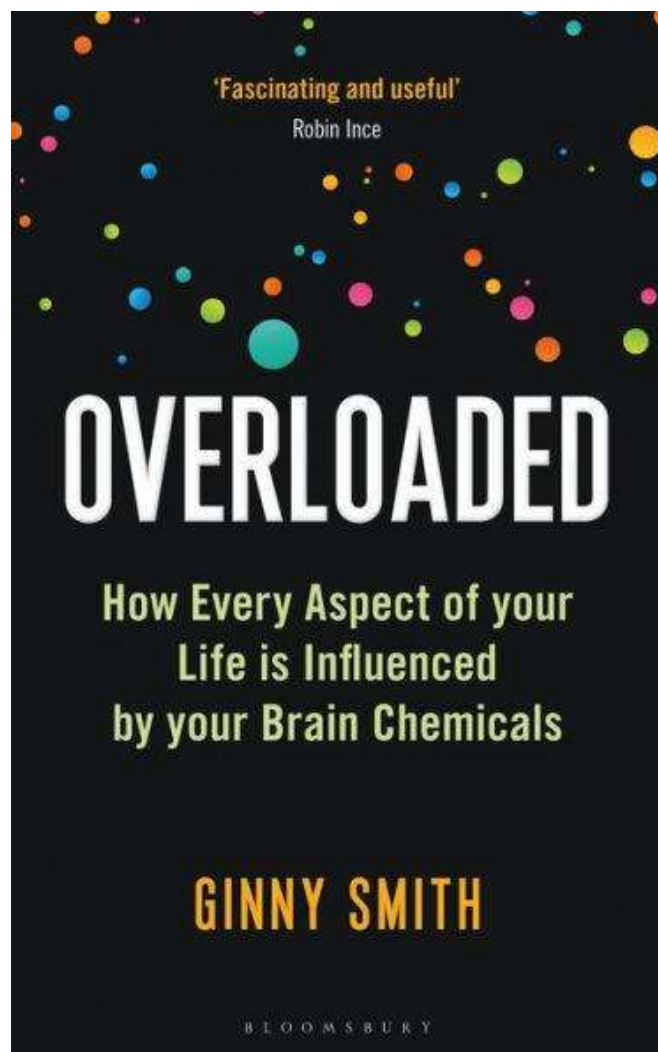


Book peers at brain's inner workings

Posted: Sunday, October 3, 2021

"Overloaded: How Every Aspect of Your Life is Influenced by Your Brain Chemicals" by Ginny Smith. New York: Bloomsbury Sigma, 2021, 336 pages, \$28 (hardcover).



“Do you remember what you were doing on your 18th birthday?” Ginny Smith asks in “Overloaded: How Every Aspect of Your Life is Influenced by Your Brain Chemicals,” her new book on how complex compounds affect virtually every aspect of our existence. “Mine was a Friday and after college my boyfriend drove me, along with a couple of friends, to Reading Town Centre. It was a chilly January evening as we walked to the Purple Turtle, a characterful (if a touch grimy) cocktail bar a little way off the high street. There, proudly wearing my ‘18 today’ badge, I enjoyed my newfound ability to buy alcohol legally by working my way through their extensive cocktail menu.”

“But if you picked another Friday from that year, and asked me what I did, I wouldn’t have a clue,” she continues a little later. “On a superficial level, it seems obvious that momentous occasions are stored differently, so they can be recalled much more easily than other, more humdrum days. But how is this difference coded in our brains? What is actually going on in my neurons and synapses when I recall that evening that brings the sticky floors and graffiti-covered wall to mind so readily?”

So begins a fascinating journey into the inner workings of the brain and how it is driven – figuratively as well as literally – by the various substances that make human thought possible. Full disclosure: I have always been intrigued by the problem of consciousness; i.e., how electrical discharges and ions crossing a membrane or other physical structures give rise to the awareness we assume everyone experiences. And while Smith does not explicitly answer that fundamental question, she does provide additional understanding and context regarding the relationship between the biological and psychological realms.

Structurally, the book consists of nine relatively comprehensive chapters – each focused on a different aspect of the topic at hand – and a conclusion that serves to pull everything together. She

covers all aspects of the innate interaction between the billions of reactions that take place every second in our cerebral cortex (as well as other structures in our brain) and our consequent behavior. There are chapters on anatomy, memory, motivation, mood swings, sleep, food, logic and emotion, love and pain. Moreover, each installment builds upon, and refers back to, the preceding sections to create a multi-dimensional narrative that slowly builds to an inevitable epiphany.

The literary style is fluid and conversational, and Smith seems to have that somewhat rare ability to relate to both academics as well as the general public in a seamless manner. What sets this book apart from others in the same genre, however, has more to do with the everyday examples and practical applications she weaves liberally throughout the book. Given the contemporary societal preoccupation with mental health and its innate relationship to violent episodes, I found her prose to be exceptionally timely and relevant.

One of the primary reasons I found “Overloaded” to be so interesting was that the subject hits so close to home for a large segment of the population. For instance, you may not have struggled with depression personally, but you probably know someone who does. And, as such, you are familiar with the trial-and-error nature of the drugs often prescribed to treat the condition. Have you ever wondered why some people seem to respond positively to the medications they are prescribed while others show no improvement – or they even have an adverse reaction? If you do, you’ll find Smith’s explanations revealing.

“Someone on SSRIs (selective serotonin reuptake inhibitors) might be more able to pick up the positives in a social encounter, rather than the negatives they would have seen before,” the author observes. “Over time, this could encourage them to repeat that encounter, helping to pull them out of the depressive spiral. But if the only social interactions they have are extremely negative (perhaps they are in an abusive relationship, or a toxic work environment), there would be no positives to detect, so all the serotonin in the world couldn’t help them find the good in the situation. This is why treating depression is a multi-step process, and why environmental changes can be as important as drug therapy.”

A science communication trainer and consultant, Smith founded Brantastic! in 2020, which is dedicated to getting kids excited about science through shows, workshops and other activities. The author has co-written four books for DK publishing, including the best-selling “How the Brain Works.” This is her first solo effort.

Once you finish “Overloaded,” you will be left with the conclusion that the connection between the chemicals in your brain and virtually every dimension of your existence – or how you experience consciousness – is undeniably real and acutely visceral. Does this mean who we are as human beings is wholly determined by neurotransmitters, hormones and other substances circulating within the folds of our brains? Certainly not. But to claim that our thoughts, actions and feelings are not inescapably linked to those interactions would be to deny a reality that has been well-established. Highly recommended – especially if you are one of those inquisitive readers who is always asking the proverbial “Why?”

Reviewed by Aaron W. Hughey, University Distinguished Professor, Department of Counseling and Student Affairs, Western Kentucky University.