidance of that task is never established; as a result, the frequency and intensity of the oppositional behavior will be reduced or eliminated.

**Increasing Behavior by Altering Motivating Operations**

As should be clear to you by now, any behavior is unlikely to occur if the value of a particular outcome has not been established. When attempting to teach a new behavior it is important to understand that there are two ways to ensure that a reinforcer is at its maximal value. First, you could wait for naturally occurring environmental changes that establish the value of a particular outcome. For example, if you are trying to work on establishing behaviors related to accessing food, you could wait until right before meal times to use food as a reinforcer. Second, you could contrive a situation that increases the value of some outcome as a reinforcer. For example, if you are trying to work on establishing behaviors related to accessing fluids, you could provide very salty food to a person prior to and during training, thereby ensuring that the value of fluids remains at a relatively high level.

A more frequent use of contrived establishing operations is seen in the teaching of social skills and verbal behavior. We can manipulate the value of social/verbal interactions by establishing the value of a tangible reinforcer and then making access to that reinforcer dependent on a social interaction. This arrangement will establish the value of social interaction. Once the value of social or verbal interaction is established, we can effectively invoke the social behavior (Table 1.9).

Consider the following example. If we want to teach a person to request an item using verbal behavior, we could establish the value of a food item by simply waiting until a half hour prior to a usual mealtime. Assuming that the person has a history of socially mediated access to food, we could establish the value of social interaction by ensuring that no food item was directly available. We have now contrived a situation in which the only way to access a food item is by interacting with the staff person. Under this condition the person we are teaching to request an item is very likely to engage in some social interaction. We need only to ensure that the person engages in some approximation of the verbal behavior we are teaching prior to the staff providing the food item.

In regards to behaviors maintained by negative reinforcement, another methodology has been developed that impacts the motivating condition. It may also be possible to alter slightly the conditions, removing the factor that establishes the value of the escape

<table>
<thead>
<tr>
<th>Table 1.9</th>
<th>Contrived Establishing Operations</th>
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</thead>
<tbody>
<tr>
<td><strong>UEO</strong>—Food</td>
<td><strong>CEO</strong>—Staff Attention</td>
</tr>
<tr>
<td>Food deprived for short period of time</td>
<td>No direct access to food</td>
</tr>
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<td></td>
<td></td>
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</tbody>
</table>
behavior. In the previous example, making the instructional task less difficult by teaching the student how to perform such tasks would reduce the problem behavior. By teaching the child directly how to perform the task to mastery, two effects are created. First, the aversiveness of the event is altered, thus affecting the value of escape from such a task. Concurrently, it will alter the frequency of the target behavior as a result of the alteration of motivating conditions for this target behavior.

For example, if a student engages in oppositional behavior when given a difficult task, then not providing that task will do two things. First, such a manipulation will remove the controlling stimulus for the behavior, thus affecting the motivational condition for escape or avoidance. Concurrently, it will alter the frequency of the oppositional behavior as a result of the alteration of relatively aversive motivating conditions that occasion reinforcement for this target behavior.

**WHY DO SOME CLIENTS ENGAGE IN SEVERE DESTRUCTIVE BEHAVIORS?**

In some settings, clients engage in severe forms of self-injury, aggression to others, and property destruction. Many people take this as an example that these people have uncontrollable rages as a result of their disorder. “Obviously these people have no control over what they do. They are driven to destruction!”

Take the case of the previously discussed child who gets sent to the time out room and cries to get “a more lenient sentence” once there. He might be judged to be less “disordered” than another child who engages in property destruction when placed in time out. Why does he cry and not become destructive? Although this child currently does not engage in property destruction, he may not be far from learning how to do such. This is a scenario of how more severe tantrum behaviors can be shaped by the social environment.

Suppose the parent decides to ignore the tantrum behavior in the time out area. He will “stick to his guns” and not allow the child to get out early. The child goes to time out and begins his crying episode but to no avail. He cries louder, but that does not result in removal either. He then throws something at the wall. The parent then comes into the room to find out what has happened. Note the effect of the throwing behavior in the sequence of events. If crying does not work, throw something. That will bring in Dad.

With time, the parent ignores some of the throwing episodes until a shoe goes through the dry wall near the door. As you can see, with each new exacerbation of behavior, the parent “has to” attend to the child to stop any further escalation. Hence, months later the child is now destroying the room, as opposed to just crying when placed in time out.

**CONTRIVED CONTINGENCIES PRODUCE A FUNCTION**

Reinforcement systems that are designed to simply target appropriate behavior for increase have been referred to as contrived contingencies. The derivation of the specific contingency is contrived in that the functional relationship between problem behavior and its enabling contingency was not deduced. In using contrived contingencies to solve problems, one simply selects a powerful reinforcer, of unknown relationship to the current problem behavior, and delineates a temporal relationship between it and some desirable behavior.

Nevertheless, contrived contingencies produce function, and there are many reasons why they may be preferred as a first stage of an ecological intervention in many settings. A contrived classroom contingency arranges a functional relationship between some target criterion behavior (e.g., a designated percentage of time on-task, designated score on quiz grades, etc.) and production of effective reinforcers (Barrish, Saunders, & Wolf, 1969; Greenwood, Hops, Delquadri, & Guild, 1974). Point or token systems entail conditioned reinforcers (points) that are traded in for back-up reinforcers. The designation of potent back-up reinforcers provides the system with the requisite mechanism to influence behav-
ior (Inkster & McLaughlin, 1993). Therefore, such contrived contingencies make student performance on the assignment or material of consequence. Many people refer to contrived contingencies as nonfunctional contingencies. You should now realize that functional is determined by the environment, given the presence of certain MOs. Designating a contrived contingency makes some behaviors functional with respect to the delivery of certain stimuli that are hopefully invaluable at that moment in time. Contrived contingencies introduce competing consequent stimuli to some functions that may exist for problem behaviors. Let us examine how contrived contingencies produce functions.

Ms. Tally designs a point system that provides points for on-task behavior during intermittent observations of such behavior. She has learned in her behavior analysis courses that contrived reinforcement contingencies have been demonstrated to be effective with many students, including those labeled as unmotivated and not intrinsically motivated. She feels that the term *intrinsically motivated* describes a certain percentage of students in her classroom, and she wants them to perform to a higher level. She implements a beeper system to increase student on-task behavior (see Cipani, 2008a, for details). *On-task behavior* is often defined as looking at the materials during seat assignments or at the teacher during lesson presentations or instructions. A beep is produced at random intervals. With these random beeps, she intermittently observes the students in her class and records whether they are engaged with their class assignment. When students are demonstrating on-task at the time of the sampling, they earn points. If they are not on-task at that point in time, they do not earn points. Points are traded in later for a variety of back-up reinforcers, such as tangible items and preferred activities.

Ms. Tally implements this program for four weeks subsequent to a baseline. As a result of implementing the beeper system, the mean rate of on-task behavior goes from 46% during baseline to 77% for the first 4 weeks of treatment. Further evidence of the efficacy of the beeper system is the substantial improvement on the students’ quiz grades. Why does this procedural arrangement between student engagement and contrived reinforcement contingencies work? In using the beeper system, it was not necessary for Ms. Tally to determine the function of the existing off-task behaviors in order to reduce the level. Why does such a contingent relationship alter student performance in the desirable direction?

The environment often creates, through the class routine involving instructional periods, deprivation with respect to some item or activity. As a result, the ability of some behavior or chains of behavior to abolish the deprivation is determined by the teaching staff. The extent to which the contrived contingencies involving points will increase the rate or level of on-task behavior (or other targeted behavior) depends on the relative deprivation of the back-up items and also the aversive nature of the current tasks or activities. When the back-up items and events are relatively deprived, behaviors that produce such become more probable. In using the beeper system, on-task behavior becomes functional in producing points. The points accumulated are then traded in for back-up reinforcers. Therefore, appropriate on-task and engagement behaviors become functional in producing the deprived events and items. Like any other functional analysis, classroom behaviors that produce desired events (under relevant MOs) become more probable under the discriminative stimuli involving the presence of the teacher and some rule-specifying contingency.

An important point about contrived contingent reinforcers is their ability to possibly override existing weak functions of problem behaviors that are incompatible with on-task behavior. Contrived contingencies may address MOs that are far more powerful in terms of their value-altering effects than the MO for the current problem behavior. For example, a student engages in gazing out the window for minutes at a time to take in the view. We could say that such behavior may either be a function of direct access to visual
sensory reinforcement or direct escape of engagement with instructional materials. Under the absence of contrived reinforcers for performance, such behavior occurs several times (of variable duration) in a given instructional period. The teacher may even report that this student gets easily distracted. However, when contrived contingencies for on-task behavior are deployed, via the beeper system, gazing out the window goes down to a markedly lower frequency and also of very short duration. Note that the MO addressed by the contrived contingency overrides (momentarily operates as an AO for) the weaker MO for viewing the scenery or directly escaping the task.

What about the students who do not need teacher-designed contrived contingencies for selected appropriate task engagement behaviors? Some students (often labeled as “good”) continue to perform despite getting more work after they complete their initial assignment. Is this an instance of intrinsic reinforcement? While many nonbehavioral educators point to this as an example of intrinsic motivation, they fail to understand the powerful role of other superimposed contingencies on classroom performance. Performing well in class can bring teacher, parent, or other adult attention and, in some cases, peer approval and attention. Grades also provide a source of social contingencies, and some additional benefits from rule-specifying contingencies (“If I get good grades, I’ll go to college.”). Therefore, in these students, because other MOs are present (e.g., attention from teacher, parents, peers), and there are discriminative stimuli for such behavior, their behavior is well understood within a contingency analysis. These students’ performances are sustained because of these inherent superimposed contingencies in a given student’s life.

While such superimposed additional contingencies can explain why some competent students do not need contrived contingencies to maintain classroom performance, what about those who do not perform under such conditions? These students cannot perform at the academic levels that recruit such reinforcers. What happens to learners who do not have the competence to be affected by such superimposed contingencies? Very often, the failure to use contrived contingencies with these students results in a decrement in everyday performance. Their performance in the classroom becomes highly variable. On some days, they perform at admirable levels, and other days they do not complete their assignments. Unfortunately, when their performance over time fails to recruit superimposed additional reinforcement contingencies, such as good grades and adult approval, they become even more unproductive. When these learners fail to consistently recruit those contingencies, their daily work does not come under control of such consequences.

As a result of this failure to recruit superimposed contingencies, classroom instruction and tasks become an aversive condition. Instruction, task assignments, and other learning activities develop aversive stimulus properties, which become EOs for escape and avoidance behaviors. With the reluctance of the teacher to designate some alternate (performance-based) criterion for terminating tasks (see the case of the wacky contingency, Chapter 3, page 110), undesirable behaviors become strengthened through the selective reinforcement of such.

**SUMMARY**

Behavior (operant) that occurs with high probability in certain contexts is functional. This is true for both desirable and undesirable behaviors. Functional translates to the behavior producing a stimulus change that maintains such a behavior. Behavior achieves a desired environmental effect through one of two operations: (1) producing a desired event or item or (2) removing or avoiding an undesired event. Further, the manner in which such results are produced can be one of two methods: (1) direct or (2) socially mediated. The following chapters will expound on this concept of specific operant behavior becoming functional under certain motivational contexts as a result of its environmental effect.
THE CHILD WITHOUT A CONSCIENCE: THE FUNCTION OF BEHAVIOR IN A COMPLEX CASE

When mental health personnel view behavior as a result of an internal condition, behavior is often explained as the result of such a condition. Hence, such behavior is to be expected from time to time, and environmental contexts are relegated to an immaterial role. The following case is instructive for several reasons. First, the type of behaviors occurring at such a young age was rather unusual and of a form that intimidated the adults caring for the child. Second, an analysis of the probable function of such behaviors revealed “super-ordinate” contingencies that existed in foster care placement. Such contingencies are invoked when foster children of a young age engage in behaviors that make the current placement caretakers no longer willing to care for them.

Description of Case

Polly was a 5-year-old child who had been referred to me (E.C.) for in-home behavior management. She was currently residing at her second foster home, having been detained from her biological mother's home previously by Child Protective Services (CPS). Polly's biological mother was reported to have perpetrated several incidents involving physically abusive behavior toward Polly and her other siblings. Her first foster placement ended rather quickly (prior to my involvement) as she reportedly exhibited uncontrollable outbursts and tantrums. Subsequently, the foster parent requested a termination of this placement, and the county department of social service turned her case over to a foster family agency (FFA) for placement. The family whom Polly was residing with at the time of my involvement belonged to this FFA. I did not receive much information besides this brief placement history prior to my first home appointment to meet this family. An initial phone contact with the foster mother provided some basic information regarding Polly's current problems in her home. Polly was described as an out of control child who did not respect adult authority. Further, she could become verbally aggressive and sometimes physically destructive when upset.

Background information obtained from the case manager revealed that Polly was initially raised by her biological mother along with four other siblings. Two of the siblings were children of Polly's mother and father (although Dad had long since disappeared). Her other half-siblings were each fathered by a different man. The mother at the time of detainment was raising all the children on her own.

When Polly attended preschool and childcare, while still in her mother's custody, she was expelled as a result of severe behavior problems that the school could not tolerate. She was reported by the preschool staff to hit, pinch, bite, and attack other children without provocation. She would not respond to directions from the teachers, particularly directions to go to time out for misbehaviors. It was during these times that she would become verbally abusive. While staff noted that she could be pleasant and happy on many days, it was her bad days that made the situation intolerable, thus requiring her expulsion.

When Polly was 5 years old, CPS was notified by Polly's elementary school of possible child endangerment. A CPS social worker came out to investigate that referral and found an abrasion on Polly's chin. Her brother was found to have a similar mark on his back. The school also reported to CPS that Polly was often 30 minutes early to school without supervision, often dirty and with no snack. Polly told CPS that there was no food in the house. As a result of all this information, Polly and her younger siblings were detained and placed in foster homes.

On my first appointment I pulled up to the curb of the foster parent's house and covertly noted that the foster family lived in a nice neighborhood. I was greeted at the door by the foster mother and shown into the living room. Polly was sitting in a chair at the dining room table engaged in some innocuous activity (I thought to myself—"looks good so far"). Present in the room were the foster father, a social worker from the county, and a social worker from the FFA, who would coordinate the behavioral treatment. I began interviewing the foster parents as to the nature of Polly's behaviors, that is, under what conditions did she seem to exhibit such behaviors and what was their method of attempting to manage her. The parents painted a picture of a child with a dual personality (I am not implying the diagnosis here, their implication, not mine). Sometimes, she was the most well-behaved child, played with peers in an appropriate manner, and was so angelic. But on the other hand, when she was upset, watch out. Her demeanor changed, she was no longer pleasant, and profane language and hurtful words poured out of her mouth. However, during the entire time I was interviewing the foster parents and the social workers, I noted no incidence of such behavior. She continued to entertain herself at the table as per the direction of the foster parents.

As I obtained enough information from the foster parents at that time I then decided to test the waters. If at all possible, I like to see how children handle commands and instructions from me to give me an indication about their compliance to adult instructions. I gave Polly a few brief requests, which were all responded to with a smile. When I praised her and told her she did an excellent job
in following my instruction, her smile went from coast to coast. I then attempted to correct her on a math task I assigned. This is often a good test of a child's ability to handle criticism appropriately. This "simulated criticism" can usually evoke some level of agitation with children who are disrespectful of adult instructions. She made no objection or dispute of my correction! Over the course of the 15–20 minutes of individual work with her, in the dining room, while all the adults watched on, she appeared to be the antithesis of the child that was described to me. At that point, I just could not picture what someone would have to do to have a child out of control. I could not even envision her being in the vicinity of a screaming tantrum, replete with profanity, let alone being the source of such verbiage.

If first impressions are a valid measure of a child's behavior in their social environment, one might surmise that Polly's demonic nature was a figment of the foster parent's imagination. Could the parents possibly be over-controlling and require perfectionism? How could this innocent child do anything but good! With such great compliance from Polly the thought of these foster parents being so inept that they could "bungie" parenting such a sweet child ran through my mind but was quickly dismissed. The evidence to the contrary was substantial. In addition to the report from these foster parents, severe behavioral episodes and reactions were also reported by Polly's previous teachers and foster parents.

With no incident of behavior that remotely resembled a troubled child, the foster parents wanted to assure me that this is what they expected for my visit. They indicated that it was Polly's nature to be angelic with other people. They informed me that she had a mental disorder, which could this be the granddaughter of Norman Bates? They handed me some materials on reactive attachment disorder (RAD). They implied that the description of children with this disorder fit Polly to a tee. In the article given to me (Hindle, 1995, Adoptive Families, Sept/Oct, pp. 20 & 21), the author reports that such children can appear normal and personable to outside observers. However, the adoptive or foster parent (who is the target of their rage) experiences all the problems.

Why do these children behave like this? According to attachment theorists (who predominate in this field), these children fail to develop attachments because of an early trauma (such as abuse, neglect, or separation). As a result, they fail to "bond" with a significant caretaking adult. Because there was no initial bond between the child and mother, they feel no remorse for hurtful incidents regarding other people. According to attachment theorists, a "moral conscience" is only developed as a result of a baby's attachment to an adult early in life. People who argue this view trivialize the role of social consequences of behavior in teaching children to learn to refrain from saying spiteful things to people. The foster mother reiterated that Polly feels no remorse for persons she hurts or offends. Further, I should not be fooled by the display of good behavior, as these children are the masters at this behavioral deception. She again reassured me that Polly is really disruptive to their family situation, and I should not be fooled by her deceptive appearance on this visit.

**Intervention**

Fortunately, that sermon about RAD did not sway me from my objective: to bring problem behaviors under control of more systematic contingencies. In some cases, treatment merely requires a manipulation of contingencies; in others, skill training is added to that component. The child's caretakers, whether they be biological parents, foster parents, or group home staff, are then trained on-the-job to perform the requisite behaviors in response to the child's behavior.

I like to target just one problem area at time, bringing desired change in that area before tackling another. I chose to target a daily context that was generating problems in child management: bedtime. Polly was reported to have difficulty going to bed and staying there. She would get up constantly and have to be put back to bed. To get Polly to accept bedtime more readily, the foster parents had tried enforcing bedtime at a predictable time and incorporating low-key activities prior to bedtime. With that regimen, Polly was having less of a problem at bedtime than in the prior placement. However, on nights when she had difficulty, she had severe tantrums and would get out of the bed constantly.

While these were good first steps on the part of the current caretakers to address bedtime problems, I suggested some additional procedures. There should be an incentive for good bedtime behaviors to compete with the desirability of creating havoc in the family household. My plan was to allow Polly to earn a half-hour of later bedtime the following night for good bedtime behavior (the current night). Good bedtime behavior was defined as (1) the lack of tantrum behavior and (2) not getting out of bed once she was placed in bed. She could also lose an hour off of regular bedtime the following night if she got up or had tantrums.

The first two nights of this regimen were not good. The parents estimated that Polly got up about 25 times that first night and a little less the second night. It was fortuitous that the foster parents did not bail out at that point. I had prepared them for this possibility. On the third night, the plan resulted in her complete cooperation and access to the privilege of staying up late the following
night. For the entire next week she responded well to the plan, always getting her extra half hour each subsequent night. Parental persistence paid off.

However, these parents gave notice to have her moved prior to my third visit. She was moved to another home about 25 miles away. I was notified initially to discontinue the case because the new foster parent reported that Polly was not a management problem at the time. I noted to myself that a prevention approach was not high on anyone's list. I was eventually contacted about a month after she was moved, with the presenting problem as arguing behavior (also termed mouthy behavior, although the foul language had not yet set in). There were also two reports of major screaming bouts, but the overall impression of the new foster mother was that Polly was manageable and not unlike other foster children she has had.

However, shortly thereafter, and before my first scheduled visit, Polly's level of tantrums had increased. Of even more significance, her inappropriate language was back in full force. Its form took on a new and ugly twist, one that frightened this foster mother tremendously. She was now threatening to do bodily harm to the foster mother and her toddler grandson, who would come to play at her house (e.g., "I'm going to hurt you" or "I'm going to hit him"). She had not acted on these threats, but I obviously wanted to address this before it reached that stage.

Let's say that the foster mother just told Polly, after a request, that she could not go outside and play (for whatever reason). Polly may not cry like other children. Perhaps her conditioning history taught her that such was not a fruitful approach to getting what you wanted. However, saying, "I hate you, you are a ____ and I am going to _____ you or _____ your baby" was quite the opposite. What would you imagine would happen next? A probable reaction from an adult upon hearing such a threat from a young child is to ask the child why she would want to do that. For example, a parent might say to the child, "Why would you be so mean?" Or, "You don't mean that, do you?" This would be followed by Polly saying, "Because I hate you," or, "Oh yes I do." This subsequently escalates the fear (increases the value of terminating such statements) on the part of the parent, as the child shows that she can be vindictive and spiteful (apply contingencies aversive to the foster parents). Their reaction to this type of behavior promotes the continued verbal assertion on the part of the child that she does mean it, or will do it, or is not sorry for saying that, and so forth. Again, in Polly's case, this dynamic between child and adult only increased everyone's belief that she has no conscience and may never develop one and, therefore, is someone to be feared. Of course, such a behavior probably will cut down on any future tendencies on the part of the parent to deny a desired activity or event to Polly.

I perceived my first job in this circumstance as one of teaching the foster mother to place these threats in context. This is not to say that I do not take these threats seriously. It was my contention that attempting to reason with her at that point in time only fuels the fire! What is needed from the parent is a refutation of such behavior as unacceptable, with a consequence for saying such spiteful things. I immediately set up a behavioral program, targeting threats with an early bedtime contingency. Each time she threatened, she was told that such statements were unacceptable in a firm manner (not inquiring as to why she would say something like that). The incident will be marked on the board in the living room. If she had more than three marks at the end of that day, then it was early bedtime that night (hey, it worked before, let's keep using it).

How did this plan work? The data on the frequency of threats was the following (plan began on 6/7). Please note, that without baseline data being taken, data in Table 1.10 probably represent an immediate overall decrease in this behavior over the previous week.

As one can notice, Polly developed amazing self-control in her ability not to go over three threats in a day (maybe she developed a conscience each day as the day proceeded). Subsequently,

**TABLE 1.10 TARGET BEHAVIOR DATA**

<table>
<thead>
<tr>
<th>Date</th>
<th>Frequency of Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/7</td>
<td>3</td>
</tr>
<tr>
<td>6/8</td>
<td>3</td>
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<td>6/14</td>
<td>2</td>
</tr>
<tr>
<td>6/15</td>
<td>1</td>
</tr>
</tbody>
</table>
the program was then changed to allow only one incident of threatening behavior before the early bedtime contingency was enacted. This produced the desired change in the behavior as weeks went by with no threats to family members at a month’s follow-up. The board had actually been put away, but the foster mother was instructed to initiate the planned contingencies again should threats develop again.

**Fix One Problem, Get Another!**

However, as is often the case, as one problem gets solved a new problem develops “critical mass.” It began innocuously as Polly was asked by the FFA social worker if she wanted to see her brother and sister. Polly replied in the affirmative. Following that meeting her behavior slowly escalated to refusal of all requests during the day, in the home. The reason offered (by the social worker) for this acting out contagion was that during the same meeting, Polly had dealt with sensitive abuse issues. Therefore, her behavior was a reaction to this “bringing up” of traumatic issues. In my experience, traditionally trained therapists often attribute the existence of problem behaviors to prior traumatic events, even after many years.

I inquired further, not feeling that this explained why Polly was being defiant. I would rather look for environmental factors that make such a behavioral pattern more functional in the current environment. I was more intrigued by the fact that this escalation coincided with her having a proposed visit with her siblings. Upon receiving this information, I first conjectured that maybe Polly did not want to see her siblings. Certainly acting out would be a functional way to get such a visit postponed (due to her bad behavior). However, I discarded that hypothesis when the foster mother relayed some information about what transpired after the talk with the social worker. She did not think this information was important at the time but now thought that it might help me in my quest to figure this out. The foster mother told me that Polly, subsequent to that meeting, inquired over a several day period about the visit and wanted to know when it would happen. My hypothesis regarding her attempting to get out of the visit did not seem plausible. Rather she seemed eager to go. Then it hit me!

With the mention that she might get to see her siblings, Polly, being the 5 year old that she was, translated that in the following 5-year-old English—“You absolutely positively will get to see your brother and sister, we have them en-route right now and they will be arriving in 5 minutes!” If you believed that your visit with your brother and sister was imminent, would you be upset if 15 minutes goes by and nobody arrives? How upset would you be when one whole day passes, two days, and so forth? Polly knows one powerful way to influence adult decisions. If you do not get your way, then utter profane words at someone in authority.

Another incident seemed to confirm this hypothesis. One day, Polly asked her foster mother if she could go to her friend’s house after school. The answer she got was not a “yes,” and not a “no,” but a “we will check it out” (i.e., “we will get back to you on that”). Well, once again that got translated into 5-year-old English, which probably went this way—“Oh what the heck, Just take the bus home with him tomorrow and I’m sure his parents will not mind.” The next day the foster mother gets a call from the parent of Polly’s friend, saying that Polly showed up with her son on his bus after school. Subsequent to the foster mother picking her up, Polly engaged in tantrum behavior that day and the following day (remember my hypothesis—when I don’t get my way, I’ll make it so miserable for you that you will have to give in).

In order to teach Polly not to react inappropriately when she wants something, she was taught that making a request for some item or activity will usually be honored at some point, provided she complies with some request or instruction from the foster mother. This procedure allowed me to build in a time delay from request to delivery of reinforcer. The type and number of tasks to be done depend on Polly’s request. For example, for a food item such as a piece of chocolate cake, Polly would have to possibly do several small compliant behaviors, such as picking up a few toys, washing her hands, and so forth. For a more extensive request, she may have to do something over a 2-day period. The foster mother was asked to keep track of the number of requests per day that Polly made, with a target goal of five to eight per day. The data for the first week showed that requests ranged from a low of two occurrences per day to a high of five.

The foster mother reported that the strategy was going well. I’m not quite sure she understood the necessity for this approach, and I therefore speculated that it was not being used as often as it should have been. Shortly after reporting that “things” were going well, this foster mother gave social service a 30-day notice on Polly for change of placement. As I suspected, “things” were not going well. The utility of teaching this skill is that if it is reinforced in the social environment (home), then inappropriate ways of getting items and activities will be replaced by this more acceptable and effective method. However, to utilize this, one must implement it at the time that demands are being made. One should not give into demands immediately, that is, without the “work” component, or deny them completely (except for untenable requests).
Case Analysis: What Does Polly Teach Us?

In this case, I was struck by the forecasting of many people in the system. They attributed everything that Polly did, in terms of severe problem incidents, to Polly's mental disorder. These professionals further prognosticated that such incidents would be repeated over and over again due to her reactive attachment disorder. I observed that this armchair philosophizing had resulted in not getting past theorizing and into the needs of solving the problem behavior. The parents and I were successful on several fronts in the short term when I looked past the predictions of what one could expect from a child with such a disorder. In contrast, I focused on what we would do when she engaged in such inappropriate behaviors. Apparently, children who are diagnosed with RAD can benefit from a contextual analysis of their problem behaviors.

One of the consequences of severe behavioral incidents is the child being moved from one placement to another. Foster children with severe disruptive and challenging behaviors have frequent changes in their residential placements. This occurs from a policy standpoint because the current care provider is not required to house the child. If her behavior is deemed too difficult for the provider to handle, she is moved to another placement. Often this is sanctified in the name of “finding the perfect fit.” But could behavioral contingencies be at work in some of these cases where a child has six placements in 3 years, mostly as a function of the provider giving notice to terminate placement as a result of behavior?

It seemed to me that Polly would continually misbehave until she either got what she wanted (caregiver gives in to appease her) or she moved to a new home (where maybe she would get a better deal this time around). The possibility that the change in placements might be a functional reinforcer did not strike me until I began reviewing the records of her prior placements. The pattern revealed that Polly would behave for a short honeymoon, where the new foster parents probably wondered why the previous parents had so much trouble managing this poor innocent child. However, they soon began gasping for air, as this short honeymoon was followed by a downhill spiral of bad behavior and mean remarks.

Why would circumstances start off well and then turn south? Let’s speculate that during the honeymoon period, her new foster parents are probably more lenient and likely to provide her with many of the items and activities she wants (hence, no need to act out). However, after awhile, the parents begin to tighten the reins, and Polly starts to have problems. Over the long haul, when Polly did not get what she wanted, her misbehavior and hateful comments toward the caregivers would escalate and thereby force her case manager to find a new home for her because the current parents would no longer tolerate her behavior. I remember saying to the clinical supervisor of the FFA that we need to draw a line in the sand. The next placement needs to deal with this cycle of behavior without throwing in the towel at the end and moving her. The only way we are going to solve her problems in the long run is to not allow her misbehavior to alter her placement. What the system has taught Polly (at a very young age) is that extreme disruptive behavior, over long periods, makes you move to another house. From a behavior analysis perspective, the system needs to redirect such contingencies to not support severe misbehavior.