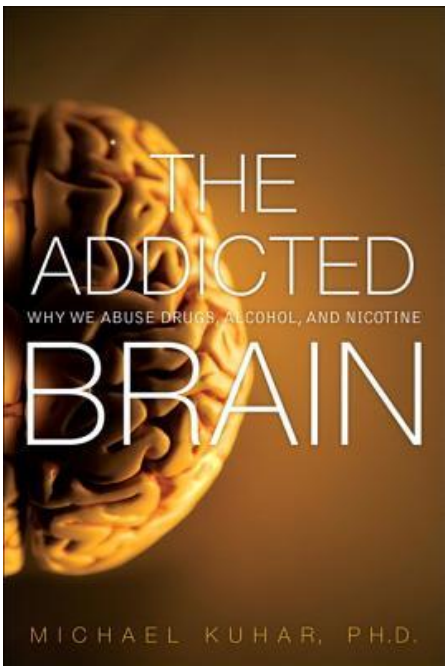

The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine

Michael Kuhar , Sylvia Wrobel

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The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine Michael Kuhar , Sylvia Wrobel Addiction destroys lives. In "The Addicted Brain, "leading neuroscientist Michael Kuhar, Ph.D., explains how and why this happens and presents advances in drug addiction treatment and prevention. Using breathtaking brain imagery and other research, Kuhar shows the powerful, long-term brain changes that drugs can cause, revealing why it can be so difficult for addicts to escape their grip. Discover why some people are far more susceptible to addiction than others as the author illuminates striking neural similarities between drugs and other pleasures potentially capable of causing abuse or addiction including alcohol, gambling, sex, caffeine, and even Internet overuse. Kuhar concludes by outlining the 12 characteristics most often associated with successful drug addiction treatment. Authoritative and easy to understand, "The Addicted Brain "offers today s most up-to-date scientific explanation of addiction and what addicts, their families, and society can do about it."

The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine Details

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From Reader Review The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine for online ebook

Josh Muhlenkamp says

As an assistant prosecutor, I primarily deal with drug cases (mostly heroin). I estimate that 85% or more of our cases are either drug charges (trafficking, possession, etc.) or are theft/forgery/etc. charges in which people were committing the crimes to get money to support their drug habits. I read this book in an effort to gain a better understanding of what is going on in the heads of the defendants that I see every day.

The biggest thing I take away from this book is that addiction is a brain disease. It's not simply saying, "I'm not going to take that anymore." A user's brain has to literally heal itself, and that might take a long time - years, even.

This book extensively explains the science of brain chemistry that explains why certain drugs are addicting, and what they do that causes the addiction.

Christopher Quolke says

This was a pretty good read on some neuroscience topics and a good read about addiction. Some of the ideas that were presented as public health theory are one individuals beliefs as there are competing views with respect to what should be done about the drug problems that are globally being felt. Overall, this was a pretty good read about addiction and I feel like there were some valuable resources throughout the book.

Thomas Kenney says

I was hoping the author would delve more into the neuroscience of addiction, but he at least does some of that. It's certainly better than a purely self-help book. I especially approve of his efforts to soften our attitudes and self-righteousness about drug addicts. However, it may just be me, but I felt the writing was fairly awkward throughout the book. One example is that the author will alternately refer to himself in the first-person and third-person perspectives. Overall, the author's voice is a bit confused here. I'd still recommend this book though to anyone interested in learning more about drug addiction.

Deyth Banger says

The problem is... that if you see yourself as a addict
...

You can't get away from your addiction... if you don't see yourself as addict... it will make you feel better.

Georgiana says

Read about 20% from the beginning, then two more chapters. It's very vague and a lot of it is just "blah blah", and the writing is horrid.

Sue says

This is the only book of its kind that I've read, and I learned many things about the nature of addiction from it. The author writes in fairly easy language, considering the technical nature of the subject matter. This is not a self-help book. This is a book that explains the chemical and physical changes that take place in a body addicted to substances and some of the ways to help a person refrain from giving in to the desire of the addiction.

Very enlightening!

Michele says

I realize this is a "science" book, but it was tedious reading about cellular function and brain chemistry throughout the entire book. The graphs and charts were helpful, but again, tedious. There were a couple of redeeming qualities when discussing treatment options and the stigma of addiction. I made myself finish this book because I hoped it would help me understand addiction and how to help an addict. I wouldn't recommend this book to anyone looking for answers about how to help someone who is caught in addiction. There are so many better books out there on this subject.

Kurt says

I chose this book from the Amazon Vine program for a few reasons: I am a public defender who works with addicts (and recovering addicts) on a daily basis, and I recently lost a close friend to a drug overdose. I wanted to know more about how the brain functions after substance abuse, and this book did the job.

Dr. Kuhar starts the book very slowly, in a steady "Hey kids, this is what a drug is, and this is what a neuron is" style, very appropriate for a junior high health class. The complexity of the topics discussed slowly increases as Dr. Kuhar begins to bring in more sophisticated topics, like the way that different types of drugs function and the various treatment methods available to patients. There are many examples from ethical animal testing (with a good disclaimer, right from the beginning, about how and why responsible scientists use animals in experiments), and Dr. Kuhar cites a wide variety of recent medical and scientific journals, so the book really feels fresh and relevant. I was particularly struck by the developing understanding of long-term effects of drug use on the brain (a subject that is very relevant for me when it comes to crafting a request for reasonable probation conditions during a plea argument) and a surprising support for methadone (my clients tell me they are disappointed in methadone programs, which substitute a dangerous addictive substance for a less dangerous one, but Dr. Kuhar urges readers to strip the stigma from the problem by asking if anyone considers lifelong insulin injections as a failed method of treating diabetics).

Dr. Kuhar seems to pursue a few goals with this book: introducing a layperson to the terminology and

methods used by scientific/medical specialists in the field of addiction, highlighting a few areas of intense contemporary research, and shifting perceptions of addicts from a position of blame for their choices to a position of empathy for their medical conditions. While this isn't a page-turner that's likely to enthrall a wide audience, it is a book that will educate a serious reader with an interest in addiction treatment.

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karl and mandy brown says

One day The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine by Michael Kuhar showed up on my Kindle; and one night when I couldn't get to sleep right away, I decided to start reading it. The book was a pleasant surprise. It was easy to read, probably written for the high school level; it taught me not only about drug addiction but about myself; and it was sensitive while offering hope. The book covered the sensitive topic of drug addiction by explaining the mechanisms involved and by peppering the narrative with case studies of or quotes by people who were addicts or recovering.

Drug addiction is a function of the drug, the person, and the environment: not all drugs are equally addictive, not everyone responds the same way to a given drug, and environmental factors such as stress and availability influence a person's desire to seek the drug. The author also presented figures to illustrate how drugs work in the brain, which were helpful but perhaps not necessary because his descriptions of the figures were quite elaborate (seriously, the captions were paragraphs by themselves, which wasn't a bad thing, it was just very thorough).

Where the book was the most eye-opening personally, however, was when the author discussed withdrawal symptoms for alcohol. They can include, for example, "irritability, agitation, craving for more alcohol, insomnia, sweating, diarrhea, rapid heartbeat, increased blood pressure, and even seizures." Furthermore, one of the vignettes was about a guy who had ignored the warning signs of heavy drinking and ended up with end-stage liver disease. While I never considered myself a heavy drinker, I have noticed some of the symptoms Kuhar listed in myself every once in a while. I wouldn't have thought they could be related to alcohol. It was also humorous when Kuhar mentioned that people commonly think they "must hit 'rock bottom' before they are shaken into action and seek treatment. Although a crisis can help, it isn't necessary for things to be at an absolute worst before getting help." It's funny how when it's said out loud like that, the flaw in the logic that "rock bottom" is the only trigger for change is so apparent. Perhaps it would be good to cut back on the drinking, especially if "it can take about three months of treatment for a patient to show significant improvement."

The book might have been dry at times, but such is the nature of technical matters. The author even used first person a time or two (who was his editor? don't they know this is like a text-book, and you should never use first person? I kid, but only because of the number of times the author apparently, deliberately used "the author" when referring to himself). But Kuhar was sensitive when discussing people who are addicts. Likewise, he concluded with hope. "It is possible to stop using drugs and begin to lead a normal life. Sometimes it is a long road, so it is best to start as soon as possible." For this, I say, Thank you, The Addicted Brain: Why We Abuse Drugs, Alcohol, and Nicotine, for showing up on my Kindle.

Morgan Blackledge says

I am a MA level psychotherapist, and Registered Addiction Specialist intern currently working at a methadone clinic in the extremely impacted area of South Los Angeles. We are a medical and psycho-educational program. i.e. we provide our clients with the facts about their disease and counsel them in

evidenced based, medically sound practices.

I work with people suffering from addiction all day, every day. A lot of the information covered in this book is information I provide my clients and their family members as a part of our model. In short, psychological education, specifically education regarding the brain and addiction behavior has been found to significantly improve the chances of recovery i.e. the information in the book saves lives. It could save your life. It could help you save the life of another. It is helping me do my job.

This book is exceptional. It's important. You need to read this book, or one like it, if you or a loved one is struggling with addiction. This book describes, in clear accurate detail, what addiction is and is not. Addiction is a brain disease. Addiction is not a moral failure or a result of lack of willpower.

I actually avoided reading this book for some time based on some of the negative GR reviews. What a bad mistake. Particularly when considering that some of the harsher GR reviews of this book were given by people who didn't bother to actually read the whole book. I consider these types of (half baked, lazy) reviews to be utterly irresponsible considering the potential benefit this information could bring. Pleas read the whole book before you post a potentially damaging negative review.

Admittedly, this book begins by reviewing some pretty fundamental information. But after covering some important basics, the author drops some serious science on this tragically misunderstood issue. Reading the book may take some work, but hang in there. If you give up after 1 or 2 chapters, you miss the huge payout.

If you're interested in the subject of addiction, this is a must read. This book achieves what few others do, accessibility, clarity and accuracy. Most popularizations of scientific research are written by journalists and often fail to be technically accurate. Most technically accurate accounts of scientific research is written by scientists and tends to be impenetrable to ordinary humans. This book is the best of both worlds. Technically accurate information on addiction from the neuro-psych perspective, written in ordinary, minimally technical language, from a valid, trustworthy source i.e. a seriously accomplished researcher in the field. In short, this is a spectacular book. I found this book to be incredibly useful, and I'm quite sure it will be useful to anyone who wants to learn more about addiction sans the usual unscientific, confusing b.s.

The book is essentially a systematic summary of some important, current behavioral neuroscience research on addiction. The book does a tremendous job of (a) explaining the research paradigm, in order to (b) ground the experimental findings in the logic of the experimental method. PRICELESS!

ANIMAL MODELS:
Self Administration (SA) is a research paradigm that entails enabling animals (mostly lab rats) to press a lever to receive a dose of (x) addictive drug e.g. heroin, cocaine etc. The lever presses can be precisely counted i.e. computer tracked, and variations in lever pressing behavior can be observed and analyzed over time.

One example might be; let a rat (or a group of rats) SA cocaine and count the rate of lever pressing over a period of time (say 6 months). Then replace the cocaine with an inert substance (saline solution) and count the rate and duration of the lever pressing behavior until extinction i.e. until the animal gives up and stops pressing the lever.

Run the same test on different drugs and it tells you something about the level of addictiveness of those drugs compared to some standard. For instance: if rats press a lever 10,000 times over 4 months before giving up - after 6 months of cocaine SA, and only 100 times for 1 month after 6 months of benzodiazepine SA, than we can posit that cocaine is (potentially) more addictive than benzodiazepines.

Further more, if you run the same test comparing the SA behavior of the same drug (say cocaine) on

different "knockout" rats i.e. rats with different specific genes removed or added, you can compare the SA behavior to "normal" rats and begin to see the effects of different specific genes on addiction. For instance; if rats with the gene for the b2 nicotine receptor SA nicotine 150% more than rats without the b2 gene, than we can posit that the b2 gene plays a significant role in nicotine addiction.

The brains of the animals can also be analyzed (via autopsy) for any damage or structural alteration that occurs as a result of the substance exposure. These animal models can then become instructive for further research on humans, where tighter ethical constraints limit the scope of research.

STRESS:
One of the issues discussed in the book is the effects on adverse childhood experiences (ACE's) i.e. early life stress, on vulnerability to drug taking behavior later in life. The results cited are pretty interesting. In one study, rat pups who were removed from contact with there mother for 1 hour a day, for eight days, and otherwise treated normally, more readily self administered cocaine as adults. BOOM! Stress in general can be an enormously powerful trigger for drug use behavior, but these findings indicate that ACE's may alter the brains of individuals, leaving them even more susceptible to stress in this way.

SOCIOECONOMIC STATUS (SES):
Low social status is predictive of violence, financial problems, poor health, feelings of inferiority, anxiety and depression. All of these are stressors, and drug use is high in low SES populations. One study compared cocaine SA in socially dominant and submissive Makakc monkeys. The D2 Dopamine receptors (low D2 levels are associated with addictive behavior) of a group of monkeys were analyzed during a period of prolonged individual isolation. The isolated monkeys were found to have roughly equivalent D2 levels. When the same monkeys were allowed to live together, they self assembled into a status hierarchy. Later D2 analysis found that dominant (high status) monkeys had higher D2 levels than submissive (low status) monkeys. Later SA experiments found that the low status (low D2) monkeys were significantly more likely to SA cocaine than high status (high D2) monkeys.

ENRICHED ENVIRONMENTS:
If stressful, low SES environments promote drug use, that what about low stress, enriched, high SES environments, do they have the opposite effect? Research indicates yes. Environmental enrichment, such as larger cages, exercise wheels and novel toys, reduces SA of cocaine and heroin in rodents.

The important message is that factors such as; stress levels, social status, and environmental richness change the brain in ways that either positively or negatively effect addictive drug use behavior.

PREFRONTAL CORTEX AND EXECUTIVE FUNCTION:
Executive function (EF) is a catchall term for cognitive processes that regulate, control, and manage other cognitive processes. For instance: planning, directing attention, problem solving, behavioral inhibition and initiation and monitoring of intentional behavior are all aspects of EF.

EF is the part of our thinking process that enables controlled, intentional, adaptively flexibility behavior (as opposed to automatic, reflexive, inflexible behavior). Needless to say. EF is pretty darn important for living a healthy, productive life, and more to the point, EF is exactly what the addict needs to engage in order to curtail drug use behavior and regain control over their lives.

The brain region associated with EF is the foremost area of the brain (the lobe behind the forehead, unknown as the prefrontal cortex (PFC). When EF is exercised (practiced), the function is strengthened. Over time, the PFC is literally measurably enlarged as a result of targeted training of executive function.

Building EF, or any other cognitive function(s) is exactly like building a muscle. Exercise the muscle, it gets bigger, you get stronger. Don't exercise the muscle, it gets smaller, you get weaker.

ALCOHOL EF AND THE PFC:
Everyone knows (or should know) that alcohol impairs judgment (executive function). But what many fail to understand, is that it does so by impairing the part of the brain regions responsible for judgment (the prefrontal cortex). It's hard to overemphasize how vital this brain region is. If you are a conscious and high functioning person, you are who you are, almost entirely because of the functions performed by your PFC.

The shocking truth about the long term effects of alcohol use, is that it significantly damages the PFC. The volume (size) of the PFC of long term alcoholics has been found to be significantly less than that of persons suffering from schizophrenia, and less than half of a non impaired individual. In other words, alcohol is a neurotoxin that damages the PFC, and in so doing, impairs EF, thereby drastically reducing that individuals ability to regain control over their behavior, one sip at a time. Other drugs modify the brain in equivalently damning ways (read the book).

Severe alcoholics suffer withdrawal symptoms that can literally kill them. Any individual in this awful situation is caught in a dreadful trap. No amount of suffering will pull them out of it. Believe me, they suffer. They don't need to suffer more. They don't need to feel more shame. They can no longer do it alone. The part of them that could control the behavior is seriously damaged. There addicted brains are running the show. They need help, ideally from a staff of trained professionals and recovering peers.

This book is a perfect companion to Clean: Overcoming Addiction and Ending America's Greatest Tragedy - by David Sheff. At long last, a rational, evidence based approach to addiction and recovery is emerging in American culture. And not a moment too soon!

Amanda says

The first part of this book focused on the science of the brain and addiction. The second half focused on different factors that may cause addiction and how it can be treated/prevented. As a nurse, I found this part of the book very helpful and interesting. In the end the author talks about the future of treatment and different approaches that are in the making. I learned some new things here and found it very intriguing as well!

Jenna says

This book is worth reading its very enlightening; It discussed about our D.N.A. and the study of our genome. Likewise, it explained different drugs, the cause and effect of addiction. The research and the discovery, and an admirable techniques that help examined the brains of drug user without any physical invasion of the head. It is extremely appealing tale of science research have perform, and how this happened.

Anderson says

This book is written by one of the top authorities in the scientific research of addictions. This does not mean, however, that it is hard to understand or written only for experts. Instead, this book assumes that the reader does not have much of a background and gently takes him/her from the basics to more advanced content.

PROS: The author really knows what he is talking about. This book is not a over-simplistic or moralistic attempt to say that drugs are bad. The author takes the time to explain drug-addiction in its many different

layers; from the molecular changes in the brain synapses, to the behavioral changes of the addict and, even more important, the reaction of society towards him/her. Every scientific term is clearly explained and there are plenty of diagrams, tables and charts to illustrate the points presented. Especially significant is the fact that the author introduces the reader to some of the most intriguing questions in the field and the options that researchers are exploring to respond more effectively to the problem of addiction.

CONS: I found it a little surprising that the author quotes text and graphics from Wikipedia in several occasions. Wikipedia is, of course, an excellent source of information but for a scholarly and experienced author one would have expected quotes from more stable sources. Also, the e-book version I read made it a little difficult to follow the graphics and their description but I am thinking this should not be a problem with the paperback or PDF version. Finally, although it was not the main focus of the author I felt that there should have been a deeper exploration of other kinds of addictions. There is one chapter dealing with gambling, nicotine, alcohol, sex, and others. However, the section about sex addiction was very disappointing as it deviates and repeats contents from the previous section without really giving much information about that topic which I think is very relevant as well.

CONCLUSION: This book is important, seriously important. I have never had any experience with drugs but I live in a place where just by going to the corner I can see children, teenagers and adults consumed by drug addiction. The influence of drugs in our present world is too significant to be ignored.
I dare to say this book is indispensable (1) for anyone who has an issue with drugs whether directly or indirectly involved. Even if this is not the case, this book is relevant for (2) anyone who feels responsible for helping people and for making this world a better place. As a representative of the second group to me it was refreshing and enlightening to be reminded of the physiological consequences of drug addiction and the social stigmas that society has so carelessly put of drug addicts. As the author hints throughout the book, addictions are present in many different ways and, if not with drugs, it is likely that we ourselves are experiencing (or have experienced) such bondage. This is a must read, period.

Katrice says

This is an extremely useful book to include in one's repertoire of resources (in my opinion) . I like how he broke down terms and illustrated certain key points with research studies (charts, graphs, etc.). Although, it's an easy read you feel smarter after reading it, lol. I also like how he incorporated other dependency's that people go through but society has a tendency to overlook such as: nicotine, food, sex and gambling. Overall, this is a resourceful book and would encouraged anyone who is interested in getting a better understanding how substances or dependency issues impact the brain, recovery, environment etc.

Dee Renee Chesnut says

This book was free from BN.com when I downloaded it to my Nook. I have an interest in neuroscience.

This is an overview of available scientific literature on thirteen topics related to addiction and its treatment plus the fourteenth chapter is a summary of the previous thirteen chapters. This often reads as if it were a class assignment.

I recommend it only to readers who have an interest in the subject.
