

Amir Levine, MD. On Marijuana and The Adolescent Brain.

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When I was 16, we had a math teacher we all loved. Who knew that math could be so interesting?

One day, someone put a whoopie cushion where she would sit. As she sat, someone set off a stink bomb.

She opened a window and said, "Go ahead. Laugh. Enjoy yourself while it lasts. You're 16. It's appropriate. So have fun."

I remember thinking, we're never going to change. I'm always going to be this way. But we do change. The brain undergoes huge changes at that time. In fact, there's a tremendous amount of pruning, a loss of neurons.

It's giving up small rows to build huge highways of information so it can become more efficient. All of a sudden we're able to do things we couldn't do before. With the right stimulation, the sky is the limit.

A lot of the molecules that are responsible for the formation of memory and learning we now know are responsible for the formation of addiction.

When adolescents are exposed to drugs of abuse earlier on, the higher the likelihood of addiction later on in life.

The amount of marijuana used today by adolescents is becoming worrisome.

You wonder, how can teenagers study and perform cognitive functions while being high on marijuana? The potency of marijuana is also increasing. The culture of how it's used is changing dramatically.

The problem is that marijuana can cause harm to the developing brain.

It's been linked to negative, long-term and possibly permanent consequences in adulthood. Our studies of adolescents who used marijuana early on show changes in the area of the brain that are responsible for memory formation, fear, emotion, and motivation.

Marijuana also causes a change in function.

It impairs the ability to reason, to think abstractly and solve problems — things we use throughout everyday life. It shows an increased risk for anxiety, depression, and psychosis. The rise of the use of marijuana in adolescents is a huge concern. It's a developing brain. It can lead to doing great things, or it can lead to addiction.