Your Brain at Work

Revised and Updated

STRATEGIES FOR OVERCOMING DISTRACTION, REGAINING FOCUS, AND WORKING SMARTER ALL DAY LONG

Dr. David Rock

To Lisa, Trinity, and India Rock

ORIGINALLY PUBLISHED IN 2009 BY HARPER BUSINESS, AN IMPRINT OF HARPERCOLLINS PUBLISHERS.

Revised and Updated Edition published 2020.

Designed by Nicola Ferguson

Library of Congress Cataloging-in-Publication Data

Names: Rock, David, author.
Title: Your brain at work : strategies for overcoming distraction, regaining focus, and working smarter all day long / Dr. David Rock.
Description: Revised and updated [edition]. | New York, NY : Harper Business, 2020. | Includes bibliographical references and index.
Identifiers: LCCN 2020008535 (print) | LCCN 2020008536 (ebook) | ISBN 9780063003156 (hardcover) | ISBN 9780063003163 (ebook)
Subjects: LCSH: Success in business--Psychological aspects. | Brain. | Distraction (Psychology)
Classification: LCC HF5386 .R538 2020 (print) | LCC HF5386 (ebook) | DDC 658.4/092019—dc23
LC record available at https://lccn.loc.gov/2020008535
LC ebook record available at https://lccn.loc.gov/2020008536

20 21 22 23 24 LSC 10 9 8 7 6 5 4 3 2 1

FURTHER RESOURCES

Based on what I have heard over the years, I suspect this book may open a door for many people to an exciting new way of thinking. If that's the case for you, I encourage you to dive in and discover more, and find ways to keep focusing your attention on these insights.

I blog regularly in a number of places, including a website called *Your Brain at Work* at www.your-brain-at-work.com. You will find lots of other scientists and authors from the organization I have developed also writing there. I also blog on *Psychology Today* at www.psychologytoday.com/us/experts/david-rock and regularly for *The Harvard Business Review*, *Quartz*, and others.

You might also like to check out the NeuroLeadership field. There is an annual NeuroLeadership Summit, and a *NeuroLeadership Journal*, which contains articles about the brain in relation to the workplace, focused on leading and managing others. There are links to other educational programs available there, including an online certificate program, if you want to study these ideas more formally. See www.NeuroLeadership.com.

I wrote two earlier books that may be of interest. My previous book, co-authored with Dr. Linda Page, is called *Coaching with the Brain in Mind* (Wiley, 2009). This is a textbook about the brain and related fields such as learning theory and systems theory, for those who want a deeper understanding of theories involved in creating change. My book before that, *Quiet Leadership* (Collins, 2006) explores the science and the art of using conversation to bring out insight in others. This is a great book for people who want to use brain insights to become better leaders, managers, mentors, coaches, teachers, or parents.

If you are interested in building your own leadership or coaching skills further, you could check out the brain-based training programs, which are available around the world. See www.NeuroLeadership .com for more.

To find out more about the school I helped develop, go to www .theblueschool.org.

For information on my work overall, see my blog at www .DavidRock.net.

GLOSSARY

Problems and Decisions

Actors. A metaphor for the information that comes onto, or that you choose to bring onto, the stage; it's what is in your attention.

Alpha band. A slower frequency, connected to the brain not being very active in a particular region.

ARIA / four faces of insight. A model describing the moments before, during, and after insight occurs in the brain. The acronym stands for Awareness, Reflection, Insight, and Action.

Audience. A metaphor for information held in your brain, such as memories and routines.

Basal ganglia. A large region deep in the brain. The basal ganglia (there's more than one of them) control activities that occur with minimal conscious attention, such as walking or driving, or any habitual behavior.

Bottleneck. What occurs when a decision has not been made that holds up other decisions.

Default network. A network of brain regions roughly in the middle front areas of the brain, including the medial prefrontal cortex. It activates when you are not doing much else, and also when you think about yourself and other people. It's a similar idea to the "narrative" network mentioned in the intermission.

Dopamine. One of the two main neurotransmitters involved in stabilizing circuits in the prefrontal cortex (norepinephrine is the other). Dopamine is connected to feeling interested in something. It is important for learning and is present in larger amounts during *toward* emotions such as curiosity.

Embedding. A metaphor for creating circuits in the basal ganglia that can drive behaviors without thinking, or for long-term memories that stay with you.

Gamma band. The fastest brain frequency; gamma band brain waves occur when electrical activity oscillates around forty times a second across the brain. This frequency relates to being conscious. It activates during moments of recognition or insight and during mindfulness mediation.

Impasse. What occurs when you are unable to solve a problem, or are stuck in a small set of solutions. Current solutions may need to be inhibited before the impasse can be breached.

Inhibition. The process of holding information off your stage, of not paying attention to something.

Insight. What occurs when you resolve an impasse and solve a problem in an unexpected way. Insights bring a release of energy and change the brain.

Map. Similar to a circuit or network. The formation of a large number of neurons into a larger pattern held together by synaptic connections.

Norepinephrine. One of two neurotransmitters important for stabilizing circuits in the prefrontal cortex. Think of this as "brain adrenaline." Norepinephrine is central to feeling alert and paying close attention. This neurotransmitter is common in *away* emotions such as anxiety. Reasonable levels are needed for good thinking, but too much and circuits don't hold together well.

Prefrontal cortex. A section of the outer layer of the brain, behind the forehead, involved in many types of executive functioning, planning and coordinating the rest of the brain.

Queue. What occurs behind a bottleneck; decisions can get caught in queues.

Short-term memory. Memory in which information comes into your awareness briefly but doesn't stay for long.

Stage. A metaphor for working memory. (I used this metaphor because it's a way of thinking about working memory using less effort.)

Ventrolateral prefrontal cortex. A region of the prefrontal cortex, beneath the right and left temples, that is important for all types of braking functions, including stopping physical movement and inhibiting emotions or thoughts.

Working memory. Memory that allows you to hold the contents of awareness at any moment. The prefrontal cortex is central to healthy working memory functioning. Working memory is energy-hungry, small and easily overwhelmed.

Intermission

Direct-experience circuit. The circuit that activates when your attention focuses directly on incoming data, such as from external or internal senses.

Director. The term used in this book for mindfulness.

MAAS scale. One of the main tests for everyday mindfulness now used by neuroscientists. Developed by Kirk Brown. Stands for Mindful Attention Awareness Scale.

Mindfulness. The opposite of mindlessness. Involves paying attention, in the present, in an open and accepting way, to whatever experience you are having.

Narrative circuit. The network activated when your attention goes to planning, goal setting, and thinking about the future or past, yourself, or other people. This is similar to the default network discussed in the book.

Social, cognitive, and affective neuroscience. A branch of neuroscience exploring how we interact socially rather than studying individual brains in isolation.

Stay Cool Under Pressure

Allostatic load. A range of markers of stress, including cortisol and adrenaline levels in the blood, as well as immune system activity and blood pressure.

Amygdale. A small brain region that is part of the limbic system, which activates based on the strength of an emotional or motivational response.

Anterior cingulate cortex. A part of the brain that has many functions, including detecting errors within the brain itself, and switching attention.

Away state. An overarching organizing principle to minimize danger and maximize reward. The danger state, called here the "away" state (sometimes called the "avoid" state), involves emotions such as uncertainty, anxiety, and fear. It is easier to activate and more intense as an experience than the toward state. It is a useful state for physical activity, but can reduce prefrontal cortex activation when it increases in intensity.

Cortisol. A hormone used to measure stress levels in the body. Cortisol activates bodily functions to assist with survival, including clotting the blood and reducing digestion. Cortisol levels increase as the away state increases in intensity.

Hippocampus. A brain region central to memory functions, especially longer-term declarative (recallable) memory.

Labeling. The process of putting symbolic words on emotional states. This dampens the activity of the limbic system, while raising prefrontal cortex activation.

Limbic system. A region in the center of the brain important for experiencing emotions, memories, and motivations; includes the amygdale, insula, hippocampus, and orbital frontal cortex.

Reappraisal. The process of changing your interpretation of an event, which also dampens activity of the limbic system.

Suppression. A common approach to managing emotions, which involves attempting to not feel or not show your feelings to others. Tends to backfire, affect memory, and make others uncomfortable.

Toward state. The state of being curious, open, interested in something. It is important for learning, insight, creativity, and change. It is usually less intense and subtler than the away state. Creating a toward state can displace an away state.

Collaborate with Others

Autonomy. Having control or choices. A sense of increasing autonomy is a pleasant reward. A sense of no autonomy can make small stresses overwhelming. Finding choice in a situation increases a perception of autonomy.

Certainty. Your ability to predict the future. Increasing uncertainty is a threat; increasing certainty is a reward (with a few minor exceptions in both cases).

Fairness. The state of being in which people act ethically and appropriately with one another.

Mirror neurons. Neurons in the brain that help us directly experience other people's intentions, motivations, and emotions, by feeling the same way ourselves.

Relatedness. Being safely connected to people around you. It involves sensing if people are friend or foe. Other people are generally foe until proven otherwise.

SCARF model. A model summarizing five social domains that drive human behavior. Each domain can be either a reward or threat at any time. The model comprises Status, Certainty, Autonomy, Relatedness, and Fairness.

Status. Where you are in the social order of communities you are involved in. It is like taking self-esteem and making it relative to other people. A status increase is a reward; a status decrease is a strong threat.

Facilitate Change

Attention density. A way of thinking about and measuring the quality and quantity of attention paid to any particular brain circuit.

Neural synchrony. The way many parts of the brain form a larger circuit and fire in a similar way when close attention is paid to something.

Neuroplasticity. The study of change in the brain, both moment to moment and in the long term.

Problem focus. The automatic way people try to find solutions; sometimes called the deficit model. A focus on problems seems easier because it is more certain, which means it is less of a threat. The approach works well with linear, physical systems, but it breaks down with complex systems such as people and organizations.

Self-directed neuroplasticity. The idea that real change in the brain tends to occur when people rewire their own brains.