

the distress of another human being, by the friendly gaze of another person, by the greenness of the grass.

ERICH FROMM

FACING YOUR FEAR

FEAR CONDITIONING AND AVOIDANCE LEARNING

I was very, very shy as a younger girl, just petrified of people. Tennis helped give me an identity and made me feel like somebody.

CHRIS EVERT

Fear is stored deep in your cerebellum and amygdala (Latin for almond, the shape of this part of the brain). Any traumatic memory is automatically stored in your implicit, unconscious memory in the cerebellum. There is a protein called *glutamate* that sears synapses together in any unique or traumatic experience. This is how fear conditioning is hardwired. Glutamate bonds are hard to dissolve. I believe sweat literally helps to break glutamate down.

Let's not get panicky.

BRANCH RICKEY

(MAJOR LEAGUE BASEBALL EXECUTIVE)

When you see a coiled-up garden hose and think it's a snake, very deep fear memories held in your genes are being passed up to your cerebrum from the collective unconscious of your cerebellum. Specific trauma, like getting mugged, is held in your conscious mind but also in your nonthinking cerebellum as part of your personal unconscious. For weeks afterward, when I passed the park I had a visceral, physiological response of sweaty palms and elevated heart rate. That response came from my down brain. This fear was bottom-up processing. I needed to tackle it from the top down to change it. That is what being human is about. We can get on top of our animal instincts and shape ourselves.

I expect to pass through the world but once. Any good therefore that I can do, or any kindness that I can show to any fellow creature, let

me do it now. Let me not defer or neglect it, for I shall not pass this way again.

STEPHEN GRELLET (QUAKER MISSIONARY)

I knew the most important thing for me to do to get over the deeply rooted fear conditioning was to go back to the scene of the crime to let my animal brain begin to think it was safe again. Right after the attack, if I got within a two-block radius of the scene, which I had to do in order to get home, my adrenaline and cortisol would go crazy. I would start shaking and have heart palpitations. Avoidance learning on a lesser scale is the key aspect of exercise aversion.

I approached the gates of the park with my friend Nikki Haran. My body went into spasms. She and I stood on the big slab of stone around the fountain where I had been beaten up. We stood there for a few minutes holding hands and my heart calmed down. I had conquered the fear—and it made feel OK. Not great, but at least I could cope. It bonded Nikki and me, and our friendship took on a deeper meaning and significance.

We should be careful to get out of an experience only the wisdom that is in it—and stop there; lest we be like the cat that sits down on a hot stove-lid. She will never sit down on a hot stove-lid again—and that is well; but also she will never sit down on a cold one anymore either.

MARK TWAIN

Every day for weeks, I went out of my way to go back to that slab of stone to stand on it, alone, look around, and proceed home. It was like a pilgrimage, a very therapeutic one. To this day, every time I walk through the park I walk directly over that very same stone, and it makes me feel really strong. Going back to the place that scares me most and facing it head-on makes me feel as if I am the ruler of my destiny. And creates a self-fulfilling prophecy.

The bravest thing you can do when you are not brave is to profess courage and act accordingly.

CORRA HARRIS

LEVEL ONE: THE BEHAVIORAL APPROACH REPROGRAMMING YOUR "HABIT BRAIN"

Action seems to follow feeling, but really action and feeling go together; and by regulating the action, which is under the more direct control of the will, we can indirectly regulate the feeling, which is not.

WILLIAM JAMES

The memory system of your lower brain is a nonintellectual center that learns through repetition, practice, and emotional responses. In addition to being the seat of all athletic performance, I believe the cerebellum is also the seat of your implicit unconscious memories and habits.

Habit forming is the act of consciously identifying motives and routinizing them to a point at which they are sent to the depths of down brain. Bad habits often slip past our gate control, and I encourage you to be a detective in terms of decoding the series of cues that lead to undesired behavior, dissecting them, and then rebuilding. If you can break a part of the cycle, the neural net becomes disengaged and will begin to atrophy. You must disengage and break apart the bad habits.

Whatever you can do, or dream you can do, begin it. Boldness has genius, power, and magic in it.

W. H. MURRAY (SCOTTISH HIMALAYAN EXPLORER)

FOUR STAGES TO CHANGING BEHAVIOR IDENTIFY, DESCRIBE, PREDICT, CONTROL

Between stimulus and response there is a space. In that space is our power to choose our response. In our response lies our growth and our freedom.

VIKTOR E. FRANKL

Neuroscience has reinforced the behaviorist perspective by proving in recent years that the roots of all conditioned behavior are in the synaptic connections between neurons.

A pattern of behavior (like a thought or emotion) is literally a neural network. To make old patterns of behavior extinct, you must break apart the

neural nets associated with them. Likewise, to acquire new behavior you shape those neurons methodically through repetition and positive reinforcement.

Over time the conditioned response becomes imprinted and encoded in the neural nets of your unconscious mind. Remember that continuous positive reinforcements, repeated frequently, result in the fastest learning. Be consistent by setting up a daily routine that reinforces exercise as a consistently agreeable experience. The key for training your down brain is repetition, repetition, repetition—and practice, practice, practice. This is how this brain learns.

The longer I live, the more I realize the impact of attitude on life. Attitude to me is more important than facts. It is more important than the past, than failures, than successes, than what other people think or say or do. It is more important than appearance, giftedness or skill. It will make or break a company . . . a church . . . a home. The remarkable thing is we have a choice every day regarding the attitude we will embrace for that day. We cannot change the inevitable. The only thing we can do is play on the one string we have, and that is our attitude. I am convinced that life is 10 percent what happens to me and 90 percent how we react to it. And so it is with you . . . we are in charge of our attitudes.

CHARLES SWINDOLL

The Key to Changing Habits

A habit cannot be tossed out of the window; it must be coaxed down the stairs one step at a time.

MARK TWAIN

1. *IDENTIFY: What is the target behavior? What is the actual behavior?*
2. *DESCRIBE: How does this behavior manifest itself?*
3. *PREDICT: What is the expected pattern surrounding this behavior?*
4. *CONTROL: What internal and external modifications could change outcome?*

There are four stages to changing your habits surrounding athletic behavior. The first is to identify it. Learn to be aware of the behavior you are

hoping to achieve in a given day and the actual behavior that is occurring. Pinpoint it. And give it a name. Second, describe the behavior in more detail to yourself. What does it feel like? Are you being driven by declarative conscious thoughts of your cerebrum or unconscious implicit forces of the cerebellum? Can you isolate what is causing it? Third, predict various scenarios of playing out the behavior. Narrow it down to two choices. Play out the contiguity scenario and the steps that lead you down a beaten path of behavior. Last, figure out ways to control the behavior by breaking the cycle and achieving the desired outcome. Be methodical and look for the forks in the track where you tend to derail your own train.

The implicit habit systems of our animal brain are conditioned every day by the bells, whistles, and gongs on our cars, household electronic gadgetry, and computers. The sound effects your computer makes as you transfer documents, upload, and download, are all positive and negative reinforcers. A gong sound that lets you realize something has gone wrong with the important file you were trying to download triggers a feeling of bad stress, adrenaline, and cortisol. The tone of a bell dinging after 100 percent of a document is sent or received, coupled with the words "Files done," allows you to release a sigh of relief and experience the rush of success.

Perk up your ears and listen for the ways that your behavior is conditioned every day. Sounds that alert you of success give you a direct hit of dopamine and a winning-the-jackpot Las Vegas kind of feeling. The next time you are uploading an important file, pay attention to the difference between 99 percent complete and 100 percent complete. The victorious feeling you get is dopamine in action. Systematically releasing dopamine when you exercise by setting and achieving goals will create positive associations and lead to conditioning that will change habits.

THE FOUR METHODS OF BEHAVIORAL CONDITIONING

All human actions have one or more of these seven causes: Chance, nature, compulsion, habit, reason, passion and desire.

ARISTOTLE

Below are detailed explanations of the four methods of conditioning that you can apply to reshape your athletic behavior. You should look at these four and pick and figure out ways to incorporate them into your life. Stay

adaptable, as your circumstances and motivation can change over time and from day to day. You can refer back to this section as a user's guide.

- *CLASSICAL CONDITIONING: Conditioned response: seek pleasure/avoid pain*
- *OPERANT "REWARD" CONDITIONING: The Skinner Box reward model*
- *CONTIGUITY THEORY: Doing things in a sequence*
- *TOKEN ECONOMY: Earning tokens in exchange for behavior*

Classical Conditioning

The most basic form of animal behavior training is called classical conditioning. You want to condition yourself to associate as much of the exercise process with pleasure as possible. You need to put the perspective in place to create the reality.

Classical conditioning is your gut response to a stimulus. If the smell of chlorine makes you shiver with dread about jumping into a cold pool, that is a classically conditioned response. When you enter the changing room at the pool and smell the chlorine (stimulus), you might have flashes of summer camp and dread changing into your swimsuit, because you remember feeling vulnerable or self-conscious. Those memories are linked to the smell of chlorine and maybe even make you feel sick to your stomach (response). This is a conditioned response.

You desire to know the art of living, my friend? It is contained in one phrase: Make use of suffering.

HENRI-FRÉDÉRIC AMIEL

If you had never been to a pool as a kid you might just associate chlorine with the smell of cleaning supplies or something totally neutral. On the flip side, if you were the star of the swim team or loved swimming when you were younger, entering the pool deck might flood you with very positive memories. Classical conditioned responses are stored in our nonthinking lower brain and are part of the implicit memory system. You can learn to use executive function to shape the gut instinct behavior.

As an athlete, you want to create conditioned responses to exercise that reinforce the positive. That is why it is so important that you coddle your

animal instincts by making the experience of working out feel safe, comfortable, and under your control at a very deep subconscious level. Remember, it is your animal brain that is picking up the conditioned vibes surrounding exercise and whispering commands into your thinking brain, while also affecting your physical response.

The habit of persistence is the habit of victory.

HERBERT KAUFMAN

If it is snowing outside and freezing cold, my animal brain wants to stay at home by the heater where it is very cozy. But I know I am prepared for the cold. I have warm clothes, a hat, gloves, and a playlist of balmy summer music and desert tunes on my iPod. I will make the animal experience of working out comfortable, and will be able to coax my down brain out of my slippers and out the door. I will also prepare some hot tea and take a bath when I get home. That is the deal I make as I fire up the iPod and get ready to head out the door. These are all animal conditioned responses.

A person anticipating a workout will have a myriad of classically conditioned responses to the exercise process that guide his behavior. These feelings usually manifest themselves as a gut instinct of exercise aversion. The implicit memory of the cerebellum deals in visceral cravings and aversions it seeks or avoids. As the big boss, your job is to attach a sense of pleasure to as many aspects of the exercise process as you can and undo the aversion by using the four behavioral methods.

Operant (Reward) Conditioning

Everyone has a success mechanism and a failure mechanism. The failure mechanism goes off by itself. The success mechanism only goes off with a goal. Every time we write down and talk about a goal we push the button to start the success mechanism.

CHARLES JONES

You constantly want to create rewards and positive reinforcement as you go through your athletic process. They could be actual rewards, like a bottle of Gatorade or a hot shower or just a feeling of accomplishment that will release a hit of dopamine. This is called *operant conditioning*. Invented by B. F. Skinner, the term *operant* is based on the verb to *operate*, as in “to

push on a lever" to receive a food pellet, as rats learned to do in the famous Skinner box. I call this reward conditioning.

Skinner realized that animal behavior is voluntary, goal oriented, and directly influenced by its consequences. There are many ways to look at exercise as a reward, aside from physical things. The reward can be based on neurobiology (dopamine, serotonin, lower cortisol), self-esteem, weight loss, or lower cholesterol. Decide what you find rewarding about your workout and think of the athletic process as a Skinner box that automatically rewards behavior. You can do the same with everything surrounding the athletic process by constantly setting up a system of rewards.

Success consists of going from failure to failure without losing enthusiasm.

WINSTON CHURCHILL

As you look at the gym and exercise from a behaviorist perspective, think of ways of creating a Skinner gym by constantly setting and achieving goals. The goal (finishing a set of arm curls) is the lever, and the reward pellet you get is the hit of dopamine you receive after accomplishing the goal. Successful reward conditioning in exercise depends on creating hundreds of mini goals, dangling the carrot, as you go through a workout and consciously sounding bells and whistles inside your head when you accomplish them.

Contiguity (Sequence) Conditioning

First comes thought; then organization of that thought, into ideas and plans; then transformation of those plans into reality. The beginning, as you will observe, is in your imagination.

NAPOLEON HILL

Contiguity means connected in a sequence; the order that you go about preparing to work out is going to carve grooves into your synapses that will create a chain reaction. In athletics, contiguity conditioning is the process of ritual and routine that you play out every day, creating a self-fulfilling prophecy by training your nervous system to follow through to completion.

If you don't know where you're going, you might not get there.

YOGI BERRA

E. G. Guthrie coined the term *contiguity*, believing that your sequence of movements becomes actual patterns associated with a target behavior. Guthrie studied cats in a box who would systematically escape through the exact same pattern of movements once they figured out that the pattern worked. They repeated the movements automatically the same way every time by rote. You can do the same as you go through the process of getting ready to exercise. These neurons become imprinted into neural nets through repetition.

Action to be effective must be directed to clearly conceived ends.

JAWAHARLAL NEHRU

Structure your personal routine and carve it into your muscle memory because repetition creates a chain reaction of neurons firing in a predicted sequence. I have a tendency to have the same contiguity pattern every day for a few weeks, and then on a whim I'll change it one day. But then I'll go back to it again later. My routines are always in a rotation. I mix them up but they are systematic and cerebellar. You want to have a variety of routines that you can tap into on different days to avoid getting bored or stuck in a rut. Contiguity routines are key to avoiding procrastination because by tipping the first domino, which is easy, you can trigger a chain reaction that leads to follow-through and goal achievement, which is tougher.

Only put off until tomorrow what you are willing to die having left undone.

PABLO PICASSO

The sequence of events helps me click over into my ideal athletic self. All these things come together to reinforce a target mind-set and behavior. This is the constant "down-up" dialogue. Each of them is a trigger that will be encoded over the next few weeks. A transformation will take place; you will have an athletic conversion every day you begin and finish breaking a sweat.

Token Economy: Earning Chips Through Success

I believe that "Thou shalt earn the bread by the sweat of thy face" was a benediction and not a penalty. Work is the zest of life; there is joy in its pursuit.

BRANCH RICKEY

You will want to create a token economy as a form of positive reinforcement. Whenever you achieve long-term and short-term target behavior, keep track of your achievements. Rewards can be diverse. Be creative. A token of achievement doesn't have to be physical. A reward may even be internal, just the feeling of accomplishment. Create a personalized token economy in which you identify your implicit tokens, like hits of dopamine or being able to say, "I did it," as well as explicit rewards, such as a massage, a huge, ice-cold glass of water, a cheeseburger. . . .

Use token markers to symbolize success. Try things like a gold star, a check on a checklist, an elastic added to a rubber-band ball, a record of your achievements in your notebook. Like many things having to do with behaviorism and habitual behavior, there is a thin line between becoming compulsive and rigid or using these rewards in a casual, fun-loving way. Be on the lookout for obsessive behavior. Remember to lighten up and keep it playful.

The idea of earning a token as a reward for behavior is a highly effective way of reinforcing and tracking behavior across the board. Again, it can be specific, like having a piece of cake for dessert and committing to run an extra mile the next day, or rewarding yourself with a smoothie after a workout.

My mom wanted to lose ten pounds after the holidays so we built a pyramid out of ten boxes of butter she'd used to make cookies. Every time she lost a pound over the next six months, she threw a box out. That pyramid was a huge reminder staring her in the face every day and it made the goal more tangible. Another tactic I've used is to put coins in a Ziploc plastic bag with the task at hand written on it. The weight of the bag grows to symbolize my investment. Rubber bands added to a rubber-band ball, checkmarks off your to-do list are other token economy measures that provide feedback and reinforcement.

The Minute Minder

Egg Timer, Stopwatch, or Hourglass

*Well begun is half done. A whole is that which has beginning,
middle and end.*

ARISTOTLE

My trademark conditioning tools are rubber bands and Lux Brand Minute-Minder timers. You want to get in the habit of putting a rubber band

on your wrist every morning. As you commit to a goal, watch the rubber-band ball grow. Each day you succeed, add that morning's rubber band to the existing ball and you will be motivated by the reward of being able to complete a task and stretch a new band onto the ball. This is basic conditioning. Two other methods of conditioning I'll discuss here are egg timers and ankle weights.

On the ledge of my stove, I keep the Lux Minute-Minder timer my Yankee grandmother had in her kitchen. She used it for cooking and to time my mom when she was on the phone as a kid. I use that timer every day to time my writing, cleaning, and sit-ups. I know it sounds regimented and rigid, but it's actually liberating, because it gives everything a structure with a beginning, middle, and end. I like the ticking sound. It puts me in a trance, like white noise. The ding always gives me a hit of dopamine, too. And frees me to get on to something new.

I use a traditional hourglass for my yoga/stretching period, which is quiet and reminds me of *The Wizard of Oz*. My editor at St. Martin's Press, Diane Reverand, says that she maintains a laserlike focus on what she is reading amid stacks of papers piling up on her desk by imagining each word in front of her as a grain of sand in an hourglass. I think of this metaphor when I'm stretching. The hourglass reminds me to stay in the moment. The single grain of sand in the wasp waist of the glass represents the present tense.

If you don't have a timer, I suggest buying one and using it for things that you love to do that are guilty pleasures like playing a video game or chatting online, that keep you from doing things you should be doing. Use a timer to set limits. You can also use a timer or stopwatch to compartmentalize the time doing the things you dread like cleaning, and make the time frame of misery finite.

Begin with the end in mind.

STEPHEN COVEY

Timers are also a way to force yourself to take breaks. I use a timer when I write, so that I make sure to get up every hour and move around and do some jumping jacks and push-ups. Otherwise I could sit in front of the computer completely absorbed for five hours straight and never take a break. The timer forces me to come up for air. I've conditioned myself that way. I sometimes give out Lux Minute-Minder timers (model CP 2428) at