Shrink Rap Radio #518, August 11, 2016 – Understanding Addiction As A Developmental Disorder

David Van Nuys, Ph.D., aka "Dr. Dave" interviews Maia Szalavitz

(transcribed from www.ShrinkRapRadio.com by Elly Nobbs

Show Notes:

According to Wikipedia, Maia Szalavitz is an American reporter and author who has focused on science, public policy and addiction treatment. Raised in upstate New York, Szalavitz graduated from Monroe-Woodbury High School in 1983 and attended Columbia University. She graduated cum laude from Brooklyn College. Maia Szalavitz is known as the author of Help at Any Cost: How the Troubled-Teen Industry Cons Parents and Hurts Kids, a 2006 exposé documenting abuse in the insufficiently regulated, troubled-teen treatment industry, she has written many other books including Born for Love: Why Empathy is Essential – and Endangered (Morrow, 2010) and The Boy Who Was Raised as a Dog (Basic, 2006), both coauthored with Dr. Bruce D. Perry; and co-authored Recovery Options: The Complete Guide with Dr. Joseph Volpicelli. She has been awarded the American Psychological Association's Division 50 Award for Contributions to the Addictions, the Media Award from the American College of Neuropsychopharmacology and the Drug Policy Alliance's 2005 Edward M. Brecher Award for Achievement. Paul Raeburn at Knight Science Journalism at MIT calls her "…the best writer I know of on addiction and related issues." She blogs for the Huffington Post. She has written for the New York Times, the Washington Post, Newsday, New York magazine, New Scientist, Newsweek, Elle, Salon, Redbook and other major publications. She has also worked in television – first as Associate Producer and then Segment Producer for the PBS Charlie Rose show, then on several documentaries including a Barbara Walters' AIDS special for ABC, and as Series Researcher and Associate Producer for the PBS documentary series, Moyers on Addiction: Close to Home. Szalavitz is an investigative reporter for Time magazine and since 2004 has been a senior fellow at George Mason University's media watchdog group STATS.org.
In Spring 2016, Unbroken Brain: A Revolutionary New Way of Understanding Addiction was published by St. Martin's Press.

Dr. Dave: Today my guest is Maia Szalavitz, journalist, former addict and author of the 2016 book Unbroken Brain: A Revolutionary New Way of Understanding Addiction . For more information about Maia Szalavitz please see our show notes on ShrinkRapRadio.com.

The Interview:

Dr. Dave: Maia Szalavitz, welcome to Shrink Rap Radio.

Szalavitz: Thank you so much for having me.

Dr. Dave: Yeah, it's great to have you here. I think I first heard about your book. I just sort caught sort of a part of the interview with Terry Gross - Fresh Air, NPR. And of course she's one of my idols as an interviewer and , but it's really great to be picking up her crumbs [both laugh] which sometimes I've been able to do, so I'm really happy you've accepted my invitation so readily. And we're going to be discussing your remarkable book, which is *titled Unbroken Brain: A Revolutionary New Way of Understanding Addiction* . So you know, you're not a psychologist or psychiatrist - you're a career journalist, a very successful one. So some people might wonder - Well what does this woman know about addiction? In fact you got an award from the APA for your work in addiction. So why should we credit what you have to say about addiction? And I mean that in the friendliest possible way.

Szalavitz: No, no absolutely. Well actually this is a kind of funny and ironic question for me. Because I could just say well I'm a, I'm a person who had an addiction so therefore I'm an expert, but that's not actually what I believe. The real reason you should trust me on this issue is because I have been studying it, interviewing experts, writing about addiction, reading about addiction, fighting about addiction, speaking about addiction - for probably about 30 years now. And so I have spoken with pretty much, a large proportion of the leading experts in the area. And I am respected by the experts in the area as somebody who knows this subject quite well. I should have gotten around to getting a PhD but I did not [laughs].

Dr. Dave: Yeah I think so [laughs]. In fact I was so impressed as I was going through the book. It's hard to believe that you're not [laughs] a person with a PhD because just in the writing of this book and everything that's gone into it, I would say - Here's a fantastic doctoral dissertation [laughs].

Szalavitz: I should have, you know if you go to the UK you can actually do that and write a book and get a PhD, just based on the dissertation, but somehow, even though I've written 7 books, I've never managed to actually do this, but maybe one day.

Dr. Dave: Yeah. Gee, I'd never even heard that before. That's interesting. Now the subtitle of your book is "A Revolutionary New Way of Understanding Addiction". And I have to say certainly, as I was reading it, it struck me as new and revolutionary, especially inasmuch as you assert that drug addiction is a developmental condition that most people will grow out of. And you give some remarkable statistics on that. Do you remember any of those stats ...

Szalavitz: Sure.

Dr. Dave: ... off the top of your head?

Szalavitz: Absolutely. No. It is basically about 50% of people who have addictions, with the exception of nicotine, will grow out of them by age 30. Alcohol is a teeny bit later - so it's 35. But a remarkable proportion of people, who you can't tell which one is like falling-off drunk on

the bar stool - you will not be able to tell which one of those first people will age-out or not. But half of them will.

Dr. Dave: Ahha. Wow. Interesting that nicotine is the exception. I just paused there for a moment. I try, as a psychologist I worked with people trying to quit smoking and it was incredibly hard. It's the only drug that people need to dose themselves with, about every 20 minutes or something like that.

Szalavitz: One of things that is odd about addiction is that the shorter the time between doses, the more intense the addiction. But I think one of the things with cigarettes that's really, makes it almost so much more difficult to quit is that you can do it all day 0:06:19.7 and it's not impairing performance, in fact it may be performance enhancing in some cases.

Dr. Dave: Yeah.

Szalavitz: And you're not experiencing the negative consequences until very much later. I mean you'll experience shortness of breath or you know, smelly clothes and this kind of thing very early on, but you'll not experience lung cancer or any of the really dire outcomes very early, and so that makes it pursuing dangerous and long-lasting.

Dr. Dave: Yeah and we know that human beings are not very good at changing their behaviour based on long term [laughs] consequences, that are far out.

Szalavitz: No and I mean, that actually has to do with the way our dopamine circuits are wired, which discounts further out pleasure at a steeper rate than if you, if it's immediate pleasure. And, and that makes sense if you are a creature faced with predators, and other things , say if you have a reproductive opportunity [laughs] you should take it.

Dr. Dave: Yeah.

Szalavitz: But it does not work to our advantage when things involve long term planning.

Dr. Dave: Ok. And so this developmental view for example. you say that people who pick up an addictive substance in their middle to late 20s are much more likely to be able to quit at some point and maybe to say - I could take it or leave it.

Szalavitz: Yeah. I mean one of the things really interesting about addictions is that there's a really strong period of high developmental risk which coincides with the adolescent period of life. And during that time... There's three times in life when brain development is particularly intense. The first is pre-natal. The second is the first five years. And the third is adolescence and into young adulthood. And during that time what's going on is the motivational areas that are there biologically to power, you know, reproductive and survival success are developing but the parts that controls those, the part that puts the brakes on those engines are not developing until the mid to late 20s or not fully developed; they're developing during this period but they are not as

strong as they might be until later. So basically, during your teens, as everybody who's met a teen or been a teen knows, you're going to do some crazy stuff.

Dr. Dave: Yeah. Yeah. So you describe addiction as a developmental learning disorder. We'll get into the learning part of it, the developmental part of it. And so my initial reaction was - Oh great excitement, you know you can say it in one sentence and that sounds like a nice, neat little package. But as I got into the book, what became clear is that it's a very, very complex issue. And you end up going into a lot of those complexities. So that there are all sorts of issues and we'll be exploring them. Now you in your ... I'd like to go into your story a bit of your own addiction. And you've written ... you've managed it masterfully in the book, sort of telling your story gradually as one moves through the book, and mixing that in with a lot of the science, you know, and what we know about addiction and the different stages of life and the brain processes and so on. So let's start out. I don't know if we should tell your whole story right now or ... let's get started with it at least. I think you get started somewhere in your early teens?

Szalavitz: In terms of the actual drug use?

Dr. Dave: Yeah. In terms ... using what marijuana and psychedelics ?

Szalavitz: Yes. Yeah.

Dr. Dave: So tell us a bit about that phase of your life.

Szalavitz: So I think I need to start a little earlier.

Dr. Dave: Ok.

Szalavitz: What the reason I ended up smoking pot and taking a lot of acid in washrooms and stuff like that is because I was always a very over-sensitive outsider kind of kid. I always ... since the earliest part of my life I got bullied. I was unable to fit in very well with other kids at all, and I think, today if I was growing up I would probably have been diagnosed with Asperger's or some form of Autism Spectrum Disorder because I had sensory issues. I had social issues. I learned to read when I was three and I was very obsessive about a lot of different things. So I was the kind of kid who just went through these intense obsessive phases. And I kind of ignored other kids because either they were going to be mean to me or they just didn't share my interests at all. And, or I'd lecture them and that wasn't very successful either . So I was an outcast basically by the time I got to 7th and 8th grade. And it was at that point that I realized - Oh my gosh, I don't know how to do the social thing at all. I am, you know, just left out. I feel very lonely. I would love to connect but I'm so weird I don't think that will ever happen. And so I had like drug education at this point, and they are telling me peer pressure is going to make me do drugs but you know just say no. And I thought - Aha if peer pressure is going to make me do drugs , drugs are a thing I easily fool. [laughs] And so ...

Dr. Dave: Yeah.

Szalavitz: ... not your best drug education [laughs] but I, I decided that cigarettes were too dangerous, alcohol you lost motor control which didn't sound good to me but marijuana sounded interesting. But at that point I was so uncool that there was no peer pressure to pressure me into doing it so it took me until I was in high school to actually find people to smoke pot with. So I was not the peer pressure case. I was the person looking to find the drug. And I did. I was the person looking to find the drug. And I did. I got very into you know marijuana and it was always my goal ... I had read the *The Electric Kool-Aid Acid Test* and I thought this sounded like a way of connecting you know to the universe and ...

Dr. Dave: Sure.

Szalavitz: ... and something social. And indeed it was. If I'd stuck to psychedelics I probably would have got a very different career and a very different life. But unfortunately it was the 1980s and when I was 17 I even got into coke and I was sort of involved with the Grateful Dead scene. I, my boyfriend was one of Jerry Garcias's and so it kind of went from there.

Dr. Dave: Yeah. In the book you describe sitting on a bed with Jerry Garcia, the Grateful Dead [laughs] and you're doing drugs together. Rolling joints and getting into cocaine and so on. So ...

Szalavitz: Yeah, I mean so, I mean it was like I'm, obviously it was not a good thing for him to have done but he's still my musical hero and it was obviously, you know a very intense experience for someone who was 17. But I have to say he was only interested in the drugs, nothing else happened [laughs].

Dr. Dave: Ok [both laugh] for better or for worse.

Szalavitz: Exactly so, you know, it was an experience and it ended up being part of my story.

Dr. Dave: Yeah and this raises a lot of issues that I'd like to get into. Another thing that I heard in the story of your own addiction was the impact of bullying on you. And that's something that you write about just not in terms of yourself but in terms of that age range, school experience generally. So tell us a bit about bullying.

Szalavitz: Sure. I mean, there is some research that suggests bullying can be as traumatic as being abused by your parents. Obviously that's not always the case but in some circumstances it seems to be just as bad. And if you think about it from an evolutionary perspective, being rejected by your peer group is just about the worst thing that can happen to somebody because we require our peers to survive as humans. So it's an extremely stressful situation and one of the things that bullying actually does, is that it's a way to enforce status hierarchies on people. And it causes a stress response that makes the people lower on the hierarchy more susceptible to all kinds of problems from mental illness and addictions to you know even things like heart disease and diabetes.

Dr. Dave: Yeah and one of the things that stood out for me about the status hierarchy thing that was really striking was, you cited research that - kids who rank high in popularity in school, say in

junior high and high school - they don't have more friends. It just means they rate higher on dominance. Am I remembering that correctly? That's kind of a surprising finding? 0:15:40.5

Szalavitz: Yeah. Yeah. That's fascinating because if you ask the kids, this is how they survey, if you ask the kid who did they like most and who they most liked hanging out with, that answer is going to be different from when you ask who were the popular kids. Because the popular kids are ones who everybody looking at the school could say - These 5 kids are at the top of the social hierarchy and these are the cool kids. These are the kids who everyone looks up to. These are the kids that everybody's scared of. But they're not necessarily the kids that the other kids most want to hang out with. There will be some amazing people who will be able to be both popular and dominant . And they tend to be people who can afford to be kind. But you know oftentimes it's not the same people. Although the difference between social success in junior and high school is huge. The people who are socially dominant and at the top rank in junior high tend not to be so in high school, though obviously there are some exceptions. But in junior high it's still sort of more crude and physical and about sort of enforcing things in a very mean girl's way, and that's less so, though obviously not entirely, in high school. In high school you really get more sophisticated forms of social status.

Dr. Dave: Yeah. Wow. Well, let's move your own story along a bit further, because when you were in high school and junior high, you'd sort of, you had some drug education and you'd made a pact with yourself - No powders. Marijuana's ok. Psychedelics are ok. But no powders. And then, somehow you end up breaking that rule and it's not somehow, I think it's really because you were so insecure as you described previously and you were in love with a fellow who was into the hard stuff.

Szalavitz: Yes, that and I mean also like one of the things that's very difficult to understand now about the '80s is that cocaine was just ubiquitous . I mean it was all over popular culture . People did not believe it was addictive because it doesn't cause physical dependence i.e. you don't get sick the way you do when you quit opioids .

Dr. Dave: Yeah, cocaine you're talking about now.

Szalavitz: Yes. And so people thought, you know - Oh it's just like, you know they told us all this nonsense about marijuana. Cocaine is just as harmless. And you know obviously that's not the case.

Dr. Dave: Yeah, I remember that. I bought into that. And certainly experimented with cocaine but just very occasionally. And only a few times.

Szalavitz: But that's actually what happens with most people.

Dr. Dave: Hmhm.

Szalavitz: Most people, and this is true with heroin as well. Even you know, if you try these drugs only 10 to 15%, to 20% at most become addicted.

Dr. Dave: And I was an adult. Already, so my identity was formed and, you know, I had a job [laughs] , and family and, you know, so I wasn't at, I didn't have a whole bunch of those risk factors that adolescents have.

Szalavitz: Yeah and that's a very important point. But yeah cocaine was just all over the place in the '80s. And we thought about it in a very different way. And I mean that unfortunate way of thinking about addiction is physical dependence is a real problem now because when we try to deal with the opioid situation we end up with people thinking that - Oh if we just you know deal with the physical dependence then everything will be fine. But the physical dependence is not the important part. The important part in addiction is the compulsion and a craving and the desire to use long after you're feeling fine and not at all physically ill. So it makes people think incorrectly about it. And it causes all kinds of problems for maintenance treatments because with maintenance treatments you will have the physical dependence - you will just not have the addiction.

Dr. Dave: So you make a distinction between physical dependence and psychological dependence. And you say that of the two, the psychological dependence is the much more challenging one to deal with.

Szalavitz: Yeah, I don't even call it psychological dependence because I think dependence is a misleading term, I think.

Dr. Dave: Ok.

Szalavitz: I mean they took it out of the DSM for good reason because you can be physically dependent. We're all physically dependent on air and water and food. This does not make us addicted to air, water and food. Some of us are physically dependent on you know, say an antidepressant because if we stop taking that antidepressant we may get depressed again. But does that mean I'm sitting around like craving Wellbutrin? That's not the case. Does that mean I'm using Wellbutrin in spite of negative consequences . No, the consequences are positive. So when you realize that addiction is compulsive behaviour despite negative consequences, the dependence bit is just much less important. And you know America as a society stigmatizes dependence. We like to believe we're independent. But humans are inherently interdependent. And so, if we think that dependence itself is bad that leads to stupid conduct like co-dependence where ,you know, a woman who's like trying to care for her partner suddenly has a disease because she like, you know, protects him when he's been drinking and his boss is on the phone. Like that may be a misguided way to help the dude, but it's not a disease.

Dr. Dave: Right, so the disease, the disease model doesn't fit. And psychological ... if I ... if I don't use the word dependence then I say ... physical addiction and psychological addiction?

Szalavitz: No, because the problem there is that we get into the mind-body problem.

Dr. Dave: Ok.

Szalavitz: Because psychological, psychological addiction has to be physical ultimately too, unless we want to get into a discussion of the soul.

Dr. Dave: Ok. [laughs]

Szalavitz: I just call it addiction and dependence. And dependence is often not a problem at all. There are lots of people are dependent on blood pressure medication, on medications for other conditions, on insulin for diabetes. As long as you have a clean, safe, affordable supply, dependence is not a problem. Addiction, on the other hand, is a serious problem.

Dr. Dave: Yes, ok. Ok so, so moving your story along, you did get involved with powders and in, in a fairly extreme way of, of getting, of injecting cocaine, injecting heroin, injecting, or I don't know if , speed balls you refer to, which was a mix of cocaine and heroin. And, and you say you even got to the point where you were injecting cocaine 40 times a day, which is amazing.

Szalavitz: Yeah, I mean some people do not, will say - Oh how could you possibly do that? Those people have never lived with a cocaine dealer. That's how you could possibly do that. If it's there, you can continue to do more even when you know that more is going to be horrible. And at the very end of my addiction, I would just wake up in the morning and it would be like - I will not shoot any coke today. I will not shoot any coke today. This will be bad because I'm on methadone and it will just make everything worse. And then of course, you know, the time I was up for a few hours, I would of course - Oh, I'll just do one, and then I'd be off to the races and I'd have to get heroin to bring me down from the coke, and then I've to go to the methadone program, and I'd be so dehydrated, I couldn't give a urine sample. And it was just horrible. And I knew something messed up was going on, but I was really afraid to seek help because I knew that so much of the help that existed was humiliating and degrading. And, you know, I'd sort of gotten to addiction to avoid being humiliated and bullied.

Dr. Dave: That's really fascinating. And so, you know, to hear that description and the way that you go into it in the book because not only are you doing all of that but it looks like [laughs] like a drug pad with, you know, the room is all messed up, there are needles everywhere, clothes everywhere, nothing is being taken care of during this, the real low point. And yet you say that the idea of needing to hit bottom is kind of a myth because one would think that that would have been the bottom for you.

Szalavitz: Yeah and I mean, the thing, the problem with the idea of bottom is that it is basically a tale of sin and redemption and can only be determined retrospectively. So let's say I had that horrible experience in that room and of shooting up or whatever, and then I go to treatment. That's my bottom. And then six months later I relapsed. So now I have a new bottom. It's a bottom with a trap door. It's just ridiculous. Like if the idea of bottom worked addiction wouldn't exist because addiction is compulsive behaviour that occurs despite the negative consequences. And so with negative consequences, aka hitting bottom, were going to fix it, the problem shouldn't exist. So it's a very ridiculous way of seeing things and you know it makes a great story. You tell it as if this moment was the bottom. And I certainly had an insight in my

case that helped me get into recovery, but there are plenty of other people that just slowly crawl out and relapse, and crawl out and relapse, and come further and come further, and eventually stop in a very boring way that is nowhere near a bottom. So it is, it's just, you know, we have to not be held hostage to these narratives that our culture wants to place on us.

Dr. Dave: Yeah, and as you recount in the book there are several places that might have been considered a bottom beyond that. You've got, you were a student at Columbia and you got dropped from Columbia and then you got busted as a dealer, which was huge. I may have missed it, I don't recall , how did you ... I think you succeeded in avoiding prison, right?

Szalavitz: Yeah, and I mean that was an absolute miracle and was, you know, a lot of that has to do with being white and female. And you know, I'm not saying that to be like saying that particular judge in question was racist . I don't think she was consciously racist, I just think that the system is racist because our drug laws were created as ways of attacking groups of people that they wanted to suppress. And if you look at the history of the drug laws it's very clear that that is absolutely the case. Because I was white and went to an Ivy League school, I was able to demonstrate that I could recover . And so when I, I chose to go into treatment at a certain point, it was about a year and a half after I got arrested, something like that, and I knew I needed help. And I went and I went for it and I said I'm getting into treatment , and you know, the judge later said that she would have locked me up for my own good if I hadn't chosen to get help at that time. But I did choose to get help at that time so that threat was never mentioned.

And anyway, I then came back four, four months later and instead of being this very scary, scraggly, sick looking person, I was tan, I was fat, I still had my hair in a horrible blonde colour that didn't look very good on me, but I looked like I had life in my eyes again. And she didn't see recovery very often in her court. So when she saw it, she wanted to protect it and to allow me to recover, since I was seeming to pull myself out of that life. And, but the reason I was able to do that, is my parents had insurance and I had, you know, I was always a good student. I was able to do this stuff at the time that it was required for me to do it. You know in part by luck.

And so this, I just think that our drug laws, their origins show that they were not made by science or for anything to do with public health. They continue to be racist in terms of their enforcement. And they just don't work . They just don't take into account what addiction actually is.

Dr. Dave: Ok so you were an addict for what 3 or 4 years, would you say?

Szalavitz: Yes. I mean, yeah.

Dr. Dave: And now for at least 30 years or more you have not been an addict. And what do you credit for that? What ... is the word cure allowed? [laughs]

Szalavitz: I think, I look at it like this. I think there is clearly partially a maturation thing going on there because when I was finally able to get into recovery I was 23. I was at the point in life when you know that cortex is finally giving you self control to be able to start to deal with the

problem. So there was that. There was also, I was clearly convinced that I could not go on the way I was going on, and that the drugs were not working. And so I realized that, you know, this thing , these substances that I thought were saving me were actually harming me. And so I was able to, you know, I knew I had to stop.

I got social support from a 12 step program which was very important in the beginning. As you know from reading the book there are some issues I've got with 12 step programs but think that the, you know, the idea of having a group of peers that supports you, that you can call, that offers tips about dealing with things that might make you relapse, that offers a social life - this is a very, very good thing and most people need that in order to recover. Does it have to be a 12 step group? I think that answer is no. But are 12 step groups the one thing that is available 24/7 in most communities? The answer to that is yes. So, you know, I had 30 days in a rehab. I had my family supporting me which was really crucial. I went back to school which also helped a lot. And I also discovered that I suffered from depression. And when I got that treated my life improved dramatically.

Dr. Dave: Ah ha.

Szalavitz: Medication has been huge for me in terms of depression. And the sensory issues that I continue to have are mitigated to some extent at least by the antidepressants, and other people who are on the autism spectrum have reported this as well.

Dr. Dave: Yeah, interesting. You've got a chapter on neural diversity and you place yourself on the autism spectrum. So, and just the term neural diversity reflects a whole new look and consideration about, about autism and ADHD, and such. So, tell us a little bit about that.

Szalavitz: Sure. The idea about neural diversity is that human beings are wired in a wildly varying number of ways. And some of these ways give both advantages and disadvantages. So for example, with ADHD certainly it can impair your concentration and make certain lines of work very difficult. On the other hand it can make other kinds of work extraordinarily easy. This is why a lot of people with ADHD are successful in fields like policing and emergency work and also as entrepreneurs where they can follow the things that they are passionate about. Because one of the weird things about ADHD is that you are, you have a very hard time concentrating on something you're not interested in, but if you're interested in something, you have really intense focus.

And that of course looks to parents like you're willfully choosing, and like - This I can do and I'm refusing to do the other thing. But it's actually not the case. And it's very frustrating both for the child and the parent, but anyway, in terms of neural diversity, so ADHD gives some disadvantages and some advantages. And similarly with autistic spectrum conditions - you know, the oversensitivity and the social difficulties - are obviously problematic and certainly there are some people on the spectrum who are severely disabled by it. Then there are also cases where if you can mitigate that stuff, people have extraordinary talent and we've seen that in thinks like, you know, computer programming, in music and art and all kinds of different things.

Dr. Dave: I think we see it in you in this book because of your, you had to have had incredible focus, I think, to write this book.

Szalavitz: Yes, absolutely and I mean, I've always, my attention always been sort of, more of like overly compulsive focus rather than distraction. And so it's like I get stuck on things but you know, when I'm on them I'm really good. [both laugh] But that's so like, you know, that's really sort of like addiction too. It's like when I devoted this obsessive energy to addiction, it was extraordinarily destructive.[laughs] But when I can use this focus to help other people with addiction or to help explain addiction, then it can be productive and useful. And I don't have to hate myself.

Dr. Dave: Yeah. Yeah. Now what about methadone? You're critical about the way methadone is used, I believe. And I think methadone is frequently used, so what's your take on that?

Szalavitz: I think, and I mean the data is very, very clear on this - if you want to reduce the death, the only thing that we know, because mortality in people with opioid addiction by 50% or more, is long term maintenance with either methadone or buprenorphine, which has the brand names, the brand name of Suboxone . So I am very much in favour of long term maintenance for people who want it. And for people who are just using it as sheer harm reduction because even if you keep continue using on top, you are at lower risk of dying and if you're alive you can eventually recover. So I had a bad experience personally with methadone because I was in a program that detoxed me way too fast. That did not provide an especially helpful social support. And that was, you know, it was sort of typical of the bad treatment that was available in the 1980s. Unfortunately there are still a lot of that around but I am very much in favour of expanding access to methadone and buprenorphine as much as possible so that we can keep people alive long enough to either stabilize on those drugs and stay on them, just like me on Prozac. Or we can, they can eventually taper off. But that, I don't care what drug is in your system. I care about whether you are happy and productive.

Dr. Dave: Right, right. Now you mention harm reduction. And you've got a chapter on harm reduction. So bring us up to speed on that.

Szalavitz: Sure, that's actually what I was on, just talking about with maintenance. There are two things that can go on maintenance. One thing is you stop taking other drugs, you, you know, you work on getting your life back. Maybe you have some counselling. Maybe you need some mental health care, like dealing with depression or other things like this, but you are not using anything other than your prescribed medication. And you are as much in recovery as I am. The other form of maintenance, you are simply getting a daily dose of either methadone or buprenorphine. You may be using on top. You aren't on, you know you aren't working to get your life together. You're still pretty much in active addiction. But you are in touch with health care resources, because you have to be in order to get your medication. And you are at reduced risk of dying of overdose because in the case of buprenorphine, some receptor actions and in the case of both of them at any dose the, you just build your tolerance, and the more tolerance you have, the less likely you are to be able to afford to die of an overdose. Which means you are unlikely to die of an overdose. [laughs] So the, you know, that is harm reduction.

And the idea of harm reduction is that we may, you know, people ... addiction is complicated. A lot of people with addiction are severely traumatized so much so that they can't give up the thing that allows them, or that they believe allows them to cope, until they have built in other coping skills. So you may, you need, harm reduction meets people where they're at. If they want simply to reduce using, if they want to just use clean needles, if they want to go to a safe injection space - these things allow people to get in contact with services even if they don't feel like they can successfully maintain abstinence. And when you do that, what you find is really quite amazing because when people are just treated with respect and when you basically give a clean needle or you allow someone to inject in a safe space, you say - I think you deserve to live, regardless of whether I'm judging your drug use, or regardless if society is, you know, judging you like that - I think your life is valuable. And sometimes when you have become so beaten down, that you think you're not valuable anymore, and you're told constantly that you're a piece of garbage - when someone values you, it can bring you on the path of valuing yourself again. And that is why harm reduction has been such a success throughout the world, in many areas, I mean, New York State after resisting needle exchange for a very long time, our state health department now calls it the one thing that can be called the gold standard for HIV prevention. Notice that is not condoms. [laughs] You know, people thought it would be the opposite, like - Oh either drug users won't use clean needle and it will be easier to get men to use condoms. That is not the case.

Dr. Dave: Now what about decriminalization? It sounds like that's almost a ... is that a precondition for harm reduction on a large scale?

Szalavitz: It's certainly an important part of harm reduction because criminalization helps no one and does lots of harm. So if you realize that addiction is compulsive behaviour despite negative consequences, using the criminal justice system to create negative consequences is not going to be an effective use of your resources. If instead you don't arrest people for possession and you allow people to use that money instead to pay for services that are user-friendly, that attract people into getting help. And then reduce the harm while they're actively using and that help them get into many forms of recovery. So I think you know that's, decriminalization really, also if we're going to say that addiction is a medical disorder - call it a disease, call it a learning disorder, just call it a medical health issue. We don't treat any medical issue with criminal justice. We just don't. So it is impossible to de-stigmatize something at the same time as you're criminalizing it, because the whole point of criminalizing something is to stigmatize it so that people don't do it.

Dr. Dave: Yeah. Is, what country is sort of the gold standard in terms of doing it the right way?

Szalavitz: Well I mean, Portugal has completely decriminalized possession, including things like heroin and cocaine. And they have seen a drop in overdose deaths, a drop in addiction to IV drugs, and generally very positive consequences all around. I tend to think we should absolutely go further than that with marijuana and legalize it, including sales. I think that once we figure out a system for doing that then we can look at the other substances because the problem with having a multi billion, or probably trillion dollar illegal market of drugs, is that you have no control over quality and you have no control over marketing. And you also have gangsters getting huge amounts of money and corrupting people up and down the chain. And I think

decriminalisation will do a lot to help the people with addictions, but if you continue to have sales criminalized, you will continue to have users having an incentive to sell to each other in order to support their habits. And you will have you know a sort of ongoing over-criminalization problem. As well as gangsters.

Dr. Dave: Yeah, I'm going back to remembering when you talked about the maturation of your brain and you felt that really had something to do with it. And there's a lot in the book about the adolescent brain and you know, how those controls aren't there and there's an impulsivity and there's an inability to consider [laughs] the long term future and all of that. And your own experience was that as that frontal cortex matured to the point today when you wrote this book, you said it was difficult to for you to write out your story because you look on it with horror. Things that, that you were so readily willing to do as an adolescent, you now look back on and you're just kind of horrified. And I can relate to that myself. [laughs]

Szalavitz: Yeah, it's really, I think a lot of people who had you know, on crazy experiences during their teen years, especially when they become parents, but even if they don't - when you get to a certain age, your brain has just matured so much that it's very hard to understand the logic, or the lack of logic, that led you to that kind of behaviour. I really, one of the things that I've always been motivated by my whole life is I'm completely terrified of death and yet I was shooting heroin and cocaine. So how does that work?

Dr. Dave: Right. Yeah. A contradiction that your adult brain recognizes. [both laugh] That your adolescent one didn't. Let's go into the brain a little bit more deeply. You've got a chapter on dopamine that emphasizes the complexity of its effects on the brain. We associate dopamine with driving pleasure, but as you point out, not always. So there's some real interesting things about dopamine.

Szalavitz: Yes, it's interesting. I've actually been reporting a story on dopamine now for *Scientific American, Mind* . One of the things that I will probably need to update in future editions of the book is the guy, Roy Wise who is behind to the theory that dopamine equals pleasure, no longer supports his own theory. But so, what, people agree on very little about dopamine, but they all seem to agree now that it is not pleasure. It may be desire and it may have an element of the pleasure of what I call in the book, the pleasure of the hunt as opposed to the pleasure of the feast. And the pleasure of the hunt is when you are, you know, seeking something, you are desirous of it, you think you can get it, you feel confident and you are, you know, just stalking your prey. And obviously the pleasure of the feast is satiation - you've got it, you're enjoying it, all is good. You're not in that escalated state of desire anymore. So what dopamine seems to be involved in , at least in some parts of the brain, is driving the desire. And when desire is pleasurable there can be pleasure in it but if you have unsatiated desires, that is definitely not pleasurable.

So you know, it gets very complicated but dopamine does seem to be involved in that motivation, the desire, the goal setting, the way your brain prioritizes things, the way it sets values on things. It also seems to be involved in something called reward prediction error, where essentially what it's doing is saying - Ok, you know, if there is an association between A and B,

and A happens then B happens, and if B is a good thing, the dopamine is going to spike when A happens because you are now expecting B. And if B doesn't turn out to show up then you're disappointed, and [laughs] that's really awful, and your dopamine's actually lower than normal. So it's kind of, it's predicting, you know, your expectations - Is this going to be as good as expected? Is it going to be worse than expected? Is it going to be better than expected? And you are always unconsciously making these expectations of events. And I think disappointment has always been an emotion that has been, that has always been awful for people with addictions and often leads to relapse. And I wonder if it has to do with the fact, basically disappointment is a reward prediction error. You thought something good was going to happen, and it didn't. Or maybe something bad happened instead. So it's, I think it's really quite interesting and you know, we really don't understand as much, I think this happens in science in general . You sort of think you've got something and then some new experiment complicates it and you find out you know less than you did in the first place, but you're getting more details.

Dr. Dave: Yeah, and probably relevant to what you're saying now is you talk about the dynamics of sensitization and habituation . Such that you find yourself wanting to shoot cocaine even as you were liking it less and less.

Szalavitz: Yeah, I mean that's, that's the thing on, and this is the idea on with what they call incentive salience. This basically means liking and wanting are two different things. And it's definitely the case, I can tell you this from my personal experience, that you can desperately want something that you do not like anymore . And that is a horrible experience because like you find yourself shooting coke and knowing it's going to suck and knowing that it's going to feel awful and it's going to make you really anxious and not feel good at all - yet you're unable to stop yourself from doing it. I think a lot of people can relate to this in relationships.

Dr. Dave: Right.

Szalavitz: People end up sort of desperately wanting someone they don't like much anymore. And I think probably all of us have had at least one experience [laughs] of that. And it is you know very confounding.

Dr. Dave: It was interesting that you talked about set and setting, most of us know is emphasized a lot in relation to psychedelics, the importance of set and setting so that you that don't have quotes a bad trip. I'd not heard that concept applied to other drugs like heroin and cocaine.

Szalavitz: Yeah, I mean it applies to every substance, even things like antidepressants, weirdly enough. But it's, yeah I mean, when you take a drug in a dangerous setting or in a new setting, it can have a very different result than what you are typically used to and this often happens with alcohol where people find themselves getting way drunker than they expected because they're drinking in a new situation with new people and their tolerance doesn't kick in the way it would in a familiar setting, because bizarrely enough, tolerance is basically condition to some extent so you learn when this cue happens the drug is about to come and your system compensates. But if you don't get that cue you can actually die of an overdose of your same normal dose if you do it

in a different setting. So these concepts are really important and you really need to be studying this more with the opioid epidemic because a lot of the unexplained overdoses may be related to this and we may be able to do things that could reduce that risk.

Dr. Dave: Yeah, fascinating . Now going back to the subtitle of your book, you know, describes this developmental and learning approach as new and revolutionary. But somewhere else you kind of mention that it's really not new information. [laughs] What's going on with that?

Szalavitz: Well, I mean marketing's what's going on with that. [Dr Dave laughs] And what I mean and what I think's weird about that, so let me say what this situation is there. So first of all scientists have known that addiction is a learning problem from the get go. This is why virtually all addiction experiments on animals involve very basic Skinner boxes - pressing a lever to get a reward and life skewing things. It's very basic behavioural stuff. And so this has been known in the research world forever. It's just not emphasized to the public. To the public all we hear from science is disease, disease, disease, disease, disease. They don't hear about what's actually going on in the brain in terms of, they might hear like nucleus accumbens or something. They might hear hijacked. But the reality is more complicated. The reality is that you can't be addicted if you don't learn that the drug fixes some sort of problem for you. And this is why it drives me crazy when people say babies can be born addicted to something. A baby can't be born addicted to something because it doesn't know what to crave. It doesn't know it's craving heroin as opposed to craving Mommy. And so it cannot go out and use a drug despite negative consequences because a baby can't go out and get drunk by itself .[laughs] So it is a very, again this is the problem of confusing physical dependence and addiction. But, oh now I've lost where I'm going with that .

Dr. Dave: Well I'm not sure where you going either. [both laugh] And, and our time is about up here, I think. So I wonder there, as we wind down, if there's anything else you'd like to add.

Szalavitz: No, I mean, I think the important thing in understanding addiction is that because addiction is learning in the areas of the brain that generally teach you to love and to parent and to teach you to do all, all your persistence to take care of the people you love - when we're trying to help people recover from addiction, love is crucial. Love, social support, affection, friendship. These things help people get better. Which is not how people get better is shame, humiliation, punishment, attacks - these things actually make people worse. And when we understand what's going on in addiction, we can have a much more compassionate and actually much more effective way of dealing with it.

Dr. Dave: Well that's a great wrap up and I really admire the work that you are doing. And Maia Szalavitz I want to thank you for being my guest today on Shrink Rap Radio.

Szalavitz: And thank you so much for a fascinating conversation.