CONTENTS

PART TWO: KEYS TO UNLOCK STUDENT AND STAFF POTENTIAL

Introduction

THE PROBLEM: BEHAVIORAL CHALLENGES GET IN THE WAY OF LEARNING

Educators, this book is for you. You got into this work to make the world a better place. Maybe it was the joy you felt when helping your brother learn to read, or the idea of shaping young minds. I have never met a teacher who said, "I really enjoy breaking up fights." I am guessing it's not your love of defiance that gets you out of bed in the morning, right?

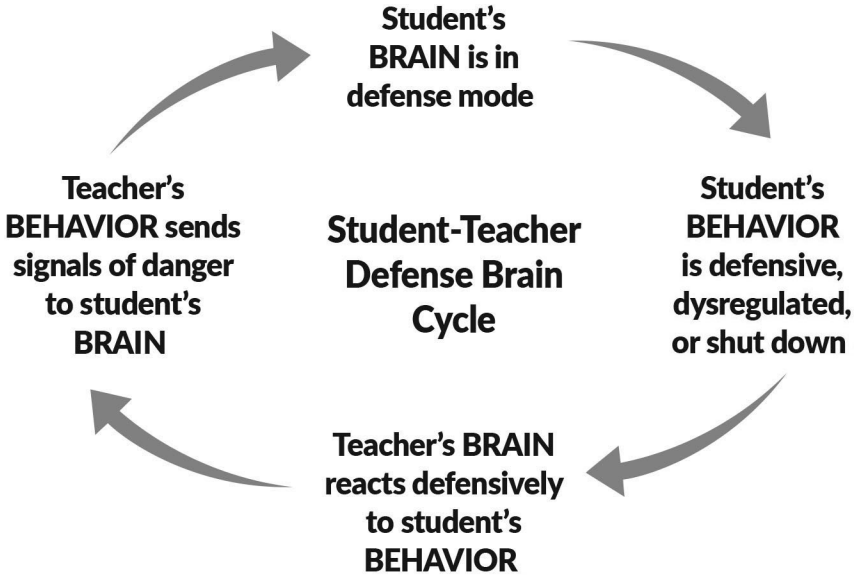
A 2019 survey by the Education Advisory Board found an alarming increase in reported behavioral disruptions in early grades.[1] These tantrums, emotional outbursts, violent incidents, and episodes of defiance or shutdown impact the learning of all members of the classroom community. The pandemic's impact on the world of education has magnified these difficulties, making teaching even more demanding.

I have spent my career working with kids who have intense behavioral challenges. As a bright-eyed counselor in the South Bronx, I quickly realized I did *not* know what I needed to know to be effective in my job. So much hurt and hopelessness all around, and the great therapeutic skills I had learned in graduate school were not helping. As I work with educators across the country, I hear the same thing: we didn't learn what we needed to in school!

- What do I do when a kid tries to bite me?
- How do I teach algebra when a student suddenly runs out of my classroom?
- How do I create a culture of safety when stress levels are this high?

Questions like these set me on a path to learn *why* these behaviors are happening and what we can do about it. I found the answers in an unexpected place: brain science.

Now when I see extreme behaviors, I see a brain that is in survival mode. Unfortunately, when you are faced with behavior that comes from a brain working from that self-protective survival state, *your* brain and body naturally go there too. We end up in this pattern...



SOURCE: JESSICA SINARSKI

When we are stuck in this cycle, there's not a lot of learning happening. And it's not because of bad kids and failing teachers. **It's a brain thing!**

It is easy to think of the brain as a lumpy pink blob. It is actually an intricate network of 70-100 billion neurons constantly sending and receiving signals through electrical and chemical messengers. You don't have to know all the details about this complex organ, but a little brain science can go a long way for educators.

THE SOLUTION: UNLOCK STUDENT (AND STAFF) POTENTIAL WITH SEVEN BRAIN-BASED KEYS

Many years ago, I was out to dinner with my husband and some work acquaintances. I don't recall how the topic came up, but I vividly remember the man to my right making some derogatory comments about the state of education in Brazil. "I don't know why teachers show up when the kids would rather be huffing gasoline than going to kindergarten."

My blood boiled. I had just begun working in a community much like the part of Brazil he was talking about, with families stuck in a cycle of poverty, systemic oppression, and marginalization. I snapped some sarcastic retort that I'm sure made no lasting impact on his worldview. What I knew then and still feel in every fiber of my being is this:

- No human comes into this world wanting to huff gasoline.
- No child, when feeling safe and loved, wants to be known as "the bad kid."
- No adolescent, when their needs are met in a culturally competent classroom, wants to pick fights and flunk out. There's stuff behind that. And while it is not your job as an

educator to solve all your students' problems, you *can* be a powerful part of the solution by working from a brain-based perspective.

Your school days don't have to be an endless cycle of frustration and dysregulation. Just as I knew those truths about students, I also know that no teacher wants to spend their day scolding, arguing, and kicking kids out of class. You want to help students *learn*!

One of the best parts of my work is seeing the anger, shame, and apathy lift as we put these brain-based keys in use—not by working *harder*, but by working *smarter*. Seeing the effectiveness of these strategies restores hope. You know that teacher spark? The joy of supporting a student well? The thrill of a two-grade-level leap in one year? That's the feeling you get when you light up the learning brain!

HOW TO USE THIS BOOK

To embrace complexity within this book, you will find callouts like this with additional tips and strategies to support your well-being and address common barriers to implementation.

I am here to make your job easier, not with a whole new program, but with simple language and practical tools that support the great work you are already doing. Scripts, visuals, activities, and reflection exercises for both student and educator await you in the pages ahead.

Part One: It's a Brain Thing! Start here to get a concise and easy-to-use framework for understanding how brains develop and why that matters in our schools. This is critical both for increasing learning *and* reducing the behavior that so often gets in the way.

Part Two: Keys to Unlock Student and Staff Potential. In this section, each key builds on the last, providing a user-friendly guide to translate neuroscience into action steps. Make the most of the material with reflection opportunities and downloadable resources for immediate use.

At the end of each chapter, you will find "**Key Takeaways"** and a "**Low-Stress Starting Point"** suggestion. These are included to light up *your* learning brain and give you some quick "wins" as you begin to implement these brain-building strategies.

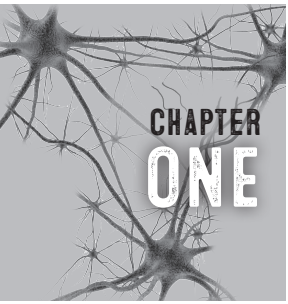
There is no one-size-fits-all solution in the world of education. Your personality, skills, culture, strengths, and experiences will impact how you apply the principles you learn in this book. You will also find adaptations for different learning styles and options for various ages. I encourage you to enjoy this book with colleagues—as a whole staff journey, in smaller personal learning communities, or just with your teacher bestie. Ready to light up the learning brain? Let's go!

I'm so glad we're in this together!
-Jessica

PART ONE 1

IT'S A BRAIN THING!

IN THE PAGES AHEAD, you will be introduced to phrases like The Mistrust Cycle, Downstairs Brain Protectors, and "having a Porcupine moment." While these might seem like odd words to find in a book for K-12 educators, I have seen the transformative power of this framework not only in school districts across the country, but in correctional facilities, addiction recovery, psychiatric hospitals, the foster and adoptive community, and beyond. In addition to helpful graphics and visuals, you will find real-life stories to bring the learning to life (note: all names and identifying information have been changed). Most of all, you will gain a user-friendly, trauma-sensitive, diversity-affirming understanding of the brain-behavior connection that I have seen literally change lives.



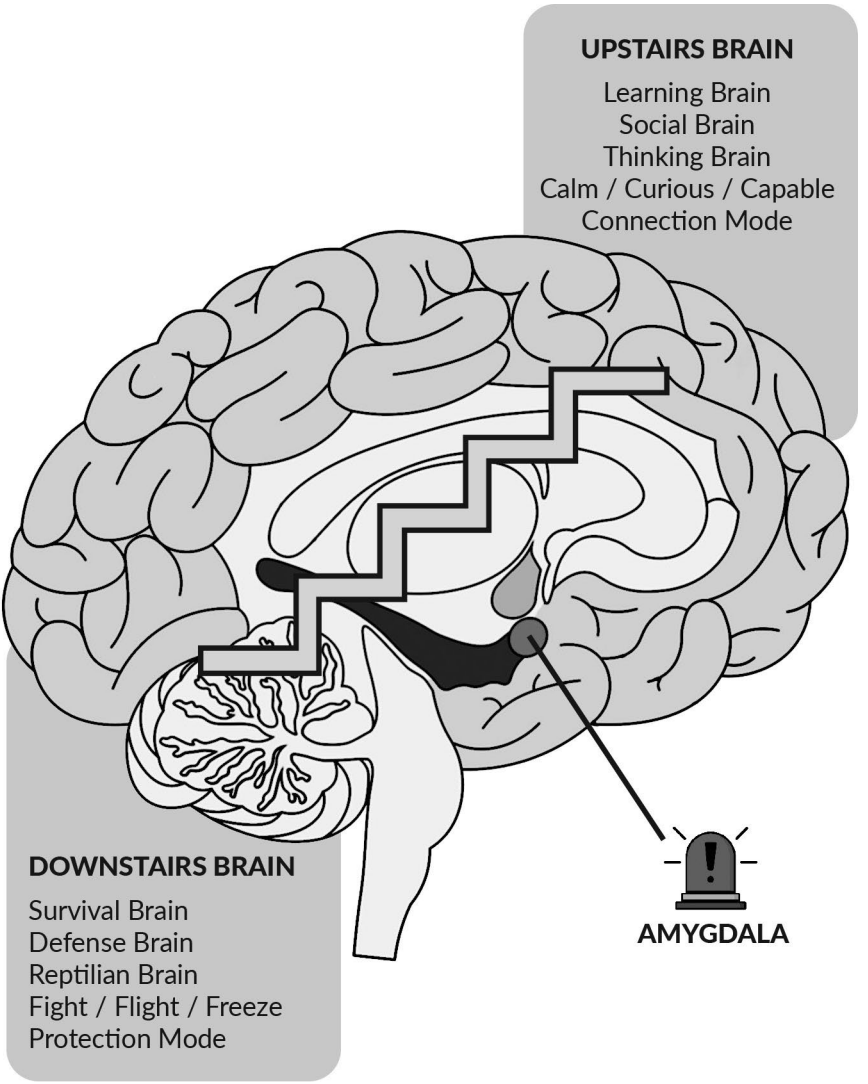
UNDER CONSTRUCTION

There is a simple way of understanding the brain that I hope makes into every classroom, home, workplace, government office, and beyond. The "house model of the brain" was first introduced in the book *The Whole-Brain Child*. According to authors Siegel and Bryson, the brain has two main operating systems, the Upstairs Brain and Downstairs Brain.[2] They also highlighted a part of the brain that is sometimes known as the "alarm system," "traffic director," "watchdog," or emotional center of the brain: the amygdala. Let's look at how these important parts of the brain develop and what that means for you in the classroom.

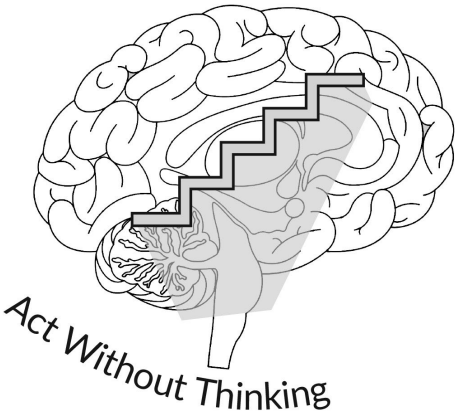
> *...the brain has two main operating systems, the Upstairs Brain and Downstairs Brain.*

BRAINS ARE BUILT FROM THE BOTTOM UP

Brain development is all about *connections*—inside and out. Billions of neurons, the brain cells responsible for sending and receiving messages, have to form connections for us to learn and grow.


UPSTAIRS BRAIN
Learning Brain
Social Brain
Thinking Brain
Calm / Curious / Capable
Connection Mode
DOWNSTAIRS BRAIN
Survival Brain
Defense Brain
Reptilian Brain
Fight / Flight / Freeze
Protection Mode
AMYGDALA

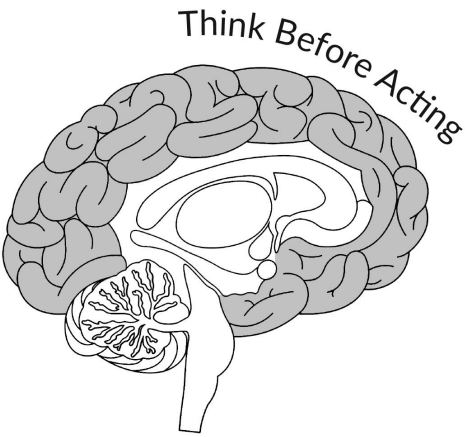
Downstairs Brain:
Protection Mode



The Downstairs Brain is the operating system online at birth. It works hard to keep us alive. It is responsible for basic functions like breathing and heartbeat. You may have heard it called "survival brain," "defense mode," or "the reptilian brain."

The Downstairs Brain acts without thinking. It is the home of primal emotions and instincts as well as our fight-flight-freeze reactions. It also favors power and control over cooperation, a characteristic that will be important to remember as we move through this book.

Upstairs Brain:
Connection Mode

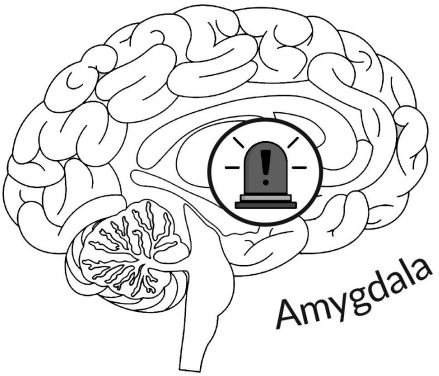


The Upstairs Brain is made up of the full outer portion of the brain called the cerebral cortex. Unlike its quick-responding counterpart, this advanced network of neurons develops slowly, not reaching full maturity (i.e. optimal connection) until the mid-twenties. It includes the most advanced portion of the brain, the prefrontal cortex, which helps us manage the planning, problem-solving, and perseverance required in adulthood. The Upstairs Brain is also where our "social-approach/

engagement" system lives.[3] It lets us play, enjoy the company of others, share, create healthy community, and care for others.

The Upstairs Brain thinks before acting. It is the home of our calm, curious, collaborative choices. When the Upstairs Brain is in charge, we can make thoughtful decisions, regulate our big feelings, wrestle with complexity, develop insight, control impulses, and change habits. Teaching, parenting, and "adulting" in general requires a tremendous amount of Upstairs Brain power.

Amygdala: The Alarm System & Gatekeeper



Millions of tiny bits of information hit the brain every second, and the amygdala has to make a lightning-fast decision about each data point. Its essential question is always *Am I safe?* -OR- *Am I in danger (physically, emotionally, or relationally)*? The amygdala's answer to that question, in milliseconds, determines whether the Upstairs Brain can run the show or if that Downstairs Brain survival mode needs to be in control.

Genes provide the basic blueprint for brain development, but prenatal and early life experiences have a profound impact on what part of the "house" gets more attention.[4] For the amygdala to give the Upstairs Brain the "all-clear" signal it needs to grow and develop, we need to know that our cries and smiles matter.

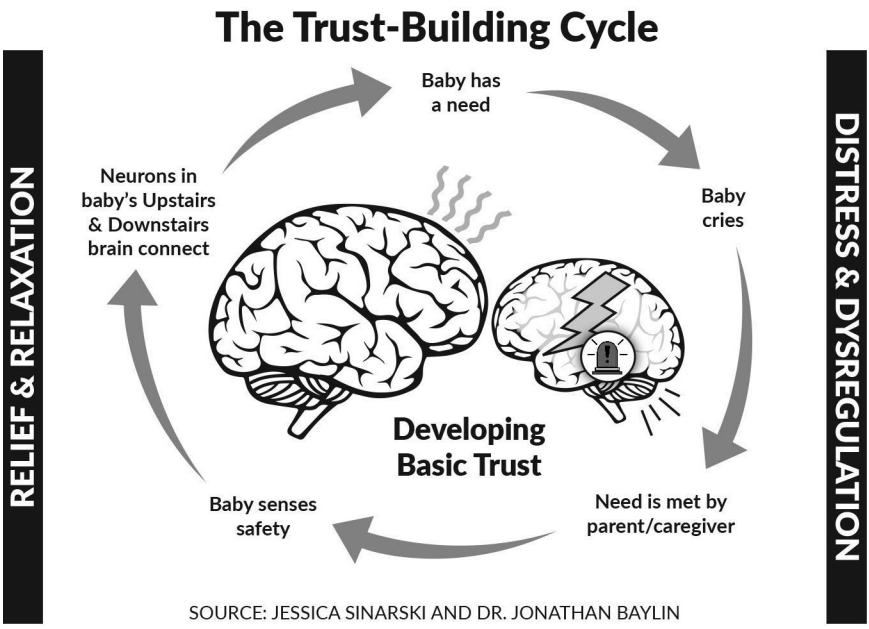
Why talk about infant brain development in a book for educators? There are oh-so-many reasons, but the top three are: (1) Behavior you see in the classroom may be related to much earlier experiences in a child's life. To keep your Upstairs Brain engaged, it helps to know that. This book will also equip you with what to do with that knowledge. (2) You were an infant once too. We cannot change the past, but I have found that understanding why we do what we do often helps us find our way forward. (3) While infancy is the most prolific time of brain development, childhood and adolescence are significant brain-building times as well. Understanding how brains grow and mature will help you help your students…and make your job easier along the way.

WHAT'S TRUST GOT TO DO WITH IT?

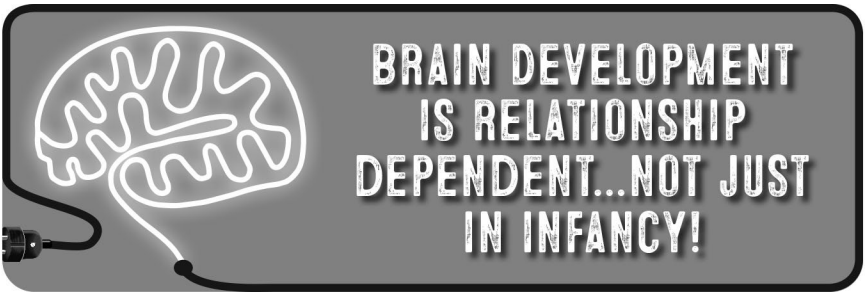
The Downstairs Brain is fully furnished at birth, ready to kick into action with cries of distress at every little need. Hungry? The newborn baby will cry until fed. Tired? Fuss until asleep. Gas bubble in the tummy? Speaking from experience, expect hours of wailing until that little toot brings relief. The Upstairs Brain, on the other hand, is still very much under construction, littered with tools and gaping holes in the structure that will take another 25+ years to complete. So how does that brain house get built? It's all about relationship!

The Harvard Center for the Developing Child highlights responsive caregiving as a vital element in making connections in the developing brain.[5] In other words, nurturing relationships play a critical role in creating the "staircase" of the brain. This is part of The Trust-Building Cycle that begins in infancy, where a baby moves between distress and relief, from dysregulation to relaxation thanks to the attentive care of a parent or caregiver.

The Downstairs Brain is fully furnished at birth.



SOURCE: JESSICA SINARSKI AND DR. JONATHAN BAYLIN



An attentive caregiver takes cues from the infant about what is needed in the moment. And what is the main cue? Cries! Adults' responses to an infant's distress play a critical role in whether that little brain has the safety and energy it needs to work on Upstairs Brain construction.

Responsive caregiving also involves lots of "serve-and-return" interactions, those back-and-forth volleys about everyday life that show that you are interested in the child's world. Seven-year-old Molly Wright provides some great insight on this in her TED Talk "How every child can thrive by five."[6] She begins with the question: "What if I was to tell you that a game of peek-a-boo could change the world?" Playful, caring attention from a parent or caregiver in the earliest years of life has a lasting impact on the developing brain. Play continues to be a power tool for building Upstairs Brain capacity. More on that in Part Two!

When talking with someone, nonverbal cues like facial expression, tone of voice, and body posture are processed by the brain much more quickly than the words themselves.

Remember this viral video? Beyond melting our hearts, comedian DJ Pryor and his son Kingston were demonstrating the trust-building power of serve-and-return communication.[7] The words mean nothing, but that little boy's brain is "hearing" from his dad's tone of voice, attention, and warm gaze that he, Kingston, matters! I can just see the neurons connecting in his brain, the staircase getting stronger, the tools in action in that rudimentary Upstairs Brain.

SOURCE: HTTPS://YOUTU.BE/AY35EXTKVLY

THE UPSTAIRS BRAIN ACROSS THE AGES

I was learning this science right as I became a mom. It has been fascinating to watch my children's development through a brain-based lens. Sometimes I feel like I can *see* their brains growing. While I still have all the normal frustrations of parenting, I also have a lot of compassion for what they can and cannot do (yet!), as well as what they need from me and other safe adults in their lives. I'm hoping this table will give you a better picture of what the Upstairs Brain under construction looks like. I have incorporated some of Erik Erikson's theory of psychosocial development into this as well to help bring each developmental stage to life.[8]

As you look over these ages and stages, it is important to keep in mind that many factors impact when particular skills develop. Every brain has different strengths and areas of needed support. In other words, brains are diverse.

APPROXIMATE AGE	DEVELOPMENTAL STAGE	UPSTAIRS BRAIN DEVELOPMENT	WHAT IT MIGHT LOOK LIKE
0-18 months 	Trust vs. Mistrust	• Learning that my smiles and cries matter • Finding ways to get my needs met with my safe adults	• Laughing and babbling • Beginning to ask for things with gestures and sounds • Crying during transitions • Coming back to calm after getting upset
Toddler 	Autonomy vs. Shame & Doubt	• Exploding curiosity • Language acquisition • Increasing body awareness	• Exploring my world with all my senses • Testing limits • Asking questions • Repeating words and phrases • Potty training • Curiosity about body parts
Preschool 	Initiative vs. Guilt	• Curiosity and courage to try new things • Increasing understanding of structure, roles, and rules • Growing creativity • Sequencing and beginning to understand cause and effect • Beginning to identify basic emotions	• "I can do it!" attitude • Mimicking what I see • Imaginative play • Playing to make sense of my environment and experiences • Skill building with support through frustrating attempts • More goal-directed actions like arts & crafts, learning letters and numbers, etc.

Elementary 	Industry (sense of competence) vs. Inferiority	• Building on foundational skills • Comparing myself with peers • Increasing self-control • More complex thinking • Understanding the feelings of others	• Learning to read and write • Exploring hobbies and interests • Questioning differences and similarities • Learning to be a team player • Taking responsibility for more classroom or household chores • Caring about others
Adolescent* 	Identity vs. Confusion	• Learning I am my own person with different problems and successes than the adults in my life • Gaining skills for adult roles • Increasing capacity for complex thought and reasoning	• Connecting with available supports, like peers and trusted adults for guidance • Managing more responsibilities • Taking on leadership roles or employment opportunities • Finding my own style, interests, priorities, and passions • Exploring personal values that differ from my family of origin
Young Adult* 	Intimacy vs. Isolation	• Becoming my own person • Deepening relationships and connections with myself and others	• Navigating life with others (roommates, colleagues, etc.) • Enjoying the reciprocal nature of healthy relationships • Dealing with the emotional ups and downs of adult life • Making big decisions about my future

*The adolescent and young adult stages overlap. Both identity formation and the development of close personal relationships are critical during these transitional years.

BRAINS ARE DIVERSE

Your differences are your strengths, and society needs everything that makes you you.

– Mickey Rowe, An Autistic Broadway Actor's Transformational Insights

The term "neurodiversity" was coined by Australian sociologist Judy Singer to promote equality and inclusion of those in the autistic community and others with neurological differences. Since the brain controls behavior, and as many as one in five people in the U.S. are neurodivergent, this is a critically important topic for educators.[9] According to Dr. Nicole Baumer, a neurodevelopmental disabilities specialist and neurology instructor at Harvard Medical School, neurodiversity helps us understand that:

1. People experience and interact with the world in different ways,
2. There is no "right" way of thinking, learning, communicating, and behaving,
3. Differences are not deficits.[10]

Learning style, communication, processing, and the way people are misunderstood or misjudged by others are all impacted by neurodivergent identities like dyslexia, dyspraxia, fetal alcohol

spectrum disorders (FASD), and autism.[11] While you have likely heard these words in terms of diagnoses, it is important to note that diagnoses, particularly in the mental health field, are merely clusters of symptoms. Additionally, Western medicine tends to have a deficit model, focusing on what is *wrong* with you by labeling diseases or disorders. I'm not saying diagnoses or labels are inherently bad. Sometimes a diagnosis is validating: "Oh! That's why X thing is so hard for me." But as with all complicated human things, how it is done matters. The tools in this book will help you bring a compassionate, brain-based lens to your work with neurodiverse students (and staff).

I live in a home of neurodivergence, both in my kids and my partner. Honestly, it is easy for my Downstairs Brain to kick in and notice the negative; the tasks that didn't get done or the impulsivity that lands us in the emergency room. But that's not the whole story! I was listening to a podcast a few years ago about Attention-Deficit Hyperactivity Disorder (ADHD), which the guest described as having an "explorer brain." What a refreshing perspective! It was the reminder I needed to notice the strengths in my differently-wired family, the fun and spontaneity that my rule-averse husband brings, the joy of dancing in the kitchen even though there are chores to be done, and the unique perspective that my son's dyslexia brings to our dinnertime conversations.

In their book *Hacking Deficit Thinking*, school psychologists McClure and Reed encourage readers to "cultivate communities of admiration and collaboration where we don't just 'accept' and 'include' people *despite* their differences, but rather admire them *because* of their differences."[12] Community-building, admiration, collaboration, perspective-taking—these are all only possible if we engage our own Upstairs Brains so that we can light up all the diverse styles of learning brains in our students.

Fetal Alcohol Spectrum Disorders (FASD) impact 2-5% of the U.S. population.[13] With compassion for mamas who were fed the lie that a little bit won't hurt or who were drinking to cope with their own trauma, this statistic means that as many as 1 in 20 students in our schools will struggle with self-regulation, executive function, mental health challenges, and learning differences due to FASD. Because of the stigma involved and lack of research and funding, proper diagnosis and treatment are rare. Thankfully, the same trust-building strategies that help other neurodivergent students and all the brain-building tools in this book are helpful for kids impacted by fetal alcohol and drug exposure as well. To learn more, visit www.apa.org/monitor/2022/07/news-fetal-alcohol-syndrome.

KEY TAKEAWAYS

- The brain has two main operating systems:
  - The Downstairs Brain is in charge of basic functions like breathing and heartbeat. It also is the home of primal emotions, quick reactions, survival responses, and the need for power and control.
  - The Upstairs Brain lets us think before we act. In addition to helping regulate the big feelings coming from the Downstairs Brain, this more advanced portion of the brain lets us play,

connect with others, wrestle with complexity, and navigate life as an adult.

- Our brains are designed to act before thinking, especially in the early years of child development.
- Nurturing, responsive relationships in the early years help clear the path for more Upstairs Brain development.
- No two brains are identical. Better understanding the neurodivergent community's ways of thinking, learning, communicating, and behaving honors the much-needed variety of any healthy society.

LOW-STRESS STARTING POINT

Let's reflect...

Curiosity comes from the Upstairs Brain, so this first low-stress starting point is a short reflection exercise. Think of a recent interaction that left you feeling a strong emotion. Now bring some curiosity to the behavior of everyone involved.

- What parts of the brain do you think were active?
- Do you have a guess about why?
- How does that impact your view of the incident and/or what you might do next time?