

1

Understand Your Operating System

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Despite the fact that your personal energy is your most valuable resource, most of us fail to manage it efficiently. As a result we often find ourselves running on empty. More often than not, this energy shortage causes us to function in survival mode, thereby limiting our productivity and engagement while taking a toll on our health and happiness. The human operating system depends on our ability to allocate resources to give us the energy we need to meet demands. Fortunately, we are designed in such a way that we can quickly make adjustments to reduce the demands on our energy that threaten our survival. We exist today because our ancestors were able to do this effectively in times of an energy shortage, such as a famine, or a spike in demand, such as a predator attack. However, the antiquated system that once served us so well in times of trouble is now actually the *source* of much of our trouble. It can lead to chronic levels of toxic stress in our system, thereby undermining our health, happiness, and performance. The good news is we can use a few techniques to re-wire our operating system and design a more effective solution to deal with the demands on our energy, which will allow us to once again thrive, even in the midst of the most challenging circumstances.

There are two primary leaders that oversee the operations of your human system: your heart and your brain. Imagine that your heart functions as the CEO of your system; it's responsible for your passion, purpose, and motivation. It navigates you towards your most important goals in life, those related to your

core values and beliefs. Your brain functions as your CFO; its job is to make sure you have enough energy resources to meet demands. It is the brain's responsibility to make sure that your system doesn't take on more than it can handle, and that when demands do increase the necessary adjustments are made to compensate.

As you well know if you've spent much time in business, sometimes the CEO and CFO don't see things from the same perspective. However, this partnership is essential to the survival of the organization, because if either were left alone, we could find ourselves either running around in circles or not running at all. On the one hand, the CEO is typically more emotionally driven and inspired by the big picture, and feels incredible passion to lead the organization toward its ultimate mission. Perhaps this is one of the barriers for entrepreneurs who try to take on too many roles; it's hard to be conservative about spending and investing when the passion of your heart is leading you.

On the other hand, the analytically natured CFO keeps a laser focus on resources and can often appear overly conservative and cautious, seeming distant from the heart of the organization. Sometimes this feels restricting to the CEO and slows down the growth process. Without a clear strategy in place, the CEO might chase after every inspirational idea that came its way; and conversely, the CFO could conserve resources too vigilantly, keeping the system from doing anything at all. But by working together, the CEO motivates and the CFO regulates, allowing them to meet their goals without running out of steam.

Thankfully, our CFO brain is wired to protect our energy reserves. It's constantly monitoring situations to make sure that we have the resources we need to keep the system operating.

While it is the CEO's job to get the engine running, it is the CFO's responsibility to make sure that engine *keeps* going over time. And if the human system runs out of resources, we don't get a chance to declare bankruptcy; it's lights out, for good.

Without our key energy resources, oxygen and glucose, our cells cannot generate the energy we need. Our bodies literally begin to shut down—which is what we see happen physically during a heart attack or stroke or mentally with fatigue and burnout. Knowing all of this, our CFO keeps a close watch on the balance between the energy we have and the energy we need. It communicates constantly with the body's many systems, which report back via hormones to let the CFO know how well they are operating and the status of their energy demands at any given time.

Unfortunately, sometimes the CEO and CFO have competing interests. This often happens when you know what you *should* be doing but yet can't seem to find a way to do it. Your heart may believe that a new behavior—such as eating healthier or exercising more—would be of great benefit to your system. However, your brain might recognize that both of those strategies limit the amount of energy you have available at the present moment and talk you out of it—especially if you're operating on an empty tank.

Do you ever notice how tough it is to make good decisions at the end of the day? That's because the energy that fuels your brain to think, make judgments, evaluate options, monitor your attention, and multitask is put to use all day long. So expending all of this energy making decisions at work and then trying to make a healthy choice might compromise a major energy investment. In other words, your brain will be quick to talk you out of the salad and grilled chicken and *into* a hamburger, fries, and chocolate shake.

SHARP Science: Is Obesity All in Your Head?

Scientists at the University of Turku and Aalto University, both in Finland, have found new evidence for the role of the brain in obesity. Researchers determined that the reward system in obese individuals' brains responded more vigorously to pictures of foods, whereas responses in the frontal cortical regions involved in cognitive control were dampened. Their results suggest that obese individuals' brains may constantly generate signals that promote eating, even when the body *doesn't require* additional energy.¹

I was sitting in a hotel lounge just the other night when I overheard a very common conversation between two guests who were enjoying the free dessert buffet. Carrying a plate with a piece of pie, the woman said, "I'm on Weight Watchers and I'm counting points, but I'm starting tomorrow." If I only had a nickel for every time I've heard that statement! No matter how much you *want* to make healthy choices, when you're running on empty at the end of the day, you have no energy to support necessary willpower. Your brain convinces you that you'll *start tomorrow* because your energy will be replenished and discipline will be easier to fuel.

When we reach for poor sources of energy, we must evaluate the behavior's desired outcome and determine if there are other, more beneficial ways to get there. For example, when physical energy levels are low and you have the option to either eat a Big Mac or go for a run, your energy-hungry brain will

make the obvious choice: invest, don't spend. You'll therefore find yourself drawn to the food as a smarter energy investment.

Even knowing that exercise will make you feel better in the long term isn't enough if you're running on fumes at the end—or even in the middle—of the day. You may be better off looking for another energy investment strategy in this case, such as watching a funny video, connecting with a good friend, or utilizing the Brain Recharge process we'll be discussing later in this book. These investments in your personal energy can help get you back on track without putting you into conservation mode, and ultimately fuel your progress towards your goals.

Anytime we ask the brain to help us change, it's not as simple as pleading the case that something needs to be done simply because we want to do it. We have to *prove* to the brain that the energy we need to make the change is worth the cost. If we demand too much of the brain at once, it may let you try something out for a few days; however, you'll soon find yourself returning to old habits that have been ingrained over time, and therefore require less effort and a much smaller energy investment.

Many of my high-achieving perfectionist “type-A” clients, tend to find themselves in this situation, trapped in an all-or-nothing mentality. Feeling a strong motivation to change, their minds can quickly drift back to the way things used to be. I was speaking to a large group of financial advisors when I met a former football player from my alma mater. He told me he was feeling like garbage about letting the business wear him down, so he was going to get back to his playing weight once again by incorporating the strategies I had mentioned in my talk.

I quickly asked him to tell me about his life back then to find out exactly what he'd be returning to. His days were filled with classes (when he felt like going), a steady social life, and a few

hours in the gym. He loved his life, was in fabulous shape, and felt energized all the time. Then I asked what his life was like now. He told me that he'd spend up to 16 hours in the office or meeting with clients and prospects, had a young family who wanted his full attention when he got home, and was sleeping about four (mostly interrupted) hours a night. He still loved his life, but didn't feel like he had the energy to keep up with its demands.

To get back to his previous physical conditioning would require the same type of commitment, if not more due to his aging body. It was reality-check time. I asked him if he felt comfortable quitting his job, leaving his family, and moving to an island somewhere for peace and quiet. While his heart was saying, "I can do this, I've done it before, and I know how," his brain was saying, "Yeah, *right!*" Most of us have experienced our brains allowing our hearts to run away with the idea of a life change for a little while; with the right passion and purpose, we might get away with it for a few days, weeks, or even months. The CEO is in charge, and the heart has gotten the engine started. But once we've put too much strain on the system, made it feel too uncomfortable or work too hard at something, the brain will give the mind a million reasons why it needs to stop attempting to change an old habit:

- It's not actually that important.
- You can't really do it.
- You've tried and failed before so this time won't be any different.
- You're fine the way you are; heck, you're doing better than most.
- You'll start tomorrow.

The key to sustainable behavior change is to align the heart and the brain. You must get the CEO and the CFO on the same page and comfortable with the fact that you have the resources you need to change behavior just slightly, one small step at a time, without overwhelming your system. This requires a strategic plan for improving your entire system's fitness level—not just the body but also the mind.

The New Vision of Fitness

Most wellness programs of the past have focused on physical fitness in isolation, teaching strategies that quite honestly everyone already knows they *should* be doing. I've spent over a decade teaching corporate wellness courses, and I always start off asking what the group already knows about healthy living and what *they* think they should be doing to take better care of themselves. Not only do individuals know the general strategies for wellness; they are also the only experts on their own operating system. They always have an immediate answer to these questions, whether it's to eat less or more often, move more regularly, reduce stress or sleep more (just to name a few). Yet most of them are not actually *doing* any of these things. This is where the brain comes in. While nutrition, physical activity, rest, and recovery are critical for overall well-being, you must support these strategies with *cognitive* fitness—that is, the ability to use your mental energy to support your brain and body's efforts to sustain behavior. Training the brain to be fit requires both strategic exercises that are geared to challenge and develop cognitive functions, as well as strategic rest for optimal repair and recovery.

It's clear that non-stop strenuous exercise is not the best approach to being strong, coordinated, and healthy. We require regular periods of rest and recovery at all levels of biological dynamics in order for our muscles to develop and function optimally. This regular shifting between exercise and rest—called *oscillation*—is especially important when it comes to your mental energy, both as something to understand and also to regularly practice.

SHARP Science: Need To Create? Meditate.

Have you ever noticed that the harder you *try* to solve a problem, the tougher it becomes? Sometimes the best solution is to not try at all. A recent study showed that open monitoring meditation, where the individual is receptive to all the thoughts and sensations experienced, *without* focusing attention in a particular direction, increased divergent (*outside-of-the-box*) thinking, and generated more new ideas than before meditation. In contrast, focused attention meditation—trying to concentrate on something specific rather than free flowing—had no significant effect on the ability to resolve a problem. While focused attention training may help strengthen our ability to *focus*, relaxation techniques that are geared more towards non-judgmental awareness create more opportunities for insight, thereby building mental flexibility and boosting creative thinking.²

Science has clearly documented that it's critical to *not* over-train your brain. Instead, you need to train deliberately in ways that will actively reduce stress, encourage neural expansion, and

help your brain regularly recover and express its full potential. It's important to remember that physical and mental fitness aren't just about brute strength. Yes, you do need to keep your brain fit for bouts of long hours while you deal with a mass of detail; that's part of work. But there are three distinct dimensions to mental fitness: strength, flexibility, and endurance.

To nurture these three intertwined brain qualities, you sometimes need to actively engage your mind in cognitive workouts. However, you also need to shift into recovery mode for creative insight from time to time. And at work, just like at home, you also need to be able to instantly shift into interpersonal empathy mode, so that you can relate to your team or clients at highly successful levels.

There's no way of getting around the blunt fact that work usually generates mental stress, and a stressed-out brain performs at progressively lower levels. Too much stress is without question the number-one killer of both efficiency and creativity. This is why it's vital to learn specific ways to regularly shift your focus of attention out of stress mode and into rest mode at work, thereby giving your chronically deep-fried synapses at least a few time-out moments during the day to regroup, recover, and recharge.

Some people might initially react negatively to the idea of having to set aside regular downtime for their brain. Chances are you're already feeling pressured by deadlines, and taking time off seems to be the last way to help you get things done. But just the opposite will prove to be the case. Consider the concept of muscle fatigue; without short breaks from physical stress, your muscles at some point will begin to spasm and malfunction. Periodic rest is required for the system to repair and become stronger.

Medical studies show us that the same basic thing happens in your brain. You begin to lose the mental power necessary to hold your focus on your work, which causes more errors and diminishes creative vitality. Focus is what work is all about. Your attention, like your energy, is one of the most valuable resources you possess. It's crucial to think deeply about how you are using and managing that resource by considering the following questions:

- What are you spending your energy on, or *paying* attention to?
- Are you saving any reserves?
- Do you have a long-term investment strategy to make sure that you don't run out?

Your mental capacity (strength, flexibility, endurance) drives not only performance, but also your engagement with people who matter to you. And if you don't take care of your mental fitness and stay balanced and charged for action, you can't possibly take care of anyone or anything else. As the flight attendant instructs passengers before a flight, "Please put your own oxygen mask on before assisting other passengers." I'm not sure if everyone realizes the importance of this statement. It's not just about being good to yourself; if you run out of oxygen you can't help save anyone else!

Making sure that you take time to keep your brain sharp is one of the primary responsibilities you have each day. You also want to preserve it, so you have energy left at the end of the day to spend with the people and things that matter most to you. This enables you to be at your best in the present moment *and*

builds your brain health and cognitive reserve in order to support a better brain as you age.

You've probably already experienced ways in which stress damages cognitive health and performance. In this book we're going to consider the most effective methods for periodically shifting out of stress mode altogether in order to recover, rebalance, and recharge our mental energy. These essential breaks will make you feel better, revitalize your performance, and keep your brain resilient over time.

The Stress Story

It's important to note that stress is *not* the enemy here. In fact, stress is actually a good thing. People are often surprised to find out that one of the highest spikes in human mortality (death rates) occurs within the first six months after retirement. While we dedicate our lives to working hard at home and at work, looking forward to the day we can retire and fully enjoy some downtime, our body actually grows accustomed to functioning with this high level of stress. And our system is not designed to function in a state of all or nothing. A world without stress would not only be a shock to our usually amped-up system; it would also lead to quick deterioration because we would lose the stimulus for growth.

Stress, in its simplest definition, is *anything that causes change*. When endocrinologist Hans Selye originally coined the word *stress* in the mid-20th century, he used it to describe "the non-specific response of the body to any demand for change." Add a stressor of some sort and the recipient of that stressor has to adjust somehow.

Stress at its core is neither good, nor bad; in fact, it's often a positive thing when it comes to the human system. Consider exercise, which is clearly a stress to the body. We have an adaptive inflammatory response to the increased demand we put on our physical system. As a result of causing our heart and lungs to work harder than they're used to in an aerobic capacity, we become fitter and able to utilize oxygen more efficiently. During interval training (alternating short periods of high- and moderate-intensity exercise) we train ourselves to recover more quickly as we push to a point of discomfort, and then work to return to a more restful state. This both enhances our physical, mental, and emotional energy and significantly improves our quality of sleep, since our system becomes more effective at acquiring rest.

Flu shots offer another clear example of how stress to the body can cause us to enhance our defenses and become stronger. These small doses of influenza actually trigger the immune system to put up its guard and build a quicker and more effective method of attack should you be exposed to this flu virus in the future. What initially breaks your system down can—with the right amount of recovery and repair—ultimately make you stronger than before you started.

When you stop challenging yourself physically, fitness diminishes rather quickly. If you become sedentary, muscles atrophy, rendering themselves useless and causing your system to slow down energy production, which you'll notice as a decrease in metabolism. As much as you might think you want stress to just disappear, it's likely that the times in your life where you experienced the most growth were probably also the most stressful.

Stress is a stimulus for change, which is required for growth to occur. But stress levels can become toxic if they're too intense

or persist for too long a time, and instead of building us up, we find ourselves breaking down.

New studies have linked chronic stress to the accumulation of proteins in the brain in the hippocampus, which is primarily responsible for forming, storing, and organizing memories. This is the same area where plaques and tangles usually first appear in Alzheimer's disease. It seems that acute stress—a single, passing episode—may be beneficial for brain plasticity and learning, but the continuous activation of stress pathways may lead to destructive pathological changes.³

Keep in mind that stress is different from worry. In fact two people can experience the exact same stressor and have completely different physiological responses based on how each one perceives the experience. One might see something stressful as a challenge they can overcome, while another worries about whether or not they'll be able to handle it. The body's resulting stress response is quite different in each; one person will grow stronger, while the other suffers negative consequences. And it's all based the brain's perception of the situation.

Our experience is determined by what we choose to pay attention to and how we interpret it. The point at which stress becomes toxic differs from one individual and situation to another, and everyone responds differently when they reach that breaking point. However, even while stress might be building to the point of becoming harmful, an addiction has already formed for many people, making it very uncomfortable to slow down and relax.

Taking it Easy is *Hard*

Have you ever noticed how difficult it is to actually relax? For something that's supposed to be enjoyable, slowing down can

actually cause a great deal of discomfort to someone who's used to being on the go all the time. Try it right now. Close your eyes for a few moments and just try to completely relax your body and quiet your mind. See how long it takes for your brain to start wandering to your long to-do list or other worries you might be holding onto.

Without practice, relaxing is hard work!

The stress response acts on the same triggers in the brain as other addictive substances and behaviors such as drugs, alcohol, sugar, shopping, gambling, or even falling in love. Our reward system, fueled primarily by a chemical in the brain called dopamine, keeps us doing things that we perceive to be helpful for our survival.

When we repeat a behavior over and over again—such as driving the same route to work each morning—the repetition builds a habit. Add dopamine, and neural connections become even stronger, making it almost impossible to stop even the behaviors that you know are bad for you.

We all know that the things I listed above are toxic when used in excess. Despite this, when your body and brain get a hit of any of these addictive chemicals, they don't just experience the initial reward response; they begin to *crave* it once it's gone. Just like any other addiction, our tolerance level actually increases over time—even when it comes to stress. This means that we need greater amounts of stress to get the same endorphin rush, which creates a dependence that makes it increasingly uncomfortable to eliminate sources of stress.

You may consider it a strong statement to call stress an addiction; however, think about how long it takes for you to relax when you're on vacation. Or how challenging it is to keep away

from email during the day even though you know it's a distraction from other things you may need to focus on. Each phone call, email, or text initiates the reward system just in anticipation of something new and potentially positive. Even though we may not enjoy what we hear on the other side, novelty in itself is something we crave.

SHARP Science: Addicted to Facebook?

According to research at the University of Bergen in Norway, the use of social media sites like Facebook has contributed to an increase in Internet addiction. Think you might be addicted to Facebook? Score yourself on the following six criteria, by responding very rarely (1), rarely (2), sometimes (3), often (4), or very often (5):

1. You spend a lot of time thinking about Facebook or planning the use of Facebook.
2. You feel an urge to use Facebook more and more.
3. You use Facebook in order to forget about personal problems.
4. You have tried to cut down on the use of Facebook without success.
5. You become restless or troubled if you are prohibited from using Facebook.
6. You use Facebook so much that it has had a negative impact on your job/studies.

(continued)

SHARP Science: Addicted to Facebook? (*Continued*)

According to the developers of the assessment, scoring “often” or “very often” on at least four of the six items may suggest a Facebook addiction. Try scheduling Facebook breaks during the day and limiting them to a specific time frame to minimize “cravings.”⁴

Just today I found myself fighting the pull of the technological leash while running some errands. As I stood in line at the post office, my automatic pilot caused me to pull out my cell phone and start to check for new emails. I caught myself, chuckled a bit about the fact that I had just been writing about this very topic, and put the phone back in my bag.

Not even 20 minutes later, I had an appointment, and something that should have been relaxing turned into another work opportunity. Without even thinking about it, I sat down and immediately pulled my phone out again. And again I laughed at myself (I do a lot of that). But we all reconnect when we have downtime, right? Look around at a restaurant, or an airport, or anywhere that people have to wait; you’ll seldom see them not doing anything at all. We crave busyness, and now that we have constant access to communicating and browsing and surfing, there is no reason at all not to pass the time doing *something*.

Being busy can be productive and enjoyable, so I’m not saying we should all sit around being bored all the time. But I would like you to consider that being constantly busy means being in a constant state of arousal—something that utilizes energy and quite often stimulates a chronic, underlying stress response.

The more we are “on,” the more difficult it is to turn “off” when we want to, and the harder it becomes to actually relax. And relaxing is not only good for your brain—as you will soon understand, it keeps you healthy and even helps you lose weight.

Stress and Health

There are many quality studies available that clearly document how toxic stress can be to both our bodies and our brains. According to author John Medina’s book *Brain Rules*, people who experience chronic stress have an elevated risk of heart attacks and strokes, decreased immune functioning, increased rates of depression, impaired sleep, poorer short- and long-term memories, and decreased cognitive performance. One study showed that adults with high stress levels performed 50 percent worse on certain cognitive tests than adults with low stress levels.⁵

If you’ve ever stayed up late watching TV, you’ve most likely seen the infomercials promising to melt away belly fat by blocking cortisol, a stress hormone that has been linked to excess fat storage, particularly around the waistline. You actually do not want to get rid of cortisol; it serves many purposes that are quite necessary for our survival. The problem with this hormone is that it triggers a metabolic response that can cause your body to store excess calories as fat. It is essentially trying to prepare the body for an emergency that is chronic in nature; or in other words, one that is not going away anytime soon.

Stress contributes to the weight gain equation in many ways, across multiple energy dimensions. Physically, it causes the body to produce a cascade of hormones that increase

appetite and compel us to crave high-calorie, high-fat foods. Mentally, it prompts us to use up more of our resources—such as willpower and self-discipline—which makes the idea of sticking with a meal plan much less appealing. And when stress leads us to seek comfort emotionally, there are few things that are as effective and efficient at stimulating relaxing endorphins in our brain as comfort food.

SHARP Science: Chocolate with Breakfast?

New research from Tel Aviv University suggests that including chocolate as part of a balanced 600-calorie breakfast (including protein and carbohydrate) may help dieters lose weight and keep it off. While a reduced calorie diet can facilitate fat reduction, the brain and body can experience withdrawal-like symptoms that cause fatigue and cravings. Over the course of the 32-week-long study, participants who added dessert—cookies, cake, or chocolate—to their breakfast lost an average of 40 pounds more than a group who avoided such foods, and they kept the pounds off longer. Curbing cravings may be more important than deprivation for long-term weight loss success.⁶

Although it may seem contradictory, your brain and body love the idea of getting fatter! Consider this: Energy is your most critical resource. It fuels everything you think, feel, and do. Cells require both glucose and oxygen in order to create energy; if we run out of either, it's lights out for the entire system. Therefore, anything the body can do to conserve or

preserve this natural energy source makes it more likely to survive in periods of an energy shortage.

Even though most of us are not actually worried about running out of food anytime soon, the brain remains on high alert just in case. Anytime we go too long without eating, for example, this protective system is triggered. Our bodies then release hormones to help us hold on to the resources we have, and seek out more resources (calories) as soon as possible.

Let's say that you are stranded on a deserted island with no food. You don't feel hungry initially, because your stress response decreases appetite at first in order to help you focus on the other tasks you need to complete in order to survive. In time, however, adrenaline wears off; and another stress hormone called cortisol is released along with appetite increasing factors that are all designed to get you to find the most valuable (i.e., high-sugar, high-fat) food sources quickly and load up.

Remember, the brain and body love this idea, because it allows us to store more valuable glucose away for future emergencies. And as you've probably already guessed, this storage is called fat.

At the same time that we are trying to store extra energy, the brain also tries to conserve energy by slowing down metabolism. It does so by reducing the amount of fuel the body requires at that time. Only the most essential organs, emotions, and thought patterns get energy in times like these. The result? We may feel sleepy or sluggish, irritable or angry, and have a tough time concentrating.

The greater the stress, the more the brain wants to conserve energy and the more likely we are to store and protect fat in our body. This means that even if you are dieting—eating things that you believe are healthy for you in smaller portions

and moving more often throughout the day—you're still going to battle against hormones that are designed to make you fat if your stress levels are high.

It's important to be aware that you can be lean but still find yourself accumulating unhealthy fat in your body and your bloodstream—both of which can be toxic to personal energy in multiple ways—without seeing a change in the scale. I have worked with many thin but stressed-out individuals who showed significantly high body-fat percentages when tested. Many of them believed they were doing everything right (dieting and exercising), when in fact they were just increasing their stress response and fat stores.

Keeping stress under control is critical to our ability to keep fat from getting out of control. In fact, you might actually get fatter if you add exercise to this already complicated equation. Now that's *really* frustrating! You could be investing precious time and energy, dragging yourself through workout after workout and actually doing more harm than good when it comes to your weight-loss efforts. Why? Because exercise is stressful to the body. When we are taking care of our needs physically, mentally, and emotionally we are able to tolerate this stress in a way that is healthy and actually makes us stronger, as a result. We have more energy, our immune system is enhanced, our heart and lungs are more effective, and so on.

However, when we aren't managing our energy effectively and we begin an exercise program when we are stressed-out or without fueling up, we might end up creating even more weight-loss resistance for ourselves as stress levels continue to skyrocket. So now instead of just thinking you are stranded without food, your brain assumes something must be chasing you. After

all, our caveman and cavewoman brains can't imagine why you would exercise for fun. More stress, more fat.

SHARP Science: Forced Exercise Minimizes Positive Effects

Animal studies have shown that forced exercise may actually cause more harm than good, which may be a result of excess stress hormones hindering the body's ability to fully recover and repair. According to Mike Gleeson of the United Kingdom's Loughborough University, neither couch potato nor elite athlete is ideal when it comes to humans. Gleeson states that moderate exercise enhances the activity of natural killer (NK) cells, which are important weapons in the fight against viral infections. Stressful endurance activities such as marathons can turn down NK cell activity, leaving the body susceptible to foreign invaders. Gleeson's conclusion: "Moderate exercise has a positive effect on the immune system. So to keep colds at bay, a brisk daily walk should help—it's all about finding a happy medium."⁷

You still may find yourself losing weight, even with all this stress, but you're likely not losing *fat*. Our bodies actually utilize lean muscle protein for fuel when we go too long without eating, and we can begin losing muscle mass. It may surprise you to know that anorexic individuals—those who eat a severely low number of calories or perhaps even nothing at all—have high body-fat percentages, despite being severely underweight. This is because their lean body mass wastes away (including their heart muscle—just one deadly result of food restriction).

Therefore weight loss is not necessarily fat loss. If you're losing lean muscle, you're making it more challenging to generate energy or lose fat as your metabolism slows down, and you require even fewer calories.

This doesn't just add fat to our body; it also wreaks havoc on our brain. According to stress researcher Robert Sapolsky's groundbreaking book, *Why Zebras Don't Get Ulcers*, cortisol is so toxic to the brain that it not only hinders neurogenesis (the growth of new brain cells), it will literally kill brain cells on contact.⁸

According to the American Institute of Stress, there are numerous emotional and physical disorders that have been linked to stress, including depression, anxiety, heart attacks, stroke, hypertension, immune system disturbances that increase susceptibility of infections, and autoimmune diseases such as rheumatoid arthritis and multiple sclerosis. In addition, stress can have direct effects on the skin and gastrointestinal system, and can contribute to insomnia and degenerative neurological disorders such as Parkinson's and Alzheimer's disease. It's actually somewhat difficult to come up with any sort of disease or disorder that *isn't* caused by or at least aggravated by a stress imbalance. In fact, medical experts suggest that up to 90 percent of doctor visits are stress-related!

The key to sustainable wellness is finding a healthy balance; one in which the stress in your life is simply a stimulus for growth and change, and you can keep your hormone levels in harmony. This happens when you create balance between two complimentary systems in the body: the stress response and the relaxation response. Ideally, these systems are designed to work in partnership, so that you can tolerate stress in a healthy way. Unfortunately, most of us become so overwhelmed with stress

on a daily basis we fail to make relaxation a priority. As a result, our systems are out of whack and our mental energy is in a constant deficit.

Boost Your Brainpower

Just like the rest of our body, the brain works in a way optimally suited for our biological survival. Because we require constant energy to fuel our cells, and because our natural energy supply is limited, our control center is designed to expend as little energy as possible. This made perfect sense in times gone by; however, the problem today is that our ancient automatic-pilot mode, originally designed to help us survive in more primitive settings, actually keeps us from maintaining a healthy lifestyle.

According to cognitive scientists, we have two very different processing systems in the brain that are always vying for dominance. There's the ancient automated system (or *auto-brain*), and the newer reflective system (or *thinking brain*). In times of danger, the automated system takes over and allows us to act quickly, which is important when we need to react to a threat or run away from danger. "Don't think, just do."

For raw survival purposes, our auto-brain has to be ready to take charge at any moment. Even in contemporary times, there are sudden dangerous occasions when taking time to think through or debate multiple choices could leave us dead in our tracks, such as a truck barreling right at us on the road or a fire rapidly burning in our home. Times like these call for an immediate response, a preprogrammed knee-jerk reaction to a situation.

However, the thinking mind takes over when we're faced with choices requiring reflection, and uses whatever time is needed to make the best decision for the situation. This part of the brain is especially important when we try to think outside the box to be creative, when we work to manage interpersonal relationships, and when we attempt to make choices that go against what our natural survival instincts might want us to do, such as punch someone who is aggravating us or push someone out of our way when waiting in line. Learning, judgment, evaluating, storing memories, and emotional regulation are all part of the reflective system.

It can be helpful to have a general awareness of the brain's different sections and their primary responsibilities in order to see how they work together—and sometimes get out of touch. Many neuroscientists and educators use the “hand model” of the brain to help people develop a basic understanding of the brain's structure and how it works.

If you look at the base of your hand, where the wrist connects with your forearm, you can imagine the brain stem connecting to the spinal cord. At the base of the human brain in the cerebellum and brain stem is the spot that controls our most basic instincts and regulates our automatic, unconscious bodily functions. This is often referred to as our reptilian or *lizard brain*, as it's an element of the brain that we share with almost all animals on the planet.

Extend your thumb across the palm of your hand and you will see where your limbic system is located, and where you would find your mammalian *monkey brain*. This area controls our more complex functions related to emotional reactions. Most mammals lead with their monkey brain, which fuels the basic responses to fear and desire.

Wrap your fingers over your thumb and you will see a representation of the cerebral cortex, the outer layer of brain tissue surrounding the monkey brain, called the forebrain and the frontal lobes. This cognitive area allows for logical, emotionless thought such as deductive reasoning and delayed gratification.

The mind's automated function predates its thinking function by many millions of years. In fact, it's often called the *lizard brain* to differentiate it from the newly evolved, rational section of the human brain that's capable of complex analytical thought. Using our unique human brain lets us think through and determine our responses to a situation rather than just instinctively reacting. When we are faced with sudden threats to our system, we often don't have time to stop and analyze what's going on. These are the times we're lucky to have our lizard and monkey brains to quickly get us to safety, employing our reflexive fight-or-flight response.

But usually, we do best when we consciously observe our habitual lizard and monkey reactions to situations and learn how to change our programming when those reactions don't benefit us. And other than an emergency, the quickest way to shift into automatic-pilot mode is to spread our mental energy too thin by taking on multiple tasks at the same time.

Avoid Multitasking Disasters

One of the key insights to come recently from cognitive science tells us that when we multitask, we tend to drop out of high-level rational decision-making, and slip into monkey-brain reactions in our various split activities. Because we have so many

things going on, we operate mostly on automatic pilot, rather than reflecting on our decisions and actions. Multitasking often prompts us to make mindless decisions that may end up causing serious problems with important responsibilities or relationships.

The next time you find yourself trying to do a million things at once and getting irritable with someone you care about, remind yourself that you're using your monkey brain, and work on acting more like a rational human being. Give each moment your full attention, so that you respond in a more thoughtful, beneficial way. You may also consider trying something I've done with a few close friends: When someone seems distracted, ask them if they're using their "monkey brain" (use this method at your own risk).

Of course, most of us have trained our brains to operate in multitask-mode the majority of time due to our fast-paced, need-it-yesterday society. And although we have made it easier to multitask, that doesn't mean we should do it. No matter how gifted you believe you are at doing 10 things at once, there are well-documented studies suggesting that multitasking not only decreases performance; it also stresses the brain unnecessarily. Yet the brain will continue to prefer to lead you in this direction because of its resource-management focus. In other words, even though it takes energy to multitask, it takes even *more* energy to try to change a bad habit. And the rush of needing to get things done quickly feeds our stress addiction by neuro-chemically rewarding us for bad behavior.

That said, by expending some time, energy, and a little bit of patience, you *can* rewire your brain to prefer a more single-

mindful focus. It will just require some practice; and you'll need to take small steps so that you don't overwhelm your system by changing too much at once.

There are two reasons why this single-focus concept is critical to our brain-training program. First, we should remember that many of our judgments, decisions, and actions do not emerge from a place of thoughtful consideration or mindfulness. Too often, we are simply creatures of habit. We react to a situation or a person based on previous prejudice and programming, or our lizard-brain fight or flight reflexes, rather than relating consciously using whole-brain intelligence and wisdom.

Unfortunately, this is where a lot of our prejudices and biases can show their ugly heads. Someone who has struggled with a particular group, such as a political party or religious affiliation, makes assumptions based only on previous interactions. This is aggravated if the person from the past posed a threat to one's viewpoint or challenged someone to the point of discomfort. Survival instincts would lead us away from interacting with people who threaten our sense of self, even when it's the best thing for our personal development (and this can be a big problem when organizations lack diversity).

Second, and most important, when our past programming is less than desirable, we possess the inner ability to train our auto-brain to respond differently. Thanks to neuroplasticity, we can repeatedly focus our attention in particular directions that stimulate our brains to create new pathways or expand old ones. This allows us to learn new and improved mental and behavioral patterns.

SHARP Science: Meditation Builds Mental Muscle

Over the past decade, there has been significant evidence of meditation shaping the structure of the brain through neuroplasticity—and more is being discovered every day. A recent report by UCLA researchers suggests that long-term meditators have larger amounts of gyrification, or folding of the cortex, which may allow the brain to process information faster than people who do not meditate. Researchers noticed a direct correlation between the amount of gyrification and the number of meditation years, providing further proof of the brain's ability to adapt to environmental changes over time.⁹

There are many examples of this core re-training process in sports and other types of competition. Skilled chess players and elite athletes have taught themselves to analyze complex situations more quickly in order to respond in the best way, as fast as possible. Through practice, these superstars are able to consciously train elements of their brain that would normally be part of the reflective, thoughtful system to happen automatically, without much time or energy. And it's not all that different for non-elite athletes. I had practiced softball for 13 years by the time I was in college, so many of my abilities had been ingrained into my operating system and therefore required very little thought to execute. Sometimes they were survival-based efforts, such as flipping my glove up

immediately to protect my forehead from a fastball being returned in my direction. Other times, they were part of a strategic plan that we had trained so frequently that it did not require any time to pause, reflect, and make a good choice. If a slow ground ball came at me with a runner on third who seemed a bit further from the base than she should be I instantly knew to fake the throw to first and then turn to surprise the runner on third with a quick toss to get her out (I loved the fake-out play).

Even simple parts of our daily routines are loaded with examples of the auto-brain in action. Think of all of the things you do during the day that you could almost do in your sleep (and maybe sometimes do). You get up and turn the coffee pot on, brush your teeth, take a shower, get dressed, drive to work, and walk to your office. Did you really have to make a conscious effort to do all of that?

Because our auto-brain requires a very small amount of energy compared to rational decision-making, it's always going to be the preferred way of perceiving a situation, processing information, and facilitating behavior. Our auto-brain is certainly not a bad thing. It's actually a most marvelous phenomenon, as long as we remain aware of how it functions, so that we can be sure it's moving us in the right direction. Remaining aware in the present moment is crucial to ensuring that your automated functions and reflex habits actually assist instead of hinder you.

Even when we're not very conscious of what's happening around us, our brain assesses situations constantly, often making accurate associative and habitual interpretations. And the auto-brain tends to see what it expects to.

Below, you'll find a good example of how your auto-brain works. Read through the following paragraph and see how much you understand:

“According to a research study at Cmabridge University, it deosn’t mtttaer in what order the ltteers in a word are, the only iprmoetnt thing is that the frist and lsat ltteer be in the rghit pclae. The rset can be a total mses and you can still raed it wouthit porbelms. Tihs is bcuseae the human mind does not raed ervey lteter by istlef, but the word as a wlohe.”

People are often surprised by how easily they can read this paragraph. Because our brain focuses primarily on patterns and is able to make assumptions, even gibberish can make sense as long as certain patterns remain consistent (which, in this case, means the first and last letters are accurate).

Remember: Your brain wants to conserve energy for possible threats during the day. Therefore, it prefers to use automatic pilot mode as often as possible. Habits save us a great amount of mental energy. In *The Power of Full Engagement*, co-authors Jim Loehr and Tony Schwartz propose that up to 95 percent of human behavior happens while we're in this automated state of mind, while only about 5 percent is conscious, self-regulated behavior.¹⁰

We call these mostly automated activities our *habits*. They enable us to get much more done during the day than would be possible if we had to concentrate our full conscious attention on tasks like tying our shoes and brushing our teeth. Habits are patterns of thought and behavior that we've performed so often and so successfully that they become programmed into our auto-minds and no longer require our full attention.

Changing Pathways: Improving Habits

The ability to develop new habits is one of the primary survival strategies of living organisms. Unfortunately, we can become conditioned with bad habits (ones that undermine a healthy, fulfilling life) just as easily as the good ones. And those stubborn bad habits are very difficult to change, because we fall into them automatically after years of using them—whether we were trying intentionally or not.

Everything we think or do in life, whether positive or negative, has a training effect and, if done often enough, establishes a new habitual pattern. If you find yourself grabbing fast food on a regular basis, you will soon feel pulled in that direction when you start to get hungry. Stay up late several nights working (or writing a book), and you will train your brain to see this as the norm, making falling asleep at a decent hour much more challenging. If you sit at your desk too much and don't get up and go outside for regular exercise, you're reinforcing yet another unhealthy habit.

Repetition is the primary act of training. Anything you do often enough becomes a habit. For instance, if you fixate on negative worried thinking, you're going to develop a mental habit and may find yourself stuck dwelling on what's bad in life instead of noticing what's good. And unless you consciously make an effort to change a bad habit, your brain will keep these pathways well-paved as you automatically continue using them. Fortunately, the brain-training principles I introduce in this book will show you how to consciously change your mental energy's focus. You'll learn to develop more supportive habits that are less draining and thus easier to maintain. Because we

have such an amazing operating system that can help us automate important processes in our lives, we can choose to actively train our brains to move us regularly in the right direction—and thus make our auto-brains truly serve us.

Note that your power to change habits depends on where you choose to focus your attention during each moment of the day. In fact, your habits of attention can be seen as the bedrock of all your habits. You'll likely notice that most of the time, you aren't taking conscious control of where you focus your attention. It's operating on automatic pilot.

Any and all cognitive training requires that you *consciously decide* to concentrate on particular directions that serve you well; that's what brain-based training is all about. You shift your attention in a new or valued direction, and continue to hold your focus in that direction while you perform certain mental actions, or while you observe certain natural happenings, such as your breathing. During this process of disciplined focused attention, time and repetition will lead you to develop a new habit designed specifically to improve your life. With your heart and brain in alignment regarding your motivation and available energy resources throughout the day, sustainable change becomes possible.

The Training Plan: Hitting the Target

In order to build a brain-training program that will support healthy behavior change, it's important that we utilize a proven change process, one that provides the inspiration, information, and implementation that you can incorporate into a busy routine. To do this, we will move through the five-phase approach

outlined in the introduction, which consists of balancing the brain, engaging the heart, focusing the mind, energizing the body, and building a supportive community. Each phase can be seen as a ring of a bull's-eye, with the sweet spot being the intersection where all five elements are working together in harmony.

At our core is the need to balance the brain, the controller of our resources, by providing a sense of security. Safety is our brain's key mission; it wants to keep our system fueled appropriately for each situation so that we can sustain life. Without a sense of safety, our entire operating system functions out of sync, so creating a balanced brain is the first phase of *The SHARP Solution*.

The second phase incorporates the energy of our heart—our spirit—fueled by our passions, values, and motivation. Driven by our sense of purpose, we can then incorporate phase three, our mental energy, to focus our attention in the directions that are most important to us.

Moving out to phase four, we come to our physical energy, and our need for nourishment, movement, and sleep. Finally, a healthy environment and strong sense of community provide us with the accountability and support we need to continue on our journey over time.

In the chapters that follow, we will walk through *The SHARP Solution's* five phases of brain-based training that create a high-functioning operating system. After each step, you will complete a specific exercise to implement one of the core techniques. By the time you finish each chapter, you will already have applied the training process, and will be on your way to building a healthier, more fit brain that will support you in your important missions in life.

Training Exercise #1: Breathe

The first step in balancing brain chemistry is to simply turn your attention to your breathing on a regular basis because as soon as you focus your attention on your breathing, your entire respiratory system begins almost instantly to self-correct and expand, bringing more oxygen to your brain.

Breathing exercises can be a wonderful way to start your day with focus and clarity. They can also recharge you in the midst of a chaotic schedule, or help rebalance your energy physically, emotionally, mentally, and spiritually before transitioning home at the end of the day.

Focusing your attention to your breath might seem overly simplistic in the face of major stressors at work and home. However, your ability to shift your attention away—even temporarily—from stressing thoughts to the bodily experience of your inhales and exhales carries remarkable power to initiate relaxation and restore hormonal balance.

At first you may find that watching your own breathing, is in itself challenging. Most people do because this seemingly simple shift from being lost in stressful thoughts to being focused on your inner experience is in reality a great leap of the mind.

Remember that any exercise is valuable only if it's a bit of a challenge to perform at first. So give yourself a few weeks to explore the power of breath-recovery in creating a sense of calm energy.

Right now, let's jump in and begin your actual training with a simple practice:

Even while reading these words, begin to focus your mind's attention more and more on the actual sensations you're experiencing in your nose . . . in your chest . . . in your belly . . . as you breathe.

Feel the air flowing in and out of your nose as the beginning point for the recovery process . . . don't make any effort to change your breathing, just feel it. The air flowing in . . . the air flowing out . . . and now expand your awareness to also include the sensations of movement in your chest and belly as you breathe.

Continue breathing freely for another minute or so . . . and begin to notice how your breathing naturally, all on its own, begins to expand . . . to deepen . . . to become smoother . . . and more enjoyable.

Enjoy the experience of simply breathing in the present moment, and relax.

For a free, guided imagery track to help with your breathing practice, visit www.synergyprograms.com.

