

68. Eventually, the practice has negative impact on himself and others, for example, spouse, children, relatives, friends, and others. Documentation of this is found in Dr. Daniel G. Amen's book, *Change Your Brain, Change Your Life*.
69. Here is a subchapter from his research demonstrating the impact marijuana use has on the brain.

INTRODUCTION: SEEING IS BELIEVING

I have seen with my own eyes the brain SPECT patterns that show abnormalities that interfere with behavior.¹ These brain abnormalities sabotage my patients' efforts to improve their lives and send interrupt signals to the changes they try to make. *I have seen how correcting (normalizing) abnormal brain function can change people's lives, even their very own souls.* Person after person who had previously been a treatment failure began to improve through prescriptions targeted at optimizing the brain's physical functioning. This was such a simple concept: *When your brain works right, so can you. When your brain doesn't work right, neither can you.* The implication was profound: Various parts of the brain influence our behavior. Using SPECT studies, I was more effective at pinpointing trouble spots and providing more appropriate interventions. (p. 7)

BRAIN POLLUTION

THE IMPACT OF DRUGS AND ALCOHOL ON THE BRAIN: MARIJUANA

Marijuana use is common among Americans. It is estimated that 67.4 million Americans have tried marijuana, 19.2 million in the past year and 9.7 million in the past month. Many teenagers and young adults believe that marijuana is safe, despite a number of studies demonstrating cognitive, emotional, and social impairment with chronic or heavy usage.

Marijuana has also been described as a "gateway" drug by several researchers, with one study reporting that 98 percent of cocaine users started with marijuana. Despite these studies, there is controversy both in the mind of the general population and in the medical community about whether marijuana use is harmful. Legalizing marijuana has been a social/political topic for decades.² (p. 236)

¹ "Nuclear medicine brain study called 'single photon emission computed tomography,' which measures cerebral blood flow and metabolic activity patterns."

² In November 2014, 23 states and the District of Columbia had legalized the sale of "medical" marijuana including four who have also legalized the sale of "recreational" marijuana: **Alaska**, Arizona, California, **Colorado**, Connecticut, Delaware, District of Columbia, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, **Oregon**, Rhode Island, Vermont, and **Washington**. Source: <http://www.governing.com/gov-data/safety-justice/state-marijuana-laws-map-medical-recreational.html>.

Boldface indicates states that have legalized both medical and recreational marijuana.

I am truly amazed by the nonchalant attitude our country has toward marijuana usage. Even my state of California passed a law in 1996 legalizing marijuana as medicine. I think many people misunderstood Proposition 215, feeling that by voting for it they were allowing people dying from cancer to have marijuana to soothe their pain and increase their appetites. What they got was a law that basically says a doctor can write a prescription for marijuana for anything including anxiety, stress, moodiness, or irritability. The biggest problem with the law, as I see it, is that the perception of marijuana's dangerousness has gone way down. Teenagers tell me that it's medicine, not a problem. Drug abuse expert Mark Gold, M.D., put it succinctly: "As the perception of a drug's dangerousness goes down, its use goes up." (pp. 236-37)

SPECT has been used to study both the short-term and long-term effects of marijuana on the brain. These studies report that inexperienced marijuana smokers had an acute decrease in cerebral blood flow and that chronic marijuana users has over all decreased perfusion when compared to nonusing control group.

In performing many SPECT studies on marijuana abusers I noticed decreased temporal lobe activity that was not mentioned in the above studies, most likely because of the lesser sensitivity of the SPECT resolution in older scans. I wondered if our newer findings were the cause of the memory and motivation problems often associated with marijuana usage. I decided to study the effects of marijuana on the brain, comparing patients who had ADD and chronic marijuana usage with people who had ADD with no drug usage. I did this for three reasons: First, the functional brain-imaging studies of ADD have not shown temporal lobe abnormalities. Utilizing a control group with the same diagnosis rather than a general psychiatric control group eliminates the possibility of contaminated findings. Even a normal control group adds an uncertainty because so many marijuana users have additional diagnoses.

Second, I felt that comparing them to a population with the same, common diagnosis would give useful information. Finally, 52 percent of people with ADD have been reported to have problems with substance abuse, a high number of them with marijuana abuse. (p. 237)

I compared the scans of thirty teenage and adult marijuana smokers (who had used it for a minimum of one year at least on a weekly basis) who had been diagnosed with ADD, with ten control group subjects also diagnosed with ADD, matched for age, sex, and handedness, who had never abused any drugs. In the marijuana/ADD group, by clinical history, marijuana was the primary drug of choice and no other drugs of abuse had been used in the prior year; again by history, there was no significant alcohol use by these patients (significant alcohol use in this study meant more than three ounces of hard liquor or six beers a week). The interval between the most recent marijuana use and the SPECT scan was one to six months, by clinical history. Anyone who met the diagnostic criteria for alcohol or other substance abuse or dependence was eliminated from the study. Marijuana usage ranged from daily to weekly, and from one year to twenty-two years. All patients were medication-free at the time of the study, and participants reported being at least thirty days free from any marijuana usage. In addition, patients who were taking stimulant medication for ADD had been medication-free for at least one week. (pp. 237, 239)

The only abnormality seen in the ADD control group was decreased activity in the prefrontal cortex in eight of the ten subjects. A similar number of marijuana/ADD subjects had decreased prefrontal cortex activity but overall, this decreased activity in the prefrontal cortex was more severe. In addition, twenty-four marijuana/ADD subjects showed decreased activity in the temporal lobes; five were rated as severe, seven were rated as moderate, and twelve were rated as mild. The severe and moderate ratings were in the heaviest users, but not necessarily the longest users. One teenager who had been a daily user for two years showed some of the most profoundly poor temporal lobe perfusion among the group. Clinically, four patients had an amotivational syndrome (severe lack of interest, motivation, and energy). All four had decreased perfusion in their temporal lobes; three were rated as severe, one was rated as moderate.

This study was consistent with previous studies mentioned above demonstrating that frequent, long-term marijuana use has the potential to change the perfusion pattern of the brain. While prior studies showed global decreased brain activity, I found focal decreased activity in the temporal lobes. (This may be accounted for by the increased sophistication of the imaging camera used.)

Abnormal activity in the temporal lobes has been associated with problems in memory, learning, and motivation—common complaints of teenagers (or at least their parents) and adults who chronically abuse marijuana. Amotivational syndrome, marked by apathy, poor attention span, lethargy, social withdrawal, and loss of interest in achievement have been attributed to marijuana abuse for many years. One teenage male in the study, who had used daily for two years, had one of the most severe cases of temporal lobe underactivity. He had symptoms consistent with amotivational syndrome and had dropped out of school in the eleventh grade.³ (p. 239)

70. The Gordian knot these 23 states have created will be especially hard to untie when the casual use of marijuana pays its dread dividends in the years to come.
71. Those dividends will be for society to bear, but the long-term ramifications will be by believers who will disable themselves from acquiring doctrine or inhibiting what they know.
72. The sad condition that remains is that users threaten their advance toward “newness of life”: **καινότης ζωή (kainótēs zōē)**.

Principles on “We May Walk in Newness of Life”

- (1) Newness of life is the grace environment provided through the baptism of the Holy Spirit for blessings granted from the justice of God to the mature believer.
- (2) Newness of life provides blessings that are better than Adam enjoyed in the garden before the fall.
- (3) Newness of life is freedom from the policy and plan of Lucifer as the ruler of this world.⁴
- (4) Newness of life is freedom from the sovereignty of the sin nature as the ruler of life.
- (5) Walking in newness of life is the motivational virtue of the mature believer.
- (6) Newness of life is a descriptive term for the blessings, security, and grace environment of the new believer.
- (7) Both Abraham and David were mature believers; Abraham when he became involved with Hagar and David also when he became involved with Bathsheba.

³ Daniel G. Amen, “Marijuana,” in *Change Your Brain, Change Your Life* (New York: Three Rivers Press, 1998), 7, 36–39.

⁴ See Matthew 4:9; Luke 4:6; John 4:12; 14:30; 16:11; 2 Corinthians 4:4; Ephesians 2:2; 1 John 5:19; Revelation 13:2.

- (8) Both had wealth, success, and prosperity. After they overcame their period of reversionism, they both still had their blessings.
- (9) Each man did not lose what the justice of God imputed through the grace pipeline.
- (10) Yes, they were disciplined, but as mature believers, they did not lose their escrow blessings.
- (11) Everyone fails including mature believers, but when escrow blessings in time are conveyed they cannot be revoked.
- (12) God is not an Indian giver.⁵ Whatever God supplies in grace is secure. Abraham and David were disciplined, but what God had provided remained sacrosanct.
- (13) In addition, Solomon was also a mature believer when he ascended the throne of Israel and then descended into reversionism.
- (14) Ecclesiastes is Solomon's autobiography revealing all of his diversions followed by his divine discipline.
- (15) Yet he did not lose his throne, his material blessings, or his wealth. All that came down the grace pipeline was still their through his decline and his recovery.
- (16) The grace pipeline is the source of salvation blessings. They are imputed at the believer's salvation adjustment to the justice of God.
- (17) These blessing are protected by the integrity of God by encapsulation, so we have security with these blessings.

⁵“One who takes or demands back one's gift to another. This term, now considered offensive, originally alluded to the Native American practice of expecting a gift in return for one that is given” (Christine Ammer, *The American Heritage Dictionary of Idioms* [New York: Houghton Mifflin Co., 1997], 323).