

Improving Behaviors

Traumatic brain injury survivors may experience a range of neuro-psychological problems depending on the part of the brain that is affected and the severity of the injury. Personality changes, memory and judgement deficits, lack of impulse control and poor concentration are all common. Behavioral changes can be stressful if they cause internal conflict or they stand in the way of progress.

In this article, we will review strategies for managing negative behaviors with an effective behavior plan. These strategies are successfully used in Rainbow's Behavior Modification Program on a daily basis and they can also be used at home by family and friends.

There are behavior management approaches that work very well in helping people change. One such approach is the "functional analysis" of problem behaviors and another is the "differential reward" of behaviors. In Rainbow's Behavioral Modification Program, the goal is to replace maladaptive behaviors with socially acceptable actions. Modification is most effective when motivation is determined, making it easier to identify and teach replacement behaviors. There are two tools that can be used to help determine motivations — a functional behavior assessment or a functional behavior analysis.

Functional Behavior Analysis

A functional behavior assessment is a precise description of a behavior with its context (the interrelated conditions in which the behavior exists or occurs) and consequences. The intent is to better understand the behavior and influencing factors. A functional behavior analysis begins as an assessment and includes the added step of systematically altering the 'antecedents to' and 'consequences of' the behavior to determine precisely which are the driving forces.

The first step in a functional behavior analysis is to carefully observe and describe the behavior along with events and environmental stimuli that occur before and after. Often, that description is referred to as identifying the "ABCs" of a behavior:

- Antecedent — the setting or what is occurring prior to the behavior.
- Behavior — the conduct that we see exhibited by the person.
- Consequence — why a person exhibits a particular behavior or the result of the displayed behavior.



Consequences are what happen after a behavior occurs. It is important to examine them because the consequences of the behavior predict whether or not a behavior occurs again. There are two different consequences — reinforcement and punishment. Reinforcement consequences strengthen and support behavior, while punishing consequences serve to reduce all behaviors — both good and bad.

The first step in a sound functional analysis is identifying and describing the problem behavior. Be specific on which behaviors you want to reduce or eliminate. Examples include verbal threats or a reluctance to take responsibility.

The next significant part of establishing a sound functional analysis is determining the true frequency of a target behavior. When and where does the behavior occur? Who is involved? Following is an example to better understand the concept.

Scenario

A 16-year-old boy, John, was in a car accident three years ago and incurred a traumatic brain injury (TBI). One behavior exhibited since the accident was stealing his parent's car keys to drive off in the middle of the night. It happens almost exclusively every Friday or Saturday and has been going on for almost a year. His parents have punished him by taking away privileges, but he persists in taking the car without permission.

In this case, the severity of the problem necessitates 'response prevention' by completely removing physical access to the family cars. The behavior is severe in its intensity. Each time John takes

Improving Behaviors *continued*

the car, potential consequences include possible loss of life, which would change the family forever.

When we apply 'behavior analysis' to this situation, we start by examining the consequences. John's parents take away privileges when he participates in bad behavior. But it is important to remember that punishment reduces all behaviors, even good ones. If "privileges" are taken away that have been reinforcing activities for John, and those activities become unavailable, John might choose a more rewarding activity — in this case, taking the car. Gaps in his schedule, including periods of doing nothing, are black holes for bad behaviors. Taking privileges away from John may actually create a state of deprivation, possibly reinforcing his problem behaviors.

What does John enjoy doing that provides educational or play value? His parents should identify these events, schedule them frequently, make them available and participate in them with John if possible, thus eliminating the need to escape! Creating a home environment where there is constant adult supervision and support for a 16-year-old TBI survivor with residual behavioral problems is labor intensive. It requires comprehensive planning and participation in educational and constructive activities.

Education for caregivers is recommended. Providing supervision for the survivor is often necessary, especially when the individual is in the developmental stages of adolescence.

Filling up the individual's schedule with reinforcing activities is the most important reinforcer to eliminate unwanted behaviors. But what is reinforcing from person-to-person may change over time.

Reinforcers

A reinforcer is anything that strengthens behavior. There are two powerful reinforcers — tangibles and attention. Tangibles are things that you can see or touch. In our previous example, a tangible reward for the teenager is the ability to drive away with the car.

Attention is also a very strong reinforcer and can include positive or negative attention. In our example, it's possible that the boy is motivated to take the car to gain peer attention.

Another type of reinforcer is the opportunity for escape or avoidance. Maybe John is escaping a responsibility or avoiding boredom by leaving with the car.

To properly analyze, observing and describing the behavior across a broad sample of environments and occasions should be scheduled. The data collected from these observations can then be analyzed and trends identified. The analyst is looking for stimuli that may provoke the unwanted behavior. Once identified, the therapy team can form hypotheses about the behavior and challenge those hypotheses by systematically altering elements of the environment to determine which are the true influencers.

Now, let's take the previous scenario one step further. What would happen if John threatened to burn the house down unless he had access to the car? That is a second behavioral problem — a verbal threat. In this case, we would want to measure how often the threats occur and what happens immediately after, which is the consequence. Consequences either extinguish or reinforce the behavior. In our example, if the boy receives greater attention because of a verbal threat or perhaps receives access to the car, the threats will not stop because he is getting exactly what he wants. One rewarding technique that has been proven to be useful in decreasing frequent, severe or repetitive behavior is Differential Reinforcement of Other Behaviors (DRO). DRO is a technique that involves reinforcing and rewarding someone when an undesired behavior is not displayed, or when another positive behavior is displayed during a designated time period.



Improving Behaviors *continued*

To implement this technique, there are five steps to follow:

Step 1 Define the target behavior of concern in very specific, observable terms.

Step 2 Conduct a frequency count.

Step 3 Take the frequency of step two and communicate what behavior needs to be changed and for what period of time. If the person meets that objective, reward him or her with reinforcers.

Step 4 If the target behavior does occur during the designated time period, tell the person that the time interval is beginning again. Give no reinforcement or reward until the select time period is met with the behavior eliminated.

Step 5 Return to step two to monitor progress and determine how the length of time can be extended to fade, and eventually eliminate, the target behavior.

In a rehabilitation setting, the staff would differentially reinforce the absence of behavior for a certain time period, involving no punishment. DRO is the least-punishing technique, and at Rainbow we constantly seek to implement the most ethical and rewarding programs. That technique works because it looks for the motivation of a behavior as opposed to punishing negative actions.

If we apply a reinforcement to our previous example, we would identify other positive behaviors that the teenager may have displayed on the weekend and try to reinforce those behaviors. A good example would be praising him for mowing the lawn or helping with the dishes. A reward could be letting him ride in the car with his parents when he is well behaved.

Reinforcement Techniques

Always choose reinforcements that are salient and meaningful. Letting the individual choose the reinforcements and rewards is recommended. Then, the positive reinforcements have the most impact. Social attention is powerful and recommended. A lot of positive can come from catching people having fun and recognizing it! Use the behavioral method "backward chaining" for complex task learning and when implementing positive reinforcement, don't underestimate the power of modeling. Modeling includes

What is Backward Chaining?

The "backward chaining" method of teaching a pattern of behavior introduces the last step first. The ideology behind the method is that the best way to guarantee success is to start next to the finish line or the completion of the task. For example, if backward chaining is used to help an individual with substance abuse issues, he or she would be introduced to community social groups at the onset of therapy. By incorporating what is normally considered the "last step" in substance abuse rehabilitation, the individual will have the opportunity to build a social network of "non users" right from the beginning. This will help the individual model behavior with new peers and friends.





Improving Behaviors *continued*

demonstrating what you want and then asking your patient to repeat the behavior or task.

Many individuals with brain injuries have changes in their memory and sense of time. Their ability to sustain attention and remember is often compromised, therefore they may persistently seek information as to “when” they can meet their needs. Rules and routines provide that information and are solid principles of learning. Cognitive scientists refer to that principle as “pattern recognition.” A well-prepared differential reward program provides the “when” and helps establish pattern recognition through repetition.

When implementing any behavioral interventions, we recommend working with a team. An interdisciplinary team approach is essential to successfully building skills and constructive alternatives. Remember that changing behavior and learning takes time, but behaviors can change. Effective behavior modification means that the treatment team, staff and family must be prepared to supply consistent programming and support for weeks, months or longer. Over time, well planned and consistent behavior modification programming will be rewarded. The length of rehabilitation time varies for each individual, making patience and scheduling essential. Successful behavior modification results from time and effort from all involved parties. ❖

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Colin King, PhD, LP
Bob Wancha, MA, LLP, CBIS
Jennifer D’Angela, MS, LLP, CBIS
Mary Newton, LMSW, CBIS
Steve Powers, MA, LPC
Joseph Welch, MS, LLP

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RainbowVisions Magazine
Rainbow Rehabilitation Centers, Inc.
5570 Whittaker Road, Ypsilanti, MI 48197, USA
E-mail: rainbowvisions@rainbowrehab.com

Negative Behaviors

*Why do people engage in negative behaviors?
Behavior can serve any of a number of purposes.
Following is a list of some of those motivations:*

- *To gain attention*
- *To gain a tangible consequence (i.e. money or an object)*
- *To gain a sensory consequence (to get warmer if one is cold, or cooler if hot — to gain some tactile, taste, auditory or visual consequence)*
- *To self-regulate one's emotions (i.e. to calm down if agitated)*
- *To make a comment or declaration about one's environment, perceptions or emotions*
- *To fill a habitual need*
- *To escape from or avoid an undesirable situation*



Attention



A Tangible Reward



Escape & Avoidance