

BRAIN-WISE LEADERSHIP

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The purpose of this article is to help leaders do their jobs more effectively by examining the components of brain-wise leadership. The article is divided into five parts: Part I is a general overview, defining brain-wise leadership, its traits, attributes and some of the styles of effective leadership. Part II begins with the strategies for effective and ethical decision-making and goes on to explain additional leadership and feedback skills that research finds effective. Part III helps the readers identify their leadership style; Part IV deals with issues that all leaders need to know about how the brain learns and functions. Part V deals with strategies for unleashing your personal energy and managing one's self in a stressful world. The payoff for investigating these processes and learning these strategies is to boost your performance and maximize your productivity and effectiveness as a leader.

Keywords: Leadership, Brain-wise leadership, effective leadership

Part I: General Overview

Defining Brain-Wise Leadership

When we talk about leadership we are using the term widely. All of us take on a leadership role from time to time. It can be as a committee member, a church member, a community member, or in a professional role related to work. Defining leadership is not an easy task. Rather than defining leadership, most professionals tend to describe it using attributes or traits that are common among effective leaders (Gibb, 1947; Kirkpatrick & Locke, 1991; Lord & Brown, 2004; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; DeRue, Nahrgang, Wellman, & Humphrey, 2011). This article discusses the attributes and strategies that fit any of those roles as leader and are things one must keep in mind to be effective.

Over the last twenty years, there has been extensive brain-based research that has led to a revolution in our understanding of how people work and learn (Begley, 2007). For example, Eysenck, Derakshan, Santos, & Calvo (2007) and Gailliot, Baumeister, DeWall, Maner, Plant, & Tice, (2007) explained that managing multiple competing goals deplete the brain's metabolic energy resources. This challenges the leaders' ability to effectively process information. When the braking system is activated in the brain, emotions become less intense. This is an effective part of brain's function because having strong emotions hinders the deliberate and insightful thinking of leaders.

According to Sousa (2003) leadership is more than personality traits. It is the result of developing traits that inspire people to work for the goals of an organization. These traits include understanding people, exercising power and authority judiciously,

empowering colleagues, and being a good and decisive decision maker. Leaders “know their strengths and weaknesses and use them wisely” (Sousa, 2003, p. 8). The following are some of the traits effective leaders share:

Traits and Attributes of an Effective Leader. Both business and education have their ideas of the traits that contribute to effective leadership. The traits and attributes listed below are discussed in depth on Stephen Seay’s (2007) ProjectSteps website:

1. **Honesty** – An effective leader displays sincerity and honesty in all actions because deceptive behavior does not inspire trust.
2. **Competent** – An effective leader is competent. Their actions are based on reason and moral principles.
3. **Forward-looking** – An effective leader sets goals and has a vision of the future. Effective leaders envision what they want and how to get it.
4. **Inspiring** – An effective leader displays confidence and takes charge when necessary.
5. **Intelligent** – An effective leader is knowledgeable. They read, study, and seek challenging assignments.
6. **Fair-minded** – An effective leader treats others fairly.
7. **Broad-minded** – An effective leader seeks out diversity.
8. **Courageous** – An effective leader has the perseverance to accomplish a goal, regardless of the obstacles and displays a confident calmness when under stress.
9. **Straightforwardness** – An effective leader uses sound judgment to make good decisions.
10. **Imaginative** – An effective leader makes timely and appropriate changes. (Seay, 2007)

Developing an understanding of some of the traits and attributes held by effective leaders is the first step in developing effective leadership skills. Next step is to investigate how good leaders make decisions.

Four Decision-Making Leadership Styles

There are lots of decisions leaders need to make and they are typically made in one of four ways (Wilson, 1997):

Autonomous: The leader makes the decision, either on the basis of information already in hand or after gathering information from direct reports. This style might be used when the decision involves privileged information only the leader has. For example, it could involve a personnel issue that could be hurtful or occur in a situation where the decision must be made quickly (e.g., physician in an Emergency Room).

Consultative: The leader shares the problem with team members to gain their recommended solutions. Often the problem is of intermediate importance and one or more of the team members may have expertise on the issue at hand. The problem typically is not core to the department. Although the leader will try to have everyone buy into the solution and is open to being convinced, the leader has veto power.

Joint: The leader and direct reports jointly share in the decision-making process with decisions made by consensus; that is, everyone feels heard by the others and can live with the decision. The problem typically is core to the department and there is no single expert. Ownership by all members is critical.

Delegative: The problem is delegated to one or more individuals who have the authority and expertise to make the decision. The problem is often minor and presents a good developmental activity.

What one must remember is that good leaders use all four of the styles discussed above. No one approach is right for every situation. There are five considerations in deciding which Decision-Making Style to

use. First, is the kind of information involved (its level of privilege); second, the importance of the decision and whether it is worth the time and effort of the group; third, the level of complexity of the problem and who has the necessary information and expertise; fourth, the level of buy-in or ownership required; and, finally, the ability of the group to work together to make decisions (Wilson, 1997).

Part II: Decision Making Strategies and Feedback

Making Wise Decisions

In their book, *How the Wise Decide*, Sandoski and Zeckhauser (2009) interviewed twenty-one business leaders about key decisions they made. The following are suggestions for making wise decision that are based on that research:

- Make it a habit and a priority to gather unfiltered information (go to the source).
- Get the stake holders together; however, fill the room with barbarians by bringing together people with differing opinions and have them debate the issue.
- Conquer the fear of risk by understanding the elements involved in any risk and how to promote smart risk-taking. You do this by making your vision for the organization your daily guide and by being sure you have the right idea about where you should be going and then sticking to it.
- Listen with purpose. Do not just listen intently but know what you are listening for and ask the right questions, challenge assumptions, and remember the implementers.
- Be transparent. Be explicit about how and why a decision is being made. Be explicit about how hard it will be to implement and do not forget to follow up. Always conduct a post-mortem.

In his book, *The Leadership Brain*, Sousa (2003) discusses ethical decision-making strategies. In the world today, there

is a need for ethical decision-making. The following list give suggestion on questions you must ask in order to decide if an issue is an ethical one:

1. What is the magnitude of the consequences resulting from this decision?
2. What social consensus already exists about this issue?
3. What is the probability that something critical will result from this issue?
4. How important is the immediacy of this decision to other stakeholders?
5. How closely is the ethical question tied to this issue? And
6. How concentrated will the effects of this decision be on any one individual? (Sousa, 2003, p. 215).

After you have decided whether it is an ethical issue (Step 1), then you need to follow the following three steps (Steps 2, 3, and 4):

Step 1: Identify the ethical issues

Step 2: Recognize what moral judgment you have made about the issue.

Step 3: Select an action(s) for implementation.

Step 4: Develop a plan to implement the action.

Use and Give Feedback

Feedback is essential for improving any program (Conger, 2010). As a leader, you must find out what your staff or team knows, wants to know, needs to know and learn. The most powerful single modification that enhances achievement is constructive feedback. Just as with children in a school setting, the leader must provide frequent opportunities for formative (non-evaluative) feedback (Atwater, Brett, & Waldman, 2001). It needs to be specific, timely and designed to improve performance. The thing that a good leader knows is how to resist the urge to use 'gotcha' techniques that only interfere with

learning because such tactics invoke fear (see cognitive research below). In addition, Professional development should be initiated that provides scaffolding to help staff move on to the next level (Newmann, King, & Youngs, 2000). Often, this purpose for professional development is forgotten.

Part III: What Type Leader Am I?

Researchers today agree that no one leadership style will successfully manage the issues emerging from a rapidly changing and technologically complex world. Black and Mendenhall (2007) explain that most leaders do not necessarily have the training and education to deal with the complexity of the changing economies, cultures, and technologies. They warn that for educational leaders to successfully implement major school reforms, they must understand their own strengths and weaknesses. Teachers often complain that their building and district administrators are managers and not leaders. By this they mean that they are bureaucrats who maintain the status quo and avoid adopting the changes necessary for districts to address the problems currently facing our schools (Sousa, 2003).

Strategies for Managing One's Self (Sousa, 2003, pp. 20-21)

Building Strengths. A leader can discover his/her strengths through feedback analysis. When a leader makes a key decision, they should write down what s/he expects to happen. Comparing the actual results with the previously set expectations should be the next step. This will reveal areas where the leader lacks competence. Further, the leader should work to improve his/her strengths and acquire the knowledge and skills to fully realize his/her strengths.

Remedying Any Bad Habits. A leader needs work to remedy any bad habits that are revealed in the feedback analysis. For example: Speaking in a monotone, not listening when you ask for information,

talking over someone else speaking, not giving credit where credit is due, etc.

Avoiding the Impossible. A leader needs to avoid getting involved in areas where s/he lacks competence. S/he should further seek out the projects where his/her strengths will allow for accomplishments or bring on a team member who has the expertise.

Improving Performance. As mentioned earlier, performance is often the product of personal traits and learning styles. A leader needs to ask himself/herself the following: Am I a reader or a listener? How do I learn best? How do I perform best? Do I work best with others or alone? Do I work best under pressure or in a predictable environment? Am I more comfortable as a decision maker or an adviser? Do I have to be in charge? Answering these questions will help guide leaders in improving their performances.

Matching Values. Leaders are more likely to be effective in organizations whose values match their own. In accepting a new position, a leader needs to learn the values of the organization and match them to his/her own. When applying for a position, it is important to remember that you are also interviewing them. This is a point we often forget.

Deciding Where to Belong. Once a leader has a clear picture of his/her strengths, performance and values, s/he can better decide in which type leadership position s/he belongs. Some of us are more comfortable in a secondary leadership role (i.e. an assistant principal or area coordinator).

Deciding What to Contribute. Managers try to maintain the status quo. Leaders contribute to the organization so that it can be successful in its mission. A leader needs to keep his/her timeline short but realistic and ask himself/herself, 'What can I achieve that will make a difference in the next year?'

Taking Responsibility for Relationships. To accomplish their goals, leaders usually need to work with other

people. Therefore, building relationships is extremely important. Working relationships are based on the people and the nature of the work. Leaders get greater results when they build relationships and work with others rather than alone.

Taking Care of Yourself. Leaders are under extreme stress. Finding a stress-relieving hobby or an exercise plan that one can stick to will help ease this stress. Asking others to fill in for you when needed and thinking about another position or career is a good idea if work-related stress continuously affects your relationship with loved ones.

Part IV: What Cognitive Research Tells Us

Understanding How the Brain Learns & Myths About the Brain

As leaders, the following information about how the brain learns is important to know and understand when working with others (Jahromi, Gholtash, & Saeedian, 2011; Waldman, Pierre, & Suzanne, 2011). First of all, the problem is that the brain is more complicated, vast, and unexplored than the universe (Hines, 1987). We still know just a tiny fraction of all that will be learned about the brain. Many myths are floating around about the brain (Mintzberg, 1976; Finkelstein & Hambrick, 1996). Thatcher, R.W., Krause, P., and Hrybyk, M (1986) explain that the right hemisphere of the brain is responsible for creativity and emotional response. These are crucial components of effective leadership. There is not a newspaper or magazine that has not showcased brain research on its front page, and this reporting has had some strange effects on schools, classroom practices and business. Some very small and tentative findings have led to unwarranted conclusions and wrong applications. For example, we know brain cells are fueled by glucose. So, some teachers give students candy before tests, so they would do better. Publishers and toy-

makers are making profits by selling parents on the idea that playing certain music or flashing cards in front of toddlers will make them smarter. Certainly, enriching children's environments and providing more social interaction help grow dendrites, which is a very good thing, but many claims are exaggerated (Wolfe, 2008). According to Wolfe (2008), the following are a few of the most prevalent myths about the brain:

✓ *People are either right-brained or left-brained, which explains their natural capabilities.* In fact, certain functions are conducted in the left or right part of the brain. But the brain is an amazing organ and, when damaged, can transfer some functions to other areas.

✓ We use only 10% of our brain's capacity. On the contrary, we use all our brain all the time.

✓ Everything you've ever experienced is stored somewhere in your brain. Our brain develops relationships and builds on its previous knowledge. Information is lost, however. This underscores the importance of keeping an active mind and growing new dendrites.

✓ At birth, you have all the neurons you will ever have. We are continuously growing new neurons and losing others. The brain is like a big muscle that needs to be exercised.

Our brain is continuously growing and building new connections called dendrites. That's why it is important to keep exercising the brain (just like a muscle) by learning something new. If you do not use it, you lose it (Wolfe, 2008).

Cognitive research tells us that there are certain things we must consider when discussing the brain and its function. The following is a summary of what leaders must keep in mind as they try to change old programs and/or build new ones:

1. Attention drives learning (and emotion drives attention).
2. The brain attends to novelty.

3. The brain is a pattern-seeker.
4. The brain tries to make meaning out of incoming information.
5. Every brain is as different as a thumbprint.
6. Neurons that fire together, wire together!
7. The brain that does the work grows the dendrites.
8. Memory is not static and decays rapidly without rehearsal and elaboration.
9. Emotions are a primary catalyst in the learning process.
10. There are four basic ways to care for the brain. Get plenty of sleep, drink plenty of water, keep active, exercise and try to eliminate stress.

Attention Drives Learning

After discarding 98-99% of all incoming data, the brain prioritizes information this way:

- Survival first
- Emotions next
- New learning last

Surviving is not just something to do in the presence of a wild beast. Social and learning situations are often survival encounters. The workplace must be physically and psychologically safe. When the brain perceives a situation to be threatening (bullies, troubles at home), the stress response is activated and the rational part of the brain is less efficient. In actuality, the stressed brain cannot learn effectively because emotion can impede learning. Researchers suggest that emotions can shape cognition and affect our motivations and behaviors (Derryberry & Tucker, 1994; Ledoux, 1996; Mesquita, Frijda, Scherer, 1997). Thatcher, R.W., Krause, P., and Hrybyk, M (1986) explain that the right hemisphere of the brain is responsible for creativity and emotional response. These are crucial components of effective leadership. The fact is that survival

instincts trump learning, and motivation and emotional involvement will put an indelible stamp on the experience resulting in stronger memories.

So What?

Leaders may not be able to deal with all the issues a team experiences, but they can try to make their environment as safe as possible and show understanding where needed. Here are some other facts that will help with the effective leadership development:

- Multi-tasking is a myth. What is really happening is that the brain is switching back and forth VERY FAST.
- Anyone who has addressed a group knows that if they are talking to each other, they are not listening to you. If you are attempting to say something while the group is doing something like watching a demonstration, one loses.
- If participants in a meeting are taking notes during a presentation or meeting, they may be getting down the words, but they are not consciously engaging with that information and thinking about it. They are just transcribing words onto paper. IF they go over their notes later, they have a better chance of remembering the material, IF the notes make sense. So notes can play a valuable role in learning, but we must allow time for them to get key items down on paper and digest the facts before having to move on to the next point.
- The key is to get participants to INTERACT with the material. Remember, attention drives learning.

Now What?

Some strategies one might think about using in meetings are as follows:

- Ask participants/students NOT to take notes and give out written materials they can use to follow the discussion

- Talk for only 20 min. (less is better)
- Stop and ask participants/students to do one of these:
 - Write
 - Explain
 - Discuss
 - Create
 - Draw

Ask them to compare with others in pairs, triads and fours. You can use strategies like pair-share or jigsaw.

In Review

Leaders Must Remember:

The brain cannot consciously process two trains of thought at the same time, especially if they involve the same sensory mode.

When planning the length of time to speak in a lecture or in conducting a meeting, use the average age of your group if they are under 20 years of age. If the group is over age 20, then use the twenty-minute rule. After twenty minutes, stop and have them DO something with the material you have presented, such as:

1. Write what they understood and remember
2. Explain the information to someone else
3. Discuss the information
4. Create a graphic organizer to summarize it
5. Make a mind map with the information

All of these activities provide for rehearsal of the information so that it might transfer to long-term memory.

- In the classroom, boardroom, or lecture hall, we cannot set off

firecrackers or play dramatic music and flash lights like they do on game shows. However, what we can do to get the brain's attention is use NOVELTY. For example, icebreakers, "teasers" and other energizers – at least one per meeting. There are a number of books you can obtain to help you with these if you do not already have them in your basket of tricks.

- Bring something novel to the meeting and talk about it. Pass it around. Let them touch it.
- Use Cognitive Dissonance
- Ask participants to MOVE their bodies. Participants in a meeting who sit more than 20 minutes experience the pooling of blood in two places, their feet, and their seat.

The Brain Looks for Meaning

Every encounter with something new requires the brain to fit the new information into an existing memory category, or network of neurons. If the brain cannot do that, the information will have no meaning. We must ask ourselves, as leaders, how we would give meaning to information that is completely new to our staff.

Learning Styles

Humans have various preferred learning styles. There are many models of styles, but the simplest is: Visual, kinesthetic, and auditory (in order of preference). The most common learning style is visual, and the brain relies heavily on visual information to learn and remember. We could see before we had language. So many of us can remember a face we have seen but cannot remember the name associated with it when it's just stated verbally to us.

Part V: Strategies for Unleashing Your Personal Energy and Managing One's Self

Leaders often do not take care of themselves. They get so occupied in their work that they forget their own needs. They do not get enough sleep, they do not eat or exercise properly, at times they ignore their own families because of work, and they do not realize how stress is affecting their bodies and families. Below are some suggestions on how to take care of our "brain" and our "body" so that we can be more effective leaders:

As we grow older, many of us suffer from a lack of energy. In order to improve our energy level we need to eat for performance, breath for energy, break up stress and fatigue and work out regularly (McLaughlin, Loehr & Schwartz, 1988, 1998, 2003). Here is how you do that:

Food - Eating for Performance

Because we are often evaluated for our minds, we tend to discount the role physical energy plays in performance. Physical energy is the fundamental source of fuel for all aspect of our life (physical, mental, emotional, and spiritual). Food is not just fuel; it causes measurable changes in body chemistry. For example, doughnuts affect your ability to think and perform differently than apples. At the most basic level, glucose plus oxygen equal energy. Too little glucose results in hypoglycemia (drowsiness, mental and physical fatigue, headaches, nervousness, depression, lack of concentration). Too much glucose results in a thickening of blood that causes more work for the heart to pump through 60,000 miles of tiny vessels and tires you out.

Simple carbohydrates such as muffins, sugary cereals, cookies, and those prepackaged 100-calorie snacks release glucose into the bloodstream quickly. This results in the pancreas releasing insulin to keep the glucose level down. Insulin changes muscle cells so that they will absorb

more glucose, then the glucose level drops because of the insulin resulting in less fuel for the brain and causing tiredness, nervousness and depression. We are quickly hungry again, leading to weight gain. Even a breakfast often viewed as healthy—an unbuttered bagel and glass of orange juice—is a poor source of sustainable energy.

Complex carbohydrates, on the other hand, such as whole grains, fresh fruits and vegetables provide steady glucose flow for better mental energy and stamina. They digest in three hours as opposed to one hour for refined carbohydrates.

Protein is known as the Energizer Bunny of foods. In experiments those who ate protein were more alert and energetic and performed significantly better on tests (*The Power of Full Engagement, Jim Loehr & Tony Schwartz, 2003*). Proteins trigger dopamine and norepinephrine that heighten mental alertness and efficiency. Adults need three ounces of protein per day. High protein breakfast and lunch help fight off fatigue and maintain top levels of mental acuity throughout the day. Sources of protein are red meats, such as beef, veal and pork and fish and fowl. An optimum diet contains the following:

65% calories from carbohydrates such as fruits, vegetables, bread, rice, potatoes, pasta, cakes and other desserts.

20% calories from fats such as butter, margarine, other fats and oils, mayonnaise, gravies, dressings, nuts, olives, avocados.

15% calories from proteins such as seafood, poultry, meat, milk, buttermilk, and yogurt.

It is important to eat breakfast because it sets the tone for the entire day's chemical balance. Grazing slowly supplies continuous source of glucose. Ideally you should eat small meals of 400 calories each about three hours apart. More calories

should be eaten early in the day in order to feel less tired and keep your weight down. Tips for eating for performance are graze, don't gorge, eat three lighter meals plus two to three healthy snacks each day like nuts, sunflower seeds, fruit, and half a typical-size (200 cal.) energy bar.. Savor, don't scarf. Eat mindfully for more pleasure and less overeating. Eat protein for alertness. This is especially important for breakfast and lunch. Eat carbohydrates to relax and drink eight glasses of water per day. Avoid caffeine after noon because caffeine prompts dehydration and fatigue. And, lastly, take moderate-dose vitamins.

Oxygen – Patterns of Breathing

Oxygen is required to turn glucose into energy, so another critical way to energize your body is to monitor your breathing. The human body cannot store oxygen, so how you take in oxygen can be important to increasing your energy potential. When stressed, it is important to take slow, deep breaths to instill calmness and confidence. There are numerous breathing exercises you can learn. Some examples follow.

Energy Breathing – Stand, arms at the side in a relaxed position. Be sure your posture is good. Take a slow steady inhale as you raise your arms outward till shoulder level. Move the arms in front of you and raise them overhead. Hold your breath a moment. Exhale through mouth as if blowing out a candle. While doing this slowly drop your head, shoulders and neck. This will help you go from a low positive energy to a high positive energy.

Relax Breathing – Inhale slowly through nose, silently counting 1-2-3-4. Hold 2 counts. Exhale slowly and deliberately counting 1-2-3-4. Doing this will take you from high positive energy to low positive energy, helping you to relax.

Patience Breathing – Do slow, deep abdominal breathing with a long, relaxed exhalation. As you exhale, think of something relaxing and visualize it as clearly as possible. This technique of

breathing is great for traffic jams and other frustrating moments.

Intermittent Recovery – Breaking up Stress and Fatigue

Our most fundamental need as human beings is to spend and recover energy. Balancing stress and recovery is critical to high performance. In other words, interval training is preferable to continuous training. Think like a sprinter, not a marathoner. Pushing a muscle beyond its capacity results in building more muscle fibers. We build emotional, mental and spiritual capacity in precisely the same way that we build physical capacity. We must systematically expose ourselves to stress beyond our normal limits, followed by adequate recovery. To expand our capacity, we must be willing to endure short-term discomfort in order to reap the long-term rewards. Our best moments occur when we've stretched our mind and body beyond its limits to accomplish something difficult and worthwhile.

The following recovery tips for breaking up stress and fatigue will help your productivity and energy level. Be aware of when your body and mind need reenergizing. Typically this is every 1 ½ to 2 hours. Give yourself permission to take a break. You will be far more productive and alert if you do this. Many of us try to override these natural rhythms and ignore the signs of fatigue. When you take a break, disengage and really relax. Use a relaxation technique to sever your mind from work and create your own oasis of calm. Many of us are addicted to stress and the accompanying adrenaline high. We feel important when we are too busy for friends and family and sunsets. Over time we can lose the capacity to shift gears. In fact, taking breaks and restoring ourselves makes us more effective. A forty minute nap improves performance by 34% and alertness by 100%. Nature and art are great refreshers of the soul. Mid-afternoon, take fifteen minutes, if possible, and have an apple and do a diaphragmatic

breathing exercise. It is also important for you to do a sleep audit, and if you are not sleeping well, change your habits and monitor the results. Plan adventurous vacations and take them! Shun one-dimensionality. Constant work leads to dullness and/or burnout. Cultivate relationships and outside interests to foster energy and balance.

Sleep - Quantity vs. Quality

About two-thirds of the population needs 7 to 8 hours of sleep each night. Others need more, and 20% needs six hours or less. Physiologically sleep is the repair shop of the body and brain. The most complete physiological restoration occurs in deep sleep. If you have insomnia, some strategies for increasing deep sleep include getting some aerobic exercise during the day, cutting down on your consumption of caffeine and alcohol, especially in the evening. Other suggestions for sleeping better include establishing regular hours of sleep, playing music that promotes sleep and performing relaxation exercises like deep breathing, muscle relaxation techniques, and visualization. Avoid sleeping pills because they reduce the amount of deep sleep you get.

Exercise – Working Out to Work Better

Being physically fit equals being mentally tougher. Good performance requires energy and one cannot deploy mental skills unless they have physical stamina. The brain uses 25% of the body's energy and a fourth of the body's blood supply at any one moment. Even moderate physical exercise increases cognitive capacity by moving blood and oxygen to the brain. It also increases your norepinephrine level thus making you more alert and energized. It increases endorphins which decreases pain and increases pleasure and relaxation. Exercise also produces chemicals that help repair brain cells and prevents further damage. A fundamental

aerobic exercise program requiring sustained deep breathing for twenty minutes four times a week is important for stamina and for mental toughness.

If you have not been exercising begin by walking. Exercise so that you breathe deeply and comfortably but are not out of breath. This will raise your heart rate. Use whatever time you have. If you can spare only fifteen minutes a day, then that will do until you can secure more time. Exercise to revitalize yourself. If you are feeling too tired, but you are not exhausted or ill, force yourself to the gym, start slowly, and make it fun. Vary your activities, listen to music, play sports, go hiking and involve your family and friends.

Remember that managing energy, not time, is the key to high performance and personal renewal. The key is to eat for performance, use breathing techniques for energy, break up stress and fatigue by using intermittent recovery strategies, and exercise.

Conclusion: Review of Purpose, Process, and Payoff

As mentioned in the introduction, the purpose of this article is to help leaders become better leaders by doing their jobs more effectively by examining the components of brain-wise leadership. The process we have used is to define what we mean by brain-wise leadership and to give you strategies for being an effective leader and for making wise and ethical decisions. In addition, we have discussed how to unleash your own energy which will help you maximize your productivity and effectiveness as a leader. Your payoff is to boost your performance and maximize your productivity and effectiveness as a leader.

References

- Atwater, L., Brett, J., and Waldman, D. (2001). Understanding the Benefits and Risks of Multisource Feedback Within the Leadership Development Process. In E. Murphy, & Riggio, R., *The Future of Leadership Development* (pp. 89-106). Mahwah, NJ: Lawrence Erlbaum Associates.
- Begley, S. (2007). *Train Your Mind Change Your Brain*. New York: Ballantine Books.
- Black, J. S. and Mendenhall, M. E. (2007). A practical but theory-based framework for selecting cross-cultural training methods. In M. E. Mendenhall, G. R. Oddou, & G. K. Stahl (Eds.), *Readings and cases in international human resource management*. New York, NY: Routledge.
- Conger, J. (2010). Leadership development interventions. Ensuring a return on the investment. In N. Khurana, *Handbook of Leadership Theory and Practice* (pp. 709-738). Boston: Harvard University Press.
- Covey, S. R. (1989). *The Seven Habits of Highly Effective People: Restoring the Character Ethic*. New York: Simon and Schuster.
- DeRue, D.S., Nahrgang, J.D., Wellman, N., & Humphrey, S.E. (2011). Trait and behavioral theories of leadership: An integration and meta-analytic test of their relative validity. *Personnel Psychology*, 64, pp. 7–52.
- Eysenck, M.W., Derakshan, N., Santos, R., & Calvo, M.G. (2007). Anxiety and cognitive performance: Attention control theory. *Emotion*, 7, pp. 336–353
- Gailliot, M.T., Baumeister, R.F., DeWall, C.N., Maner, J.K., Plant, A., & Tice, D.M. (2007). Self-control relies on glucose as a limited energy source: Willpower is more than a metaphor. *Journal of Personality and Social Psychology*, 92, pp. 325–336
- Gibb, C.A. (1947). The principles and traits of leadership. *Journal of Abnormal and Social Psychology*, 4, pp. 267–284.
- Howard, A. and Bray, D.W. (1988). *Managerial Lives in Transition: Advancing Age and Changing Times*. Guilford Press, New York.
- Kirkpatrick, S.A. & Locke, E.A. (1991). Leadership: Do traits matter? *The Academy of Management Executive*, 5, pp. 48–60.
- Loehr, J. & McLaughlin, P. (1988). *Mentally Tough*. New York: Free Press.
- Loehr, J. & Schwartz, T. (2003). *The Power of Full Engagement*. New York: Free Press.
- Lord, R.G. & Brown, D.J. (2004). *Leadership processes and follower self-identity*. Lawrence Erlbaum Associates, Mahwah, NJ.
- McLaughlin, P. (1998). *Catch Fire*. New York: Fawcett Columbine.
- Mumford, M.D., Zaccaro, S.J., Harding, F.D., Jacobs, T.O., Fleishman, E.A. (2000). Leadership skills for a changing world: Solving complex social problems. *The Leadership Quarterly*, 11, pp. 11–35
- Newmann, F.M., King, M.B., & Youngs, P. (2000). Professional Development That Addresses School Capacity: Lessons from Urban Elementary Schools. *American Journal of Education*, 108(4), pp. 259-299.
- Pink, D. H. (2005). *A Whole New Mind*. New York: Penguin Group.
- Sandoski, A. & Zeckhauser, B. (2009). *How the Wise Decide*. New York: Crown Publ.
- Seay, Stephen (2007). Attributes of good leaders. ProjectSteps, retrieved <http://projectsteps.blogspot.com/2007/03/traits-and-attributes-of-good-leader.html>.
- Sousa, D. A. (2003). *The Leadership Brain*. Thousand Oaks California: Corwin Press, Inc.

- Sousa, D. A. (2007). *How the Special Needs Brain Learns*. Thousand Oaks, California: Corwin Press.
- Wilson Learning Corporation (1997). Learning for Growth, Four Decision Making Styles, (used with permission).
- Wolfe, P. (January, 2008). Renewal Workshop. Napa Valley, California.
- Wolfe, P. (2001). Brain matters. Alexandria, VA: ASCD.