

MARIJUANA

**PERSONALITY
& BEHAVIOR**



A D.I.N. PUBLICATION BY SARA MACINTOSH

MARIJUANA & THE MIND

Marijuana has been on people's minds for a long time—almost as long as it's been in people's minds. Consider:

💡 More than 4,700 years ago, a Chinese emperor labelled pot the great “Liberator of Sin,” but found it useful in treating everything from “female weakness... [to] absent-mindedness.”

💡 A thousand years ago, a Middle-Eastern cult that specialized in political murder was paid in a form of the drug called hashish. Their name, *hashishiyya*, still echoes in the English word “assassin.”

💡 In 19th Century France, a group of artists and poets hailed marijuana as a fantastic source of imagery

and ideas. They celebrated their muse in writings and art, and at monthly gatherings that formed the basis of the book, *The Club of the Hashishins*.

But if marijuana made a good-sized splash in centuries past, it was nothing at all like the tidal wave of interest it's kicked up lately. Today, marijuana is the most widely-used illicit drug in the United States—and in

most of the rest of the world.

In fact, according to a national study released in 1994, almost 70 million Americans have tried marijuana, and 5.1 million are regular users.

That's the reason we've put together this pamphlet.

Because in recent years, marijuana has been poked and prodded, scrutinized and analyzed more than probably any other drug in history.

What *that's* meant is a much more complete—and realistic—picture of the full range of pot's effects.

We hope you'll stay with us to consider some of the more important ones. Because marijuana *is* a complex drug, and it can cause a lot of subtle (and not-so-subtle) changes in the way we think and feel.

And those changes are certainly worth thinking about if you're thinking about marijuana.



Small world. Close-up view of the THC-producing structures in marijuana.

Understanding all the ways that pot affects personality is like getting toothpaste back into a tube: tricky, at best.



■ How does marijuana affect the mind?

In a lot of ways. But fully understanding all the ways it affects personality is like getting toothpaste back into a tube: tricky, at best.

One reason pot is so hard to pin down is that it causes so many different changes at once. In fact, researchers now think of the marijuana high as a *group* of overlapping effects—physical and psychological—involving various reactions in different body systems.

Still, what all the systems are reacting to is a chemical called *tetrahydrocannabinol*, or THC. It's the main psychoactive ingredient in marijuana, which means it's the chemical that triggers most of the perceptual and behavioral effects of pot.

Our understanding of how marijuana works is still pretty sketchy, but it expanded by leaps and bounds in 1992 when receptor sites for THC were discovered in the brain, apparently designed to accommodate internal body chemicals much like THC.

Still, that doesn't mean that THC is the *only* chemical that swings into action when pot does its stuff.

That's because marijuana isn't a single molecule at all (like alcohol, say, or cocaine), but some 421 *different* chemical compounds—61 of which, known as *cannabinoids*, exist nowhere else in nature.

What THC and other cannabinoids do is temporarily tilt the balance of chemicals in the brain involved in thought, feeling, and memory.

Most effects—from changes in mood and perception to feelings of relaxation and euphoria—usually peak within an hour and disappear altogether in 2-4 hours. Other effects may last longer.

■ What other effects are there?

All kinds of effects. But the most important revolve around several key systems:

☞ **Coordination.** Even low doses can slow responses, making some tasks difficult, and others—driving, for example—potentially dangerous.

☞ **Perception.** Pot subtly alters sensory perception. Effects can include feelings of heightened sensitivity and a distorted sense of the passage of time.

☞ **Mental Changes.** Marijuana can impair judgment and reasoning skills, particularly those involved in counting and the ability to follow complex instructions. It can also cause short-term memory loss.

■ Does that mean pot smokers develop amnesia or something?

Not in the sense of forgetting their own name—although they might have a problem with yours, if you were just introduced.

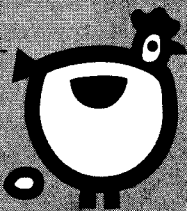
MARIJUANA & MOTIVATION

Of all the charges leveled against marijuana over the years, the one that's stuck longest—and has been most difficult to prove—is its supposed link to "amotivational syndrome."

Symptoms of amotivation—which include confusion, declining performance, and difficulty in finishing tasks—are common enough among heavy smokers.

For now, though, marijuana and amotivation remains a chicken-and-egg question. Still unknown (and perhaps unknowable) is whether pot *causes* amotivation, or whether disaffected people smoke pot as a *symptom* of their alienation.

Similarly, changes that are sometimes blamed on pot use by young people—including changes in appearance and an increased desire for privacy—are often only "symptoms" of growing up. ☒



That's because pot apparently *loves* to tinker with short-term memory. Even occasional use can cause problems, although it's more noticeable in heavy users.

Memory impairment shows up often in tasks requiring sustained concentration, but it turns up elsewhere, too. Communication is even affected: speech slows, phrases get shorter, and users can forget what they're talking about—even in the middle of a...

And even though performance and memory problems usually disappear as drug effects fade, long-term learning problems still haven't been ruled out.

■ Are there other long-term risks?

Maybe. Because not all of pot's effects necessarily disappear when the high subsides. Subtle changes may continue.

In fact, one recent study showed that pilots' flying skills were still impaired 24 hours after smoking, even though the pilots themselves felt they were completely back to normal.

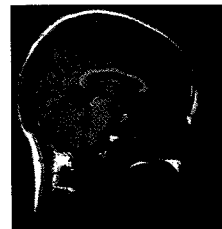
Since THC breakdown products, or *metabolites*, can linger in the body for days or weeks after use, this could be risky—particularly for those involved in hazardous activities or occupations.

■ I've heard that pot's stronger now. Is it?

That's hard to say, because it depends a lot on whom you ask and whom you believe.

Government officials (especially those most likely to benefit from bigger budgets and more firepower in the "War on Drugs") have consistently claimed over the past dozen years that pot potency is up—as much as ten times above levels of the 1960's and early '70s.

Critics dismiss such claims as hype rather than hard science. As evidence, they cite figures collected by the U.S. government's own analysis of 20,000 samples of confiscated pot tested over the past 20 years by the Potency Monitoring Project at the University of Mississippi.



Mystery keys. THC triggers its effects by switching on built-in receptors in the brain.



Even though performance and memory problems usually disappear as drug effects fade, long-term learning problems still haven't been ruled out.

They show little evidence of surging marijuana potency—except in the popular imagination.

In fact, their tests reveal average pot potency in the United States to be relatively flat over the entire 20-year period, averaging 2.9 percent THC.

■ Any psychological problems linked to pot?

There *are* a few, and they're usually tied to the panic and disorientation which can flow from the cognitive and perceptual distortions that pot generates.

The most common psychological complaint linked to marijuana is anxiety, which can build to feelings of panic and extreme discomfort. Pot panic reactions are often triggered by stress or fatigue, and can strike inex-

perienced users hardest of all.

Pot-related panic typically lasts from a few minutes to a few hours, but usually isn't serious—or life-threatening. In fact, it usually requires little more than time to run its course, and a little reassurance and TLC (*not to be confused with THC*) from friends or helpers.

Longer-term problems are more complicated—and less-easily dismissed. Particularly unsettling is a 1990 Swedish study which suggested a link between pot use and schizophrenia.

Specifically, researchers found that people who'd smoked pot 10 or more times were 2.3 times as likely to develop the disease as nonusers, while those smoking at least 50 times were 2.9 times as likely. Cause and effect? Not necessarily, but it *is* worth thinking about—and it's certainly worth additional study.

SMOKE SIGNALS: CLEARING THE AIR

In most ways, marijuana ranks pretty low on the drug-problem totem pole. One reason: Pot's low level of toxicity. People don't overdose or lose their lives from smoking pot—at least not so anyone notices all at once.

Still, that doesn't mean people don't have problems with pot; they do. But unlike many other drugs, symptoms of marijuana-related trouble may take a while to become evident. And even when they *do* appear, pot problems can look more like good things that *didn't* happen in our lives than bad things that did.

How do you keep problems from happening to you? Here are a couple of tips:

✎ **Don't smoke pot.** That's the *easiest* way to avoid the issue. There's never been a documented case of anything *really bad* happening to someone suffering from acute (or even chronic) marijuana deficiency.

✎ **If you smoke a lot, cut down.** People who smoke a lot are more likely to suffer serious problems than occasional smokers.

And if *not* smoking for a day or two makes you feel tense, tired, anxious, or depressed, you might want to reconsider how much of your life you're devoting to the garden of grass inside your mind.

Chances are you'll want to cultivate some new habits. Or weed out some old ones. ■



Hidden costs. Good things you don't happen can cost pot users as much as bad things that do.

POT SHOTS

Throughout history, perhaps no other drug has attracted more heat or inspired more heated rhetoric than marijuana. That's as true today as it's ever been.

And while we still haven't mastered all the mysteries of marijuana, we're a lot closer to understanding it than we've ever been before.

We know it's a complex drug that triggers complicated changes in the body and brain. We know it can cause a range of reactions—from pleasure and panic to possible longer-lasting changes—depending on dose and frequency of use.

And we know that pot poses potentially serious risks to some—particularly young people, pregnant women, and those with underlying emotional problems.

And while we still don't know as much as we'd like about the effects of occasional use, we *do* know that people who smoke a lot of pot tend to have a lot of problems.

Don't be one of them.

Because problems—whether from pot or not—can be easier to prevent than they are to predict. ☼

This is one in a series of publications on substance abuse and health topics published by Do It Now Foundation. Please write or call for a complete list of available titles.

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