

2024

Dazed & Confused . . . and . . . Psychotic?

Judy A. Clausen

University of Florida, Levin College of Law

Joanmarie I. Davoli

Barry University, Dwayne O. Andreas School of Law

Benjamin W. Lacy MD

Flagler Psychiatric Associates

Follow this and additional works at: <https://scholarlycommons.law.case.edu/healthmatrix>

Recommended Citation

Judy A. Clausen, Joanmarie I. Davoli, and Benjamin W. Lacy MD, *Dazed & Confused . . . and . . . Psychotic?*, 34 Health Matrix 1 (2024)

Available at: <https://scholarlycommons.law.case.edu/healthmatrix/vol34/iss1/5>

This Article is brought to you for free and open access by the Student Journals at Case Western Reserve University School of Law Scholarly Commons. It has been accepted for inclusion in Health Matrix: The Journal of Law-Medicine by an authorized administrator of Case Western Reserve University School of Law Scholarly Commons.

DAZED & CONFUSED . . . AND . . . PSYCHOTIC?

*By Judy A. Clausen,[†] Joanmarie I. Davoli,^{††} and Benjamin
W. Lacy MD^{†††}*

CONTENTS

I.	INTRODUCTION	2
II.	MARIJUANA & THE DEVELOPING BRAIN	6
	A. Medical Data	8
	1. Cannabis, Hemp, Marijuana, CBD, THC, & the Endocannabinoid System	9
	2. The Impact of THC on the Developing Brain	13
	3. Cannabis Use Disorder	17
	4. Marijuana Use and Serious Mental Illness	18
	5. Marijuana Use, Depression, and Youth Suicide	22
	6. The Impact of Legalization and Commercialization of Cannabis	25
	B. The 2018 Farm Bill & Tetrahydrocannabinol (THC)	30
	C. Medicinal Uses of CBD & THC	42
III.	LEGALIZATION OR COMMERCIALIZATION?	45
	A. Wall Street, Not Woodstock.....	45
	B. The Business Model.....	47
	C. Lobbying the Government.....	48
	D. Big Alcohol, Big Pharma, and Big Tobacco	50
	E. The Bribes.....	53
	F. Regulation Vacuum.....	57
	G. Media & Marketing Collusion.....	58
IV.	HALT THE GREEN RUSH.....	66
	A. American Anomaly.....	67
	1. The United Kingdom:	67
	2. Australia:.....	69
	3. Sweden:	73
	B. Solutions.....	75

[†] Legal Skills Professor and Supervising Attorney for the Veterans and Servicemembers Legal Clinic, University of Florida, Levin College of Law, B.A. Georgetown University, 1992; J.D., University of Florida, 1995. The author would like to thank Christina Dalton.

^{††} Associate Professor of Law, Barry University, Dwayne O. Andreas School of Law. B.A., University of Virginia, 1985; J.D., Georgetown University Law Center, 1988. The author would like to thank Christina Dalton.

^{†††} Clinical psychiatrist, Flagler Psychiatric Associates. B.S University of North Florida, 1997; M.D. Uniformed Services University of Health Sciences, 2002. ABPN diplomate, child and adolescent psychiatry 2008. ABPM diplomate, Addiction Medicine 2020.

V. CONCLUSION 79

I. INTRODUCTION

It's the dirty little secret of the marijuana industry that these high-potency products can trigger psychosis in youth. There's a campaign of confusion. They want to cast doubt on any study that comes out that hints that THC in the developing brain can actually cause mental illness and schizophrenia-like psychosis with delusional thinking.¹

There should be a media earthquake. Medical evidence is shaking loose the baseless claims of one of the most lucrative addictive products in today's market. Despite studies indicating heavy Cannabis use may cause up to nearly one-third of schizophrenia cases in young men,² the media belittles, ignores, and obfuscates the truth: scientific evidence shows that today's marijuana products are damaging the mental health of America's youth.

In 2023, new medical studies undermined the pro-marijuana movement's claims of harmless, risk-free fun. Although marijuana is a product marketed as benign³ and naturally beneficial,⁴ studies reveal that it can induce lifelong psychiatric disorders in some users.⁵ A

-
1. Jeremy Moore, *Mother Is 'Desperate' to Warn Others About the Harms of THC Concentrates*, ROCKY MOUNTAIN PBS (Mar. 28, 2022), <https://www.rmpbs.org/blogs/rocky-mountain-pbs/mother-is-desperate-to-warn-others-about-the-harms-of-thc-concentrates/> [<https://perma.cc/F89N-8H52>].
 2. *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, NAT'L INSTS. OF HEALTH (May 4, 2023), <https://www.nih.gov/news-events/news-releases/young-men-highest-risk-schizophrenia-linked-Cannabis-use-disorder> [<https://perma.cc/4QVV-H4EV>].
 3. *Recreational Cannabis Use by Teens Linked to Risk of Depression, Suicidality*, COLUMBIA UNIV. DEP'T OF PSYCHIATRY (May 5, 2023), <https://www.columbiapsychiatry.org/news/recreational-Cannabis-use-among-u-s-adolescents-poses-risk-adverse-mental-health-and-life-outcomes> [<https://perma.cc/C5ZY-28CD>] (“‘Perceptions exist among youth, parents, and educators that casual Cannabis use is benign,’ said lead study author Ryan Sultan, MD, assistant professor of clinical psychiatry, Department of Psychiatry, Columbia, and a pediatric and adult psychiatrist, New York-Presbyterian/Columbia University Irving Medical Center.”).
 4. Timmen L. Cermak, *How Cannabis Makes Everything So Interesting*, PSYCH. TODAY (June 1, 2020), <https://www.psychologytoday.com/us/blog/healing-addiction/202006/how-Cannabis-makes-everything-so-interesting> [<https://perma.cc/8RCA-8SR6>].
 5. *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, *supra* note 2 (highlighting the need for proactive screening, prevention, and treatment of Cannabis use disorder especially among young people).

product promoted as a fun,⁶ good-for-you, zero-risk mood enhancer⁷ can cause depression and suicidal ideation.⁸ A product marketed as all-natural⁹ can cause psychosis and schizophrenia and may change brain anatomy and connectivity.¹⁰ A product marketed as risk-free,¹¹ sometimes results in accidental fatalities and increased suicidality in

-
6. Netflix Is A Joke, 420 Minutes of Weed Jokes, YouTube (Apr. 20, 2022), <https://www.youtube.com/watch?v=MLSY5thvpQ4> (gaining over 3.4 million views as of July 29, 2023) (“Enjoy 420 minutes of weed jokes . . . err, actually, we mean 11 minutes. These Mary Jane stories from Dave Chappelle, Tom Segura, Eric Andre, Bert Kreischer, and Jack Whitehall will automatically give you a contact high.”); *see also* Shelby Heinrich, *People Are Sharing the ‘Highest’ Things They’ve Ever Done, and I’m Sorry But Some of These Are Hysterical*, BUZZFEED (June 10, 2021), <https://www.buzzfeed.com/shelbyheinrich/too-high-flipped> [<https://perma.cc/756G-YK6W>].
 7. *THC Gummies: 5 THC Edibles for Stress, Pain Relief, and Sleep*, BOSTON MAG., <https://www.bostonmagazine.com/sponsor-content/best-thc-gummies-weed-edibles-for-a-smooth-high/> [<https://perma.cc/TSL2-5Q7M>] (promoting THC gummies as a zero-risk mood enhancer).
 8. *Recreational Cannabis Use by Teens Linked to Risk of Depression, Suicidality*, *supra* note 3; *see also* Ryan S. Sultan et al., *Nondisordered Cannabis Use Among U.S. Adolescents*, 6 JAMA NETWORK OPEN 1, 1–2 (2023).
 9. *THC Gummies: 5 THC Edibles for Stress, Pain Relief, and Sleep*, *supra* note 7 (“If you are going with the lower 5mg THC dose, you can expect benefits that range from relaxation and stress relief to improved mood and focus . . . Should you choose the higher 10mg dose, you can expect a stronger, more euphoric experience that won’t be overpowering. In either case, the bioavailable ingredients and all-natural berry flavor make these weed gummies a smart choice for anyone wanting the therapeutic effects of [C]annabis without any unnecessary filler ingredients.”).
 10. Sultan et al., *supra* note 8, at 9; *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, *supra* note 2.
 11. Lisa Marshall, *‘Gateway Drug’ No More: Study Shows Legalizing Recreational Cannabis Does Not Increase Substance Abuse*, UNIV. OF COLO. (Jan. 24, 2023), <https://www.colorado.edu/today/2023/01/24/gateway-drug-no-more-study-shows-legalizing-recreational-cannabis-does-not-increase> [<https://perma.cc/YR43-9USH>] (“Legalizing recreational Cannabis at the state level does not increase substance use disorders or use of other illicit drugs among adults and, in fact, may reduce alcohol-related problems, according to new CU Boulder research. The study of more than 4,000 twins from Colorado and Minnesota also found no link between Cannabis legalization and increases in cognitive, psychological, social, relationship, or financial problems. ‘We really didn’t find any support for a lot of the harms people worry about with legalization,’ said lead author Stephanie Zellers, who began the research as a graduate student at CU Boulder’s Institute for Behavioral Genetics (IBG). ‘From a public health perspective, these results are reassuring.’”).

youths.¹² Despite spurious claims of marijuana’s harmlessness from the Cannabis industry,¹³ social media influencers,¹⁴ celebrities,¹⁵ mainstream media,¹⁶ and the neighborhood pot shop,¹⁷ medical science indicates that

-
12. *See Cannabis Use May Be Associated with Suicidality in Young Adults*, NAT’L INSTS. OF HEALTH (June 22, 2021), <https://www.nih.gov/news-events/news-releases/Cannabis-use-may-be-associated-suicidality-young-adults> [<https://perma.cc/W2KD-7PN7>]; *see also* Camille Fine, *Virginia Mom Charged in Death of 4-Year-Old Son Who Consumed Large Amount of THC Gummies*, USA TODAY (Oct. 24, 2022, 5:43 PM), <https://www.usatoday.com/story/news/nation/2022/10/24/virginia-mom-charged-son-thc-gummy-death/10589456002/> [<https://perma.cc/KU3F-DU3W>] (discussing toxicology results indicated that the cause of death of the four-year-old child was delta-8-tetrahydrocannabinol toxicity).
 13. *Pot Industry’s Lies Exposed in New Report From Smart Approaches to Marijuana*, PR NEWswire (Apr. 20, 2023, 8:40 AM), <https://www.prnewswire.com/news-releases/pot-industrys-lies-exposed-in-new-report-from-smart-approaches-to-marijuana-301802637.html> [<https://perma.cc/DC66-5MLJ>] (discussing how the marijuana industry has made wild claims, such as marijuana products being nonaddictive or that marijuana could help communities of color, to spin a dangerous product into something good).
 14. *See Rachel Abela, How Is Social Media Influencing Cannabis Normalization?*, HERB (May 25, 2022), <https://herb.co/learn/how-is-social-media-influencing-Cannabis-normalization> [<https://perma.cc/7R98-4X4H>] (discussing how the work of social media influencers and content creators has decreased the negative stigma surrounding marijuana and contributed to its normalization and role in everyday life); *see also* Jim Dryden, *Pro-Marijuana ‘Tweets’ are Sky-High on Twitter*, SOURCE (Jan. 15, 2015), <https://source.wustl.edu/2015/01/promarijuana-tweets-are-skyhigh-on-twitter/> [<https://perma.cc/C2BH-5CBP>]; *see also* Cara Murez, *Weed-Friendly Posts on Social Media Get Teens Using Cannabis*, U.S. NEWS (Feb. 3, 2023), <https://www.usnews.com/news/health-news/articles/2023-02-03/weed-friendly-posts-on-social-media-get-teens-using-Cannabis> [<https://perma.cc/KAC4-JBWZ>].
 15. *E.g., Samantha Nelson, Tommy Chong Talks About New Statewide Cannabis Delivery Service*, COAST NEWS (Feb. 1, 2022), <https://thecoastnews.com/tommy-chong-talks-about-new-statewide-Cannabis-delivery-service/> [<https://perma.cc/AV3H-XTQU>] (quoting Tommy Chong stating, “We’ve got to get away from the myth that [Cannabis] is somehow dangerous. It’s been proven to be so harmless and so effective as a medicine, yet when you tell these things to some people it’s just so hard for them to believe.”).
 16. *See generally* Ann Abraham et al., *Media Content Analysis of Marijuana’s Health Effects in News Coverage*, 33 J. GEN. INTERNAL MED. 1438, 1439 (2018) (discussing how the media’s slanted coverage on the impact of marijuana use may lead the public to underestimate health risks associated with frequent Cannabis use and how major news outlets tend to present marijuana in a more positive light than is warranted by current evidence).
 17. *See, e.g.,* Mariana Ramos, *Sweet Flower: Your Friendly Neighborhood Dispensary*, LA DOWNTOWNER (Nov. 28, 2020), <https://www.ladown>

heavy marijuana use harms developing brains.¹⁸

As of summer 2023, twenty-four states, two territories, and the District of Columbia have legalized recreational use of marijuana.¹⁹ Thirty-eight states have passed medical Cannabis laws, nine states allow the use of “low THC, high cannabidiol (CBD)” products for medical reasons in limited situations, and, in a handful of states, marijuana remains illegal.²⁰ While laws vary from state to state, there is a clear trend toward expanded access to legal marijuana across the United States.²¹ The federal government continues to consider marijuana a Schedule 1 drug²² while simultaneously allowing an open market for products derived from hemp.²³ The public misunderstands the distinctions between Cannabis products, which products cause psychoactive effects, and the extent to which these effects may be beneficial or hazardous.²⁴

towner.com/articles/2020/11/28/sweet-flower-your-friendly-neighborhood-dispensary [https://perma.cc/JD37-UENN].

18. *Brain Health*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/marijuana/health-effects/brain-health.html> [https://perma.cc/4ZXG-X5A3]; SUBSTANCE ABUSE AND MENTAL HEALTH SERV. ADMIN., PREVENTING MARIJUANA USE AMONG YOUTH 8 (2021) [hereinafter *SAMHSA Report*].
19. *State Medical Cannabis Laws*, NAT’L CONF. OF STATE LEGISLATURES (June 22, 2023), <https://www.ncsl.org/health/state-medical-Cannabis-laws> [https://perma.cc/37B3-CE77].
20. *Id.*
21. *Id.* See also Allen Smith, *2023 Trends: Legalization of Recreational Marijuana and Therapeutic Psychedelics*, SHRM (Dec. 16, 2022), <https://www.shrm.org/resourcesandtools/legal-and-compliance/employment-law/pages/legalization-of-recreational-marijuana-and-therapeutic-psychedelics.aspx> [https://perma.cc/RL5F-ZFAY].
22. *Drug Scheduling*, DEA, <https://www.dea.gov/drug-information/drug-scheduling> [https://perma.cc/GA83-QFXN].
23. See Press Release, *Statement from FDA Commissioner Scott Gottlieb, M.D., on Signing of the Agriculture Improvement Act and the Agency’s Regulation of Products Containing Cannabis and Cannabis-Derived Compounds*, FOOD & DRUG ADMIN. (Dec. 20, 2018), <https://www.fda.gov/news-events/press-announcements/statement-fda-commissioner-scott-gottlieb-md-signing-agriculture-improvement-act-and-agencys> [https://perma.cc/XJ2A-L922] (discussing how the Act removed hemp from the Controlled Substances Act meaning that it is no longer an illegal substance under federal law).
24. See generally Sarah D. Pennypacker et al., *Potency and Therapeutic THC and CBD Ratios: U.S. Cannabis Markets Overshoot*, 13 FRONTIERS PHARMACOLOGY 1, 3 (2022); see also Allison Eatough, *5 Cannabis Myths That Should Go Up in Smoke*, MARYLANDTODAY (June 28, 2023), <https://today.umd.edu/5-Cannabis-myths-that-should-go-up-in-smoke> [https://perma.cc/A89S-DU6Z].

This Article examines marijuana’s impact on developing brains. Secondly, this Article explores the Green Rush – the rise of the multibillion-dollar marijuana industry and the media and legal environment that unleashed massive marijuana commercialization. The Article compares decriminalization with commercialization, illustrating that it is possible to address social justice concerns of arrests, incarceration, and criminal records for marijuana use without unleashing a multibillion-dollar industry that markets to youth. The Article concludes by exploring approaches from Australia, the United Kingdom, and Sweden, all of which continue to criminalize marijuana, in part because they have observed the U.S. Green Rush and its adverse impact on the mental health of American youth.

II. MARIJUANA & THE DEVELOPING BRAIN

“Mom, I just want you to know you were right. You told me marijuana would hurt my brain. Marijuana has ruined my mind and my life.”²⁵

Johnny Stack was born on February 7, 2000, and died by suicide on November 20, 2019 at the age of [nineteen] . . . [Before becoming addicted to marijuana] [h]e had a happy life, a 4.0 GPA with a scholarship to college, and a family who loved him very much. Unfortunately, [his family] lives in Colorado, which was the first state to legalize marijuana in 2014, when Johnny was [fourteen] years old . . .

Johnny used marijuana for years, starting at age [fourteen] at a high school party, and then he started dabbing as an older teen . . . Continued use of dabs and vapes made him so paranoid, he wrote in his journal the mob was after him, the university was an FBI base, and the whole world knew everything about him. He wasn’t depressed, neglected, drugged, or unloved. He was psychotic, paranoid, and delusional, and he jumped from a 6-story building in his pain. He refused the anti-psychotic drugs that he now needed, because he thought he wasn’t sick (common to schizophrenia).²⁶

Young Americans like Johnny Stack are exposed to marijuana at earlier ages, with higher potency, longer duration, and more frequency than previous generations.²⁷ As a result, the rates of Cannabis use

25. LAURA STACK, THE DANGEROUS TRUTH ABOUT TODAY’S MARIJUANA: JOHNNY STACK’S LIFE AND DEATH STORY 177 (2021).

26. *Id.* at 291–92.

27. SAMHSA Report, *supra* note 18, at 1–3.

disorder and addiction from a young age are noticeably rising.²⁸ Newer formulations of marijuana are legally obtained at age eighteen, and may be stockpiled, diverted, or sold to other youth. The industry manufactures, markets, and sells to the public marijuana gummies, brownies, candies, and vapes that appeal to youth and are difficult for parents and law enforcement to detect.²⁹ Repeated intoxication with marijuana impairs social, occupational, and academic development during an important phase of brain development.³⁰ Ultimately, marijuana may promote the development of psychotic disorders and other forms of severe mental illness in certain youth even when there is no known family history of mental illness.³¹

Contrary to public misconceptions, for well over a century, cultures familiar with marijuana identified marijuana as a cause of mental illness.³² The marijuana legalization movement largely ignored and sometimes mocked this long-held historic perception that marijuana caused mental illness.³³ The stereotype of the teenage pothead, typified by the character of stoner Jeff Spicoli from the movie *Fast Times at Ridgemoat High*,³⁴ and celebrated in the 1993 film *Dazed and*

-
28. Magdalena Cerdá et al., *Association Between Recreational Marijuana Legalization in the United States and Changes in Marijuana Use and Cannabis Use Disorder From 2008 to 2016*, 77 JAMA PSYCHIATRY 165, 166, 168 (2019).
 29. See Lisa Damour, *How to Talk to Teens About Edibles*, N.Y. TIMES (Oct. 19, 2021), <https://www.nytimes.com/2021/10/19/well/family/weed-edibles-teens.html> [<https://perma.cc/4CHJ-NKPK>] (discussing how teens are attracted to edibles because they seem harmless and offer a stealthy high); see also Donna M. Rolando, *Teens Hide Drugs in Plain Sight, Hawthorne Parents Told*, NORTH JERSEY (Feb. 3, 2017, 3:29 PM), <https://www.northjersey.com/story/news/passaic/hawthorne/2017/02/03/teens-hide-drugs-plain-sight-warn-police/97393840/> [<https://perma.cc/KY7C-6ZYY>].
 30. Sultan et al., *supra* note 8, at 9.
 31. See *id.*
 32. See Olivia B. Waxman, *The Surprising Link Between U.S. Marijuana Law and the History of Immigration*, TIME (Apr. 20, 2019, 1:30 PM), <https://time.com/5572691/420-marijuana-mexican-immigration/> [<https://perma.cc/3FEZ-ZNSL>] (discussing how Cannabis had a negative reputation in Mexico tracing back to the 19th century due to how the culture associated the drug with madness and psychosis).
 33. Elizabeth Stuyt, *The Problem with the Current High Potency THC Marijuana from the Perspective of an Addiction Psychiatrist*, 115 MO. MED. 482, 482 (2018) (“Advocates for the legalization of medical and retail marijuana are quick to point out all the possible benefits that a community might see from such a venture. These include increased jobs, increased tax revenue, possible medical benefits and they advertise it as ‘safe’ and ‘healthy’ and ‘organic.’”).
 34. See Alan Siegel, *The High Life of Jeff Spicoli*, RINGER (Aug. 26, 2020, 6:10 AM), <https://www.theringer.com/movies/2020/8/26/21401383/spicoli-fast-times-ridgemoat-high-teen-movie> [<https://perma.cc/5XT6->

Confused,³⁵ shaped the public’s perception of teenage marijuana use. Such movies portray marijuana as a relatively harmless party drug. These Hollywood stoner icons obfuscate the overwhelming and steadily growing science linking teenage and young adult heavy marijuana use with serious mental illness and psychosis.³⁶

A. Medical Data

While protecting developing brains should inspire state governments to outlaw or at least heavily regulate marijuana, most states have adopted libertarian attitudes.³⁷ But supporters of a libertarian approach to marijuana too often wrongfully rely on anecdotal experiences that lead to the dangerous misconception that marijuana is relatively harmless.³⁸ For example, they may think “I tried

8E2N] (describing how the character Jeff Spicoli from ‘Fast Times at Ridgemoor High’ as pop culture’s quintessential stoner who smoked three bowls of marijuana after waking up each morning and never went to school on Fridays). Jeff Spicoli was depicted as a “preternaturally chill” dude who was always late, spaced out, and suffering from the “in-class munchies.” Noel Murray & Tim Grierson, *The Movie Stoner Hall of Fame: From Cheech and Chong to Dude, the Pantheon of Screen Potheads*, ROLLING STONE AUSTRALIA (Apr. 20, 2021, 10:01 AM), <https://au.rollingstone.com/movies/movie-lists/movie-stoners-cheech-chong-lebowski-9782/jeff-spicoli-fast-times-at-ridgemoor-high-1982-9788/> [https://perma.cc/U56R-AG4P].

35. Aaron Linksey, *The Social Currency of Smoking Pot in ‘Dazed & Confused’*, FILM DAZE (Apr. 28, 2021), <https://filmdaze.net/the-social-currency-of-smoking-pot-in-dazed-confused/> [https://perma.cc/ZTF8-DAHF] (discussing how the movie depicted pot smoking as a symbol of coolness and popularity, a form of recreation for jocks and burnouts alike).
36. See SAMHSA Report, *supra* note 18, at 1. See also Julie Wernau, *More Teens Who Use Marijuana Are Suffering From Psychosis*, WALL ST. J. (Jan. 10, 2024, 9:00 PM), <https://www.msn.com/en-us/health/other/more-teens-who-use-marijuana-are-suffering-from-psychosis/ar-AA1mMsxF> [https://perma.cc/HJ74-KE2L] (reporting that more potent Cannabis and more frequent use are contributing to an uptick in psychosis, especially among young people).
37. *E.g.*, German Lopez, *9 Questions About Marijuana Legalization You Were Too Embarrassed to Ask*, VOX (Aug. 30, 2019, 8:30 AM), <https://www.vox.com/policy-and-politics/2019/8/30/20826835/marijuana-legalization-medical-decriminalization-federal-vote> [https://perma.cc/B44Z-87JM] (discussing how despite the lack of medical evidence of marijuana’s ability to remedy health conditions beyond chronic pain, chemo-induced nausea and vomiting, and multiple sclerosis spasticity symptoms, states have allowed medical marijuana for many other conditions effectively creating medical Cannabis laws so lax that they amount to full legalization).
38. *Id.* (noting that states have largely relied on anecdotal evidence for determining the qualifying conditions for medical marijuana licenses).

it, it didn't hurt me, so there's nothing wrong with it."³⁹ Such claims are naive. First, anyone relying on experiences from the 1970s or 1980s is misinformed about the nature of marijuana today.⁴⁰ Second, scientific studies link heavy marijuana use with serious mental illnesses such as schizophrenia and bipolar disorder.⁴¹ When choosing an approach to marijuana regulation, the public and lawmakers should seriously consider marijuana's negative impacts on the developing brain.

1. Cannabis, Hemp, Marijuana, CBD, THC, & the Endocannabinoid System

The lay public, lawmakers, and even medical clinicians are too often confused concerning marijuana's different chemical components and their impact, the nature of marijuana products available to the public, and marijuana's mechanisms of action or the ways in which marijuana affects the brain.⁴² Marijuana terminology is confusing, and the medical information is dense.⁴³ Both hemp and marijuana are varieties of the same plant species called *Cannabis sativa*.⁴⁴ The distinction between

-
39. "I used it, I'm fine, what's the big deal?" Consider the tragic reflections of Johnny's mother, whose marijuana addiction led to suicide. "'But I had no idea,' she added, referring to how marijuana has changed in recent years. 'So many parents like me are completely ignorant.'" Christina Caron, *Psychosis, Addiction, Chronic Vomiting: As Weed Becomes More Potent, Teens Are Getting Sick*, N.Y. TIMES (June 22, 2023), <https://www.nytimes.com/2022/06/23/well/mind/teens-thc-cannabis.html> [<https://perma.cc/Z73T-ZBL3>].
40. "The researchers found that the increases in THC were particularly high for Cannabis resin, with THC concentrations rising by 24% between 1975 and 2017." *Cannabis Strength Soars Over Past Half Century*, SCI. DAILY (Nov. 16, 2020), <https://www.sciencedaily.com/releases/2020/11/201116092241.htm> [<https://perma.cc/YB6E-WHZL>].
41. Oskar Hougaard Jensen et al., *Cannabis Use Disorder and Subsequent Risk of Psychotic and Nonpsychotic Risk of Psychotic and Nonpsychotic Unipolar Depression and Bipolar Disorder*, 80 JAMA PSYCHIATRY 803, 803 (2023).
42. See generally SAMHSA Report, *supra* note 18, at 32 (discussing how a recent report found that 69% of U.S. consumers failed to understand the difference between THC and CBD, their physiological impacts, or their mechanisms of action).
43. See generally Paul Demko & Mona Zhang, *Everything You Wanted to Know About Cannabis*, POLITICO (Oct. 14, 2019, 5:00 AM), <https://www.politico.com/interactives/2019/Cannabis-glossary-thc-cbd-questions/> [<https://perma.cc/M463-MBE5>] (noting that many people are confused about Cannabis and the different terminology); Keith Roach, *Cannabis Terminology Can Lead to Confusion*, SUN J. (Nov. 5, 2021), <https://www.sunjournal.com/2021/11/05/Cannabis-terminology-can-lead-to-confusion/> [<https://perma.cc/WXT6-FUSD>].
44. Trey Malone & Brandon McFadden, *CBD, Marijuana and Hemp: What Is the Difference Among These Cannabis Products, and Which Are*

hemp and marijuana is more a legal construct than a scientific reality.⁴⁵ Legally, “hemp” is any part of the *Cannabis sativa* plant, “including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent on a dry weight basis.”⁴⁶ “Marijuana” refers to the dried flowers, leaves, stems, and seeds of the *Cannabis* plant which contain greater concentrations of the psychoactive compound Tetrahydrocannabinol (THC).⁴⁷ Hemp was historically cultivated as a source of hemp fiber for rope, textiles, and other industrial materials.⁴⁸ More recently, hemp extracts have been used in a wide range of products such as food, beverages, nutritional supplements, and personal care products.⁴⁹ As explained more thoroughly in Parts IIA6 and IIB of the Article, the U.S. marijuana industry is rapidly creating novel high-THC products attractive to youth in a largely unregulated environment with inadequate information concerning the efficacy, health, or safety of such products.⁵⁰ Marijuana is typically used for medicinal or recreational psychotropic effects.⁵¹ Marijuana acts on the body through compounds

-
- Legal?*, MSUTODAY (Apr. 6, 2021), <https://msutoday.msu.edu/news/2021/cbd-marijuana-and-hemp> [<https://perma.cc/L5MM-WD8G>].
45. *See NIST Study Will Help Labs Distinguish Between Hemp and Marijuana*, NAT’L INST. OF STANDARDS & TECH. (Jan. 14, 2021), <https://www.nist.gov/news-events/news/2021/01/nist-study-will-help-labs-distinguish-between-hemp-and-marijuana> [<https://perma.cc/8JFH-ALVF>] (noting that while hemp and marijuana both come from the *Cannabis* plant, they are legally distinct substances as a result of their different THC levels).
46. 7 U.S.C. § 1639o(1).
47. *What We Know About Marijuana*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/marijuana/what-we-know.html> [<https://perma.cc/79K3-QSF8>].
48. Nanda Nandan Mahapatra, *Extraction, Processing, Properties, and Use of Hemp Fiber*, TEXTILE TODAY (May 28, 2018, 12:01 PM), <https://www.textiletoday.com.bd/extraction-processing-properties-and-use-of-hemp-fiber> [<https://perma.cc/Z9CV-E3MC>].
49. Gregorio Crini et al., *Applications of Hemp in Textiles, Paper Industry, Insulation, Building Materials, Horticulture, Animal Nutrition, Food and Beverages, Nutraceuticals, Cosmetics and Hygiene, Medicine, Agrochemistry, Energy Production and Environment: A Review*, 18 ENV’T L CHEMISTRY LETTERS 1451 (2020).
50. *See* David Hilzenrath, *Legal Pot: More Potent Than Ever, Largely Unregulated*, U.S. NEWS (May 9, 2023, 10:50 AM), <https://www.usnews.com/news/best-states/articles/2023-05-09/legal-pot-is-more-potent-than-ever-but-largely-unregulated> [<https://perma.cc/YGX3-6FD7>].
51. *What is Marijuana?*, NAT’L INST. ON DRUG ABUSE (July 2020), <https://nida.nih.gov/publications/research-reports/marijuana/what-marijuana> [<https://perma.cc/6JQS-H8L4>].

known as cannabinoids which act on cannabinoid receptors within the endocannabinoid system (ECS) in the body and produce a range of physiological effects on learning and memory, emotional processing, sleep, temperature control, pain control, inflammatory and immune responses, and eating.⁵² The ECS is akin to other well-known neurotransmitter response systems such as the sympathetic nervous system responsible for the fight or flight response or the opioid system responsible for pain response.⁵³ Cannabinoids such as THC act on the body's cannabinoid receptors (CB1 and CB2) mimicking the body's own natural or endogenous cannabinoids called endocannabinoids.⁵⁴ Scientists have identified two key endocannabinoids that keep internal functions running appropriately by producing them as needed in varying amounts to achieve a stable internal environment (homeostasis).⁵⁵ When users consume exogenous cannabinoids such as THC, the body undergoes homeostatic self-regulating changes such as downregulation of CB receptors or reduced production of endogenous cannabinoids to reach equilibrium once again.⁵⁶ THC interacts powerfully with both types of cannabinoid receptors leading to downregulation of the brain's CB1 receptors, and over twenty-four hours are required to return the receptors back to their normal level.⁵⁷ Daily users never have time to fully return to normal levels of receptor functioning which leads to greater overall dysfunction in the ECS.⁵⁸ There are over one hundred known cannabinoids with action on cannabinoid receptors.⁵⁹ THC is the most well-known and usually refers to the delta-9 tetrahydrocannabinol analog of THC, the main

-
52. Crystal Raypole, *A Simple Guide to the Endocannabinoid System*, HEALTHLINE (May 17, 2019), <https://www.healthline.com/health/endocannabinoid-system> [<https://perma.cc/8ENX-4J35>].
53. See Peter Grinspoon, *The Endocannabinoid System: Essential and Mysterious*, HARV. HEALTH PUBL'G (Aug. 11, 2021), <https://www.health.harvard.edu/blog/the-endocannabinoid-system-essential-and-mysterious-202108112569> [<https://perma.cc/VJ7C-TTF9>].
54. Raypole, *supra* note 52.
55. *Id.*
56. Timmen L. Cermak, *5 Signs of Using Cannabis Too Frequently: How to Know When THC Is Chronically Reducing Natural Cannabinoid Receptors*, PSYCH. TODAY (June 10, 2020), <https://www.psychologytoday.com/us/blog/healing-addiction/202006/5-signs-using-Cannabis-too-frequently> [<https://perma.cc/7R4U-RBG6>].
57. *Id.*
58. *Id.*
59. Elena Schmidt, *THCP and CBDP, Newly Discovered, Extremely Potent Cannabinoids*, ACS LAB'Y (June 29, 2020), <https://www.acslab.com/blog/cannabinoids/thcp-and-cbdp-newly-discovered-extremely-potent-cannabinoids> [<https://perma.cc/C3DK-XPMS>].

psychoactive compound in marijuana.⁶⁰ Cannabidiol (CBD) is another popular cannabinoid, found in most pharmacies or grocery stores, which has minimal psychoactive properties.⁶¹ As explained more fully in Part IIB of this Article, the marijuana industry sells to the public products containing numerous other cannabinoids, several of which are psychoactive including delta-8 THC.⁶² The marijuana industry is also placing several recently discovered THC analogs in products that are increasingly popular with the public.⁶³ For example, (THCP), discovered in 2019, appears to have more potency at cannabinoid receptors than traditional THC.⁶⁴ The U.S. is currently blossoming with novel THC products, consumed in a largely unregulated environment without the benefit of knowing efficacy or health and safety data.⁶⁵ The only THC medications formally approved by the U.S. Food and Drug Agency (FDA) with health and safety data are dronabinol and nabilone which treat nausea in cancer patients undergoing chemotherapy or treat appetite loss in AIDS patients who do not feel like eating (wasting syndrome).⁶⁶

Cannabidiol (CBD) is a non-intoxicating oil usually extracted from hemp and used in numerous products such as alternative medicines, cosmetics, and lotions or ointments.⁶⁷ There is one prescription drug made from purified CBD called Epidiolex, which is approved by the FDA for the treatment of rare seizure disorders.⁶⁸ Pure CBD products are not substantially psychoactive or impairing and do not cause a “high.”⁶⁹ CBD has not been substantially linked to negative mental health outcomes.⁷⁰ However, the Center for Disease Control (CDC)

60. *Id.*

61. *Id.*

62. *See id.*; Jessica S. Kruger & Daniel J. Kruger, *Delta-8-THC: Delta-9-THC's Nicer Younger Sibling?*, 4 J. CANNABIS RSCH. 1, 1–2 (2022).

63. Kruger & Kruger, *supra* note 62, at 1–2.

64. Schmidt, *supra* note 59.

65. Kruger & Kruger, *supra* note 62, at 2.

66. *Cannabis (Marijuana) and Cannabinoids: What You Need to Know*, NAT'L CTR. FOR COMPLEMENTARY & INTEGRATIVE HEALTH, <https://www.nccih.nih.gov/health/Cannabis-marijuana-and-cannabinoids-what-you-need-to-know> [<https://perma.cc/VD6C-WMDC>].

67. *See CBD: What You Need to Know*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/marijuana/featured-topics/CBD.html> [<https://perma.cc/8UDE-TA4P>]; *see also* Leslie Young, *What You Need to Know About CBD, the Non-Intoxicating Cannabis Chemical*, GLOBAL NEWS (Dec. 1, 2018, 8:00 AM), <https://globalnews.ca/news/4714775/cbd-health-effects/> [<https://perma.cc/F57T-WU9U>].

68. *CBD: What You Need to Know*, *supra* note 67.

69. *Id.*

70. *Id.*

warns that the FDA does not regulate over-the-counter CBD products and that products labeled as hemp or CBD may contain other ingredients, such as THC, pesticides, heavy metals, bacteria, or fungi as discussed in Part IIB of this Article.⁷¹

In September 2021, the CDC issued a warning that while “THC” typically refers to delta-9 THC derived from marijuana, legal CBD products can be synthetically converted into delta-8 THC, as well as delta-9 THC and other THC isomers, with a solvent, acid, and heat.⁷² This synthetic process produces higher concentrations of delta-8 THC than is found naturally in the Cannabis plant.⁷³ Delta-8 THC is a psychoactive compound gaining in popularity that when derived from hemp falls under a legal loophole detailed in Part IIB.⁷⁴

2. The Impact of THC on the Developing Brain

Juveniles become legal adults when they turn eighteen years old for almost all purposes, including criminal liability, medical privacy, and voting rights.⁷⁵ Although eighteen-year-olds are legal adults for most purposes, they cannot purchase alcohol until they are twenty-one years old.⁷⁶ Despite reaching the age of majority, the eighteen-year-old brain is not fully developed.⁷⁷ Researchers note, “. . . the rental car companies have it right.’ The brain isn’t fully mature at [sixteen years old], when we are allowed to drive, or at [eighteen], when we are allowed

71. *Id.*

72. Press Release, *Increases in Availability of Cannabis Products Containing Delta-8 THC and Reported Cases of Adverse Events*, CTRES. FOR DISEASE CONTROL & PREVENTION (Sept. 14, 2021, 10:00 AM), https://emergency.cdc.gov/han/2021/pdf/CDC_HAN__451.pdf [<https://perma.cc/HN88-6ER7>].

73. Thomas Kiselak et al., *Synthetic Route Sourcing of Illicit at Home Cannabidiol (CBD) Isomerization to Psychoactive Cannabinoids Using Ion-Mobility-Coupled-LC-MS/MS*, 308 FORENSIC SCI. INT’L 1, 1 (2020).

74. *Increases in Availability of Cannabis Products Containing Delta-8 THC and Reported Cases of Adverse Events*, *supra* note 72.

75. *See Legal Age*, CORNELL L. SCH.: LEGAL INFO. INST., https://www.law.cornell.edu/wex/legal_age [<https://perma.cc/U5XU-KKNG>] (discussing how almost all states set the base legal age at which an individual gains the legal status of an adult as eighteen years old and that once this age is reached, the individual gains the control, rights, responsibilities, and consequences that accompany a legal status as an adult).

76. *Alcohol & Public Health: Age 21 Minimum Legal Drinking Age*, CTRES. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/alcohol/fact-sheets/minimum-legal-drinking-age.htm> [<https://perma.cc/2YFF-UM8G>] (discussing how the legal age at which an individual may purchase alcohol is 21 years old in the U.S.).

77. A. Rae Simpson, *Brain Changes*, MIT YOUNG ADULT DEV. PROJECT (2018), <https://hr.mit.edu/static/worklife/youngadult/brain.html> [<https://perma.cc/7NKG-79BM>].

to vote, or at [twenty-one] when we are allowed to drink, but closer to [twenty-five] when we are allowed to rent a car.”⁷⁸ The rental car companies protect the integrity of their fleet by restricting use to those whose brains have matured.⁷⁹

Brain development begins in utero and is not complete until a person turns twenty-five to thirty.⁸⁰ The developing brain appears to be especially susceptible to the negative effects of THC and marijuana.⁸¹ Thus, the U.S. Surgeon General warned expectant mothers to avoid using Cannabis: “Marijuana use during pregnancy can affect the developing fetus. THC can enter the fetal brain from the mother’s bloodstream. It may disrupt the endocannabinoid system, which is important for a healthy pregnancy and fetal brain development.”⁸² Thus, fetal exposure to THC can cause brain damage in-utero.⁸³ Given that THC can remain in breast milk six days after the last recorded maternal use, maternal marijuana use may continue to damage the nursing baby’s brain development and cause hyperactivity, poor cognitive function, and other long-term adverse health outcomes.⁸⁴

Brain development continues throughout childhood and adolescence.⁸⁵ Frequent Cannabis use obstructs brain development directly and indirectly by impeding daily functioning and academic progress.⁸⁶ “Cannabis use is associated with deficits in cognitive and executive functioning, including processing speed, sustained attention, working memory, judgment and planning, problem-solving, decision-making, and self-regulation.”⁸⁷ Studies link adolescent Cannabis use to poor academic performance.⁸⁸ Longitudinal studies revealed adolescent

78. *Id.*

79. *Id.*

80. *See* Stuyt, *supra* note 33, at 483–84, 486.

81. *U.S. Surgeon General’s Advisory: Marijuana Use and the Developing Brain*, U.S. DEP’T OF HEALTH & HUM. SERVS. (Aug. 29, 2019), <https://www.hhs.gov/surgeongeneral/reports-and-publications/addiction-and-substance-misuse/advisory-on-marijuana-use-and-developing-brain/index.html> [<https://perma.cc/6GH8-A9YZ>].

82. *Id.*

83. *Id.*

84. Alexa Lardieri, *Study: THC Remains in Breast Milk Six Days After Consumption*, U.S. NEWS (Aug. 27, 2018, 11:05 AM), <https://www.usnews.com/news/health-care-news/articles/2018-08-27/study-thc-remains-in-breast-milk-six-days-after-consumption> [<https://perma.cc/3W4L-ENKT>].

85. *See* Stuyt, *supra* note 33, at 483.

86. *See* Sultan et al., *supra* note 8, at 2.

87. *Id.*

88. *Id.* at 7–9.

Cannabis users were two to three-and-a-half times more likely to report low GPAs than peers who abstained from Cannabis.⁸⁹ One twenty-year study found that marijuana appears to negatively impact learning and attention and decreases the IQ of heavy users.⁹⁰ Restricting adolescent access to Cannabis is strongly associated with improved academic performance.⁹¹

Cannabis use may impair development of the prefrontal cortex which is active during adolescence as the brain prunes and solidifies synaptic connections.⁹² Heavy pruning occurs during a person's teenage years and continues into their mid-twenties.⁹³ Even small amounts of Cannabis alter teenage brain volume by increasing the brain's grey matter.⁹⁴ However, the teenage brain's grey matter should decrease during pruning, suggesting that THC disrupts appropriate pruning that should occur during adolescence.⁹⁵ THC enters the brain and appears to the brain like the body's natural endocannabinoids, acting on the endocannabinoid system exogenously and impairing homeostasis.⁹⁶ THC blocks the brain's receptors so that the brain reduces production of its own endocannabinoids through negative feedback.⁹⁷ By changing pruning, marijuana likely changes the brain's development, hijacking the brain's reward circuit so the brain learns to crave marijuana and replaces such rewards gained by prosocial childhood endeavors.⁹⁸

89. *Id.* at 8–9.

90. Stuyt, *supra* note 33, at 484 (“A study in New Zealand with a 20-year follow-up showed an average loss of 8 IQ points with early persistent teen use of marijuana. If you already have a high IQ, a drop in 8 points may mean the difference between making As and making Bs, however, for the person with an average IQ of 100 (50th percentile), a loss of 8 points can put that person in the 29th percentile with significant difficulty in functioning. A study out of Yale University tracked 1,142 students who achieved similar SAT scores and were enrolled in college. They found that those who used minimal alcohol or Cannabis had an average GPA of 3.1 at the end of the semester. Those who drank alcohol without using marijuana had an average GPA of 3.03 and those who used both alcohol and marijuana had an average GPA of 2.66.”). *Id.*

91. *See* Sultan et al., *supra* note 8, at 9.

92. STACK, *supra* note 25, at 243.

93. *Id.*

94. *Id.*

95. *Id.*

96. *Id.*

97. *Id.*

98. *Id.*

Specific mechanisms by which marijuana negatively impacts brain development remain poorly understood.⁹⁹ The National Institutes of Health currently funds a large cohort study across twenty-one research sites involving nearly 12,000 youths aged nine to ten years old who will be followed into young adulthood.¹⁰⁰ Such longitudinal research will provide more definitive insights into the impact of marijuana on the developing brain.¹⁰¹

States that have legalized marijuana typically allow medicinal access at age eighteen,¹⁰² and recreational access at age twenty-one.¹⁰³ However, allowing medicinal access at eighteen and recreational access at twenty-one ignores science showing marijuana is particularly dangerous to the developing brain, and the brain continues to develop through age twenty-five.¹⁰⁴ Laws allowing medicinal access at eighteen and recreational access at age twenty-one use the legal construct of age of majority rather than science concerning the age at which the brain fully matures.¹⁰⁵ Plus, teenagers have easy access to alcohol despite the minimum legal drinking age of twenty-one.¹⁰⁶ This is because once an

-
99. *Brain Health*, *supra* note 18 (noting that more research is needed to fully understand the mechanisms and long-term effects of marijuana on brain development).
100. *About the Study*, ADOLESCENCE BRAIN COGNITIVE DEVELOPMENT (ABCD) STUDY, <https://abcdstudy.org/about/> [<https://perma.cc/6QV2-SD5W>].
101. *See id.*
102. *E.g.*, FLA. STAT. § 381.986(8)(e)(16)(e) (2023); OKLA. STAT. tit. 63, § 420v3(L) (2020); Haw. Rev. Stat. §329-122 (2022).
103. *E.g.*, CAL. HEALTH & SAFETY CODE § 11362.1 (West 2017).
104. *See Marijuana and Public Health: Teens*, CTRS. FOR DISEASE CONTROL & PREVENTION (Sept. 8, 2021), <https://www.cdc.gov/marijuana/health-effects/teens.html> [<https://perma.cc/8FKP-2FMA>] (noting that the teen brain is actively developing and continues to do so until around age twenty-five).
105. *See generally id.*; Richard A. Friedman, *How Does Marijuana Affect the Adolescent Brain?* WASH. POST (Jan. 30, 2023, 6:00 AM), <https://www.washingtonpost.com/wellness/2023/01/30/marijuana-adolescent-brain-development/> [<https://perma.cc/6D59-9D3K>] (discussing how new research suggests that adolescent marijuana use can alter development of the cerebral cortex which does not fully develop until around age twenty-five); Randall Dwenger, *Cannabis and the Teenage Brain*, PSYCH. TODAY (July 21, 2023), <https://www.psychologytoday.com/us/blog/from-addiction-to-recovery/202307/Cannabis-and-the-teenage-brain> [<https://perma.cc/7VNP-5H5X>] (discussing how increases in availability, marketing efforts, and potency of marijuana poses a substantial risk to teenagers and young adults whose brains are not yet fully developed).
106. *E.g.*, *Get the Facts About Underage Drinking*, NAT'L INST. ON ALCOHOL ABUSE & ALCOHOLISM, <https://www.niaaa.nih.gov/publications/brochures-and-fact-sheets/underage-drinking> [<https://perma.cc/2TLH-AWYX>] (discussing how many youths and teenagers have easy access to alcohol despite the minimum legal drinking age of twenty-one years old).

addictive substance is commercially available, raising the minimum age for legal use of that substance does not prevent teenage access.¹⁰⁷

Johnny Stack's story highlights the dangers of allowing eighteen-year-olds access to medical marijuana.¹⁰⁸ Colorado law allowed eighteen-year-old Jonny to easily obtain his medicinal marijuana card from a physician.¹⁰⁹ The Colorado medicinal marijuana system made it simple for Johnny to obtain the medicinal marijuana card by claiming an easy to feign illness, such as anxiety or back pain, that he did not actually have.¹¹⁰ Plus, Colorado did not require the physician to examine Johnny, and the physician gave the card to Johnny without examining him.¹¹¹ Moreover, Colorado did not require notification of Johnny's parents, and Johnny obtained his medicinal marijuana card without his parents' knowledge.¹¹² Predictably, Johnny used his medicinal marijuana card to forum shop at local marijuana dispensaries to stockpile marijuana which he sold to younger teenagers.¹¹³

3. Cannabis Use Disorder

Marijuana users risk addiction and physical dependence, and that risk increases when marijuana use begins at a younger age.¹¹⁴ Experts estimate that approximately one in ten adults who use marijuana become addicted, and one in six people who start using marijuana before the age of eighteen become addicted.¹¹⁵ The American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM V) identifies Cannabis use disorder using similar criteria to other substance use disorders.¹¹⁶ There are eleven criteria for the disorder including psychological symptoms, problems in social or occupational functioning, and physical symptoms of dependence such as tolerance and withdrawal.¹¹⁷ Psychosocial symptoms of Cannabis use disorder include: (1) using marijuana more than intended or for a longer

107. *See id.*

108. STACK, *supra* note 25, at 291–92.

109. *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

113. *Id.*

114. *Know the Risks of Marijuana*, SUBSTANCE ABUSE & MENTAL HEALTH SERV. ADMIN (Feb. 27, 2023), <https://www.samhsa.gov/marijuana> [<https://perma.cc/24UB-4KKE>].

115. *Id.*

116. Dana G. Smith, *How Do You Know if You're Addicted to Weed?*, N.Y. TIMES (Apr. 10, 2023), <https://www.nytimes.com/2023/04/10/well/mind/weed-addiction.html> [<https://perma.cc/UBT2-MXGA>].

117. *Id.*

period of time than intended, (2) experiencing persistent desires to use marijuana, (3) being unable to curtail marijuana use, (4) experiencing cravings or urges to use marijuana, and (5) being incapable of meeting obligations of work, school, or home due to marijuana's effects.¹¹⁸ Approximately two-thirds of youth who present for Cannabis use treatment report criteria for physical dependence, including tolerance and withdrawal.¹¹⁹ Marijuana users meet the Cannabis use disorder criteria of "tolerance" when they need increasing amounts of marijuana to achieve the same high.¹²⁰ Marijuana users experience "withdrawal" when they cease using marijuana and experience symptoms such as anxiety, hot and cold flashes, insomnia, irritability, mild tremors, restlessness, abnormal dreams, or weight loss.¹²¹ Symptoms of withdrawal typically start within one day of abstinence, peak on days two to four, and last approximately two weeks.¹²²

Experts warn that marijuana commercialization will lead to an increased prevalence of Cannabis use disorder due to: (1) expanded access to marijuana, (2) the marijuana industry's production of high-THC products that are difficult to detect by adults and attractive to youth, and (3) marketing of marijuana products in social media, film, and TV lauding marijuana's alleged healthful effects while failing to mention its dangers.¹²³ Scientists predict that early onset users, such as people who begin using marijuana at around sixteen, have a 2.7-fold increased risk of developing a Cannabis use disorder.¹²⁴ Adolescent use also predicts a two to three-fold increased risk of using other substances.¹²⁵

4. Marijuana Use and Serious Mental Illness

A serious mental illness [SMI] is a mental, behavioral, or emotional disorder resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities.¹²⁶ Such illnesses include schizophrenia, bipolar disorder, depression, panic

118. *See id.*

119. Ryan Vandrey et al., *Cannabis Withdrawal in Adolescent Treatment Seekers*, 78 DRUG & ALCOHOL DEPENDENCE 205, 205 (2005).

120. *See* Smith, *supra* note 116.

121. Vandrey, *supra* note 119, at 205.

122. *Id.*

123. *See* discussion *infra* Section II.A.2; Murez, *supra* note 14.

124. Kristie Ladegard et al., *Marijuana Legalization and Youth*, 145 PEDIATRICS S165, S167 (2020).

125. *Id.*

126. *Mental Illness*, NAT'L INST. OF MENTAL HEALTH (Mar. 2023), <https://www.nimh.nih.gov/health/statistics/mental-illness.shtml> [<https://perma.cc/Y2PR-5QZP>].

disorder, and clinical depression with psychosis.¹²⁷ New studies supported by studies from the past decades link the development of serious mental illness with marijuana abuse.¹²⁸ For example, according to a May 2023 study released by the NIH, researchers found strong evidence of an association between Cannabis use disorder and schizophrenia among men and women, with the association being much stronger among young men.¹²⁹ Using statistical models, the study authors estimated that as many as 30% of cases of schizophrenia among men aged twenty-one to thirty might have been prevented by averting Cannabis use disorder.¹³⁰

Schizophrenia is a life-long, serious mental illness and one of the most debilitating mental health conditions.¹³¹ The condition can impede the sufferer's ability to complete education, remain employed, and maintain relationships.¹³² Individuals with schizophrenia suffer from psychotic, cognitive, and negative symptoms.¹³³ "Psychotic symptoms include changes in the way a person thinks, acts, and experiences the world. People with psychotic symptoms may lose a shared sense of reality with others and experience the world in a distorted way."¹³⁴ Psychotic symptoms include hallucinations, delusions, irrational thoughts, and disorganized or erratic behaviors.¹³⁵ "Cognitive symptoms include problems in attention, concentration, and memory. These symptoms can make it hard to follow a conversation, learn new things, or remember appointments."¹³⁶ Finally, some negative symptoms of

-
127. *See Living Well with Serious Mental Illness*, SUBSTANCE ABUSE & MENTAL HEALTH SERV. ADMIN. (Apr. 24, 2023), <https://www.samhsa.gov/serious-mental-illness> [https://perma.cc/JCB6-3FH4]; *Serious Mental Illness*, U.S. DEP'T OF VETERANS AFFS., https://www.va.gov/PREVENTS/docs/PRE013_FactSheets_SeriousMentalIllness_508.pdf [https://perma.cc/8CLQ-89A8].
128. *E.g.*, Carsten Hjorthøj et al., *Association Between Cannabis Use Disorder and Schizophrenia Stronger in Young Males Than in Females*, 53 PSYCHOLOGICAL MED. 7322 (2023).
129. *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, *supra* note 2.
130. *Id.* The NIH study highlights the need to proactively screen for, prevent, and treat Cannabis use disorder, especially among young people. *Id.*
131. *Schizophrenia*, NAT'L INST. OF MENTAL HEALTH (May 2023), <https://www.nimh.nih.gov/health/topics/schizophrenia> [https://perma.cc/2VX4-F4BD].
132. *Id.* ("The symptoms of schizophrenia can make it difficult to participate in usual, everyday activities, but effective treatments are available.")
133. *Id.*
134. *Id.*
135. *Id.*
136. *Id.*

schizophrenia include low energy, inability to complete tasks, and difficulty maintaining minimal self-care.¹³⁷ Schizophrenia can often result in lifelong disability and suffering.¹³⁸ The life expectancy of people diagnosed with schizophrenia is ten to twelve years lower than in the general population.¹³⁹ This mortality gap appears to be worsening.¹⁴⁰ Scientific researchers followed a group of individuals with schizophrenia for over twenty years to find that suicide was the leading cause of death among these individuals.¹⁴¹

The NIH study discussed previously demonstrates that one out of every three young men with schizophrenia could have prevented its onset by avoiding marijuana.¹⁴² Men are more likely to develop schizophrenia as a result of Cannabis use disorder¹⁴³ than

137. *Id.*

138. *See Schizophrenia*, SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN. (Apr. 24, 2023), <https://www.samhsa.gov/mental-health/schizophrenia> [<https://perma.cc/BB7J-6JGS>].

139. Marie Stefanie Kejser Starzer et al., *Predictors of Mortality Following a Schizophrenia Spectrum Diagnosis: Evidence From the 20-Year Follow-Up of the OPUS Randomized Controlled Trial*, 49 J. PSYCHOSES & RELATED DISORDERS 1256 (2023).

140. *Id.*

141. *Id.*

142. *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, *supra* note 2 (“For young men aged 21-30, [the study team] estimated that the proportion of preventable cases of schizophrenia related to Cannabis use disorder may be as high as 30%. The authors emphasize that Cannabis use disorder appears to be a major modifiable risk factor for schizophrenia at the population level, particularly among young men.”).

143. Cannabis use disorder refers to a person’s inability “to stop using marijuana even though it’s causing health and social problems in their lives.” *Addiction (Marijuana or Cannabis Use Disorder)*, CTRS. FOR DISEASE CONTROL & PREVENTION (Oct. 19, 2020), <https://www.cdc.gov/marijuana/health-effects/addiction.html> [<https://perma.cc/LD3S-JGEM>]. Proponents of legalizing marijuana for recreational use have historically and continue to claim that marijuana is not addictive, but scientific evidence shows the contrary. *See, e.g.*, Joseph Perrone, *The Junk ‘Science’ Behind the Marijuana Legalization Movement*, WASH. POST (Oct. 20, 2014, 6:00 AM), <https://www.washingtonpost.com/posteverything/wp/2014/10/20/the-junk-science-behind-the-marijuana-legalization-movement/> [<https://perma.cc/5B5E-NKHR>] (refuting marijuana activists’ claims that the substance is nonaddictive by discussing a scientific study that found that one in ten adults that regularly use marijuana become dependent upon the substance and one in six teenagers develop dependency problems). *See also* David Sheff, *Marijuana Should be Legal, But . . .*, TIME (Aug. 4, 2014, 2:41 PM), <https://time.com/3079707/marijuana-legalization-teens-health/> [<https://perma.cc/N2HN-J72K>] (discussing how some proponents of legalization argue that marijuana is harmless even though scientific evidence shows that marijuana is addictive and can have harmful consequences);

women.¹⁴⁴ “[T]his study finds strong evidence of an association between CUD and schizophrenia among both males and females, and the magnitude of this association appears to be consistently larger among males than females, especially among those aged [sixteen to twenty-five].”¹⁴⁵ This age distribution underscores the fact that the brain continues to develop after eighteen, the age when most medical marijuana becomes legally available in the United States.¹⁴⁶ Johnny Stack’s story is a real-life example underscoring the NIH findings. Johnny was a heavy marijuana user, first experimenting with marijuana at fourteen.¹⁴⁷ His heavy marijuana use contributed to the development of schizophrenia.¹⁴⁸ Ultimately, schizophrenia-induced hallucinations led Johnny to jump off a building, ending his life at age nineteen.¹⁴⁹

Cannabis use is also clearly linked to the diagnosis of bipolar disorder, and continued use appears to worsen the course of bipolar illness.¹⁵⁰ Marijuana use is associated with earlier onset of bipolar disorder.¹⁵¹ Several studies show that individuals diagnosed with bipolar disorder have comorbid Cannabis use disorder at much higher rates than individuals with other mental disorders or in the general

Christine Vestal, *Marijuana Addiction Is Real but Many Users Don’t Realize That*, WASH. POST (June 24, 2018, 7:00 AM), https://www.washingtonpost.com/national/health-science/marijuana-addiction-is-real-but-many-users-dont-realize-that/2018/06/22/4c2f557c-6e5f-11e8-bd50-b80389a4e569_story.html [https://perma.cc/4ZFG-PECN] (discussing the scientific and medical acknowledgment of the addictive nature of marijuana and how some people are unaware or refuse to believe that use of Cannabis can lead to physical dependency). The American Psychiatric Association added Cannabis use disorder to the Diagnostic and Statistical Manual of Mental Disorders (DSM) and the criteria laid out in DSM-5 recognize the potential addictive nature of marijuana. See Smith, *supra* note 116 (discussing how physical dependency on marijuana can be a sign of Cannabis use disorder).

144. *Young Men at Highest Risk of Schizophrenia Linked with Cannabis Use Disorder*, *supra* note 2.
145. Hjorthøj et al., *supra* note 128, at 7327.
146. See *Marijuana and Public Health: Teens*, *supra* note 104. See also *SAMHSA Report*, *supra* note 18, at 50, 54 (noting that eighteen is the minimum legal age requirement to obtain a medical marijuana license in Colorado and Florida).
147. STACK, *supra* note 25, at 280–81.
148. *Id.*
149. *Id.*
150. Susan A. Stoner, *Effects of Marijuana on Mental Health: Bipolar Disorder*, UNIV. WASH. ALCOHOL & DRUG ABUSE INST. (June 2017), <https://adai.uw.edu/pubs/pdf/2017mjbipolar.pdf> [https://perma.cc/F7HR-3M3X].
151. Nathalie Bally et al., *Cannabis Use and First Manic Episode*, 165 J. AFFECTIVE DISORDERS 103 (2014).

population.¹⁵² While some users believe that marijuana helps with bipolar symptoms, data does not support this view.¹⁵³ Instead, continued marijuana use is associated with prolonged or worsened manic episodes¹⁵⁴ and an increase in the rate of suicide attempts in people with bipolar disorder.¹⁵⁵ Marijuana use in persons with bipolar disorder was associated with poor compliance with treatment and with more-difficult-to-treat mood symptoms.¹⁵⁶ Another study found Cannabis users with bipolar disorder were less likely to reach long-term bipolar disorder remission after one year of mental health treatment than their counterparts with bipolar disorder who abstained from Cannabis.¹⁵⁷

5. Marijuana Use, Depression, and Youth Suicide

In 2021, researchers at the National Institute on Drug Abuse (NIDA) published data gathered from the National Surveys of Drug Use and Health (NSDUH) from 2008-2019 which showed that Cannabis use more than doubled from 22.6 million in 2008 to 45 million in 2019.¹⁵⁸ The number of daily marijuana users nearly tripled from 3.6 million to 9.8 million.¹⁵⁹ During this period, there was a parallel increase in the rates of depression and suicidality (ideation, plan, attempts or death).¹⁶⁰ The analysis of survey data included more than 280,000 young adults ages eighteen to thirty-four.¹⁶¹ Results showed that Cannabis users were

-
152. Shaul Lev-Ran et al., *Cannabis Use and Cannabis Use Disorder Among Individuals with Mental Illness*, 54 COMPREHENSIVE PSYCHIATRY 589, 592 (2013).
153. Gary Stix, *Many People with Bipolar Disorder Use Cannabis. It May Sometimes Help*, SCI. AM. (Nov. 29, 2022), <https://www.scientificamerican.com/article/people-with-bipolar-disorder-often-use-cannabis-it-may-sometimes-help> [<https://perma.cc/HWB5-DNEJ>]; Melanie Gibbs et al., *Cannabis Use and Mania Symptoms: A Systematic Review and Meta-Analysis*, 171 J. AFFECTIVE DISORDERS 39 (2014).
154. Gibbs et al., *supra* note 153, at 44.
155. Giuseppe Carrà et al., *Attempted Suicide in People with Co-Occurring Bipolar and Substance Use Disorders: Systematic Review and Meta-Analysis*, 167 J. AFFECTIVE DISORDERS 125 (2014).
156. Inge van Rossum et al., *Does Cannabis Use Affect Treatment Outcome in Bipolar Disorder? A Longitudinal Analysis*, 197 J. NERVOUS & MENTAL DISEASE 35, 39 (2009).
157. Sung-Wan Kim et al., *Impact of Cannabis Use on Long-Term Remission in Bipolar I and Schizoaffective Disorder*, 12 PSYCHIATRY INVESTIGATION 349, 350, 352 (2015).
158. *Cannabis Use May Be Associated with Suicidality in Young Adults*, *supra* note 12.
159. *Id.*
160. *Id.*
161. *Id.*

more likely to have suicidal ideation and to plan or attempt suicide than those who did not use the drug.¹⁶² The association between Cannabis use and suicidality remained regardless of whether the individual was also experiencing depression.¹⁶³ Among people without a major depressive episode, about 3% of those abstinent from Cannabis had suicidal ideation, compared with approximately 7% of nondaily Cannabis users, 9% of daily Cannabis users, and 14% of those with a Cannabis use disorder.¹⁶⁴ Among people with depression, 35% of people who did not use Cannabis had suicidal ideation, compared to 44% of those with nondaily Cannabis use, 53% of those who used Cannabis daily, and 50% of those who had a Cannabis use disorder.¹⁶⁵

Moreover, the data indicated that Cannabis use was associated with an increased risk of attempting suicide.¹⁶⁶ Rise in suicidality appeared greater for women Cannabis users than for their male counterparts.¹⁶⁷ A literature review and meta-analyses of Cannabis use and suicidality published in 2016 found heavy or chronic marijuana users were two to three times more likely to have suicidal ideation, suicide attempts, or death by suicide.¹⁶⁸ The study concluded, “evidence tends to support that chronic [C]annabis use can predict suicidality, but the lack of homogeneity in the measurement of [C]annabis exposure and, in some instances, the lack of systematic control for known risk factors tempered this finding.”¹⁶⁹

Biological twin studies provide insight into the cause-and-effect relationship between environmental exposure and disease by examining whether an association persists despite controlling for predisposing factors such as genetic risk and early family environment.¹⁷⁰ A 2020 Australian study, using a database of 7805 dizygotic (fraternal) and 6181 monozygotic (identical) twins, showed that among twins discordant for marijuana use, the twin who used marijuana more frequently was over two times more likely to develop major depressive disorder (MDD) and suicidal ideation during their lifetime.¹⁷¹ The study

162. *Id.*

163. *Id.*

164. *Id.*

165. *Id.*

166. *Id.*

167. *Id.*

168. Guilherme Borges et al., *A Literature Review and Meta-Analyses of Cannabis Use and Suicidality*, 195 J. AFFECTIVE DISORDERS 63, 69 (2016).

169. *Id.* at 73.

170. Arpana Agarwal et al., *Major Depressive Disorder, Suicidal Thoughts and Behaviors, and Cannabis Involvement in Discordant Twins: A Retrospective Cohort Study*, 4 LANCET PSYCHIATRY 706 (2017).

171. *Id.* at 707.

concluded that the increased likelihood of MDD and suicidal ideation in frequent Cannabis users could not be solely attributed to common predisposing factors.¹⁷² A possible mechanism for the increased risk is the endocannabinoid's critical role in modulating mood, especially in the context of stress.¹⁷³

Studies of twins are valuable because they enable researchers to compare genetically identical or nearly identical people who differ in their use of marijuana.¹⁷⁴ Twin studies remove factors other than marijuana use, such as poverty, lack of healthcare access, or genetic predisposition, as the cause of depression.¹⁷⁵

Additionally, casual marijuana use without Cannabis use disorder may still pose a risk.¹⁷⁶ “Perceptions exist among youth, parents, and educators that casual [C]annabis use is benign . . . We were surprised to see that [C]annabis use had such strong associations to adverse mental health and life outcomes for teens who did not meet the criteria for having a substance use condition.”¹⁷⁷ The research team for one Columbia University study did not expect to see such negative impacts on the casual user of Cannabis.¹⁷⁸ While the NIH schizophrenia evidence focused on heavy users, the Columbia University study found “teens who use [C]annabis recreationally are two to four times as likely to develop psychiatric disorders, such as depression and suicidality, than teens who don’t use [C]annabis at all.”¹⁷⁹ The research indicated that youth who use Cannabis, even infrequently, suffer greater negative psychosocial outcomes than youth who avoid Cannabis.¹⁸⁰ The study also found that young people with Cannabis use disorder experience more negative psychosocial outcomes than young people who infrequently use Cannabis.¹⁸¹ Thus, the more frequently a young person uses Cannabis, the more likely the young person will suffer negative psychosocial outcomes.¹⁸² For the developing brain, there may not be a “harmless” level of marijuana use.

172. *Id.*

173. *Id.* at 714.

174. *See id.*

175. *See generally id.*

176. *See Recreational Cannabis Use by Teens Linked to Risk of Depression, Suicidality, supra* note 3.

177. *Id.*

178. *Id.*

179. *Id.*

180. *Id.*

181. Sultan et al., *supra* note 8, at 6–8.

182. *Id.*

6. The Impact of Legalization and Commercialization of Cannabis

Marijuana legalization in the U.S. resulted in marijuana commercialization.¹⁸³ This commercialization unleashed a multibillion-dollar industry that markets high-THC products that appeal to American youth.¹⁸⁴ Marijuana commercialization has increased rates of marijuana use amongst American youth, expanded access to marijuana products, and paved the way for high-THC products that produce a high up to ninety times more intense than the high produced by the marijuana from the 1970s.¹⁸⁵ In 2019, 48.2 million, or 18% of Americans used marijuana at least once.¹⁸⁶ Marijuana is the most used illicit drug amongst teenagers and young adults.¹⁸⁷ Most adults report that their first time using marijuana was between the ages of twelve and eighteen.¹⁸⁸ Marijuana use in the young adult population has shown a steady increase since 2013.¹⁸⁹ In 2022, the National Institute on Drug Abuse reported that past-year, past-month, and daily marijuana use reached the highest levels ever recorded since these trends were first monitored in 1988.¹⁹⁰ The proportion of young adults who reported past-year marijuana use reached 43% in 2021, a significant increase from 34% five years ago (2016) and 29% 10 years ago (2011).¹⁹¹ Marijuana use in the past month was reported by 29% of young adults in 2021, compared to 21% in 2016 and 17% in 2011.¹⁹² Daily marijuana use also significantly increased during these time periods, reported by 11% of young adults in 2021, compared to 8% in 2016 and 6% in 2011.¹⁹³

183. See Rebecca L. Haffajee & Amanda Mauri, *Cannabis Liberalization in the U.S.: The Policy Landscape*, HEALTH AFFS. (July 1, 2021), <https://www.healthaffairs.org/doi/10.1377/hpb20210518.36548/> [<https://perma.cc/X9EZ-U8U7>].

184. SAMHSA Report, *supra* note 18, at 2

185. Hilzenrath, *supra* note 50.

186. *Data and Statistics*, CTRS. FOR DISEASE CONTROL & PREVENTION (June 8, 2021), <https://www.cdc.gov/marijuana/data-statistics.htm> [<https://perma.cc/N6JU-Q9W2>].

187. SAMHSA Report, *supra* note 18, at 1.

188. *Marijuana Addiction: Rates & Usage Statistics*, NAT'L CTR. FOR DRUG ABUSE STATS., <https://drugabusestatistics.org/marijuana-addiction/> [<https://perma.cc/5V4D-4EY2>].

189. See *Marijuana and Hallucinogen Use Among Young Adults Reached All Time-High in 2021*, NAT'L INST. ON DRUG ABUSE (Aug. 22, 2022), <https://nida.nih.gov/news-events/news-releases/2022/08/marijuana-and-hallucinogen-use-among-young-adults-reached-all-time-high-in-2021> [<https://perma.cc/T9LD-GB4H>].

190. *Id.*

191. *Id.*

192. *Id.*

193. *Id.*

The government estimates more than three million youth used marijuana in the past year and almost two million in the past month.¹⁹⁴ In 2023, 6.9% of 12th graders used marijuana daily, and 43.7% tried marijuana, while 35.2% consumed marijuana in the last year.¹⁹⁵ From 2016 to 2020, past month use increased 7% for 8th graders and 17% for 10th graders.¹⁹⁶ The Substance Abuse and Mental Health Services Administration (SAMHSA) stated, “significant evidence suggests early initiation is associated with some of the most serious harms.”¹⁹⁷

Additionally, the impact of legalization and commercialization of Cannabis has been to increase THC concentration in marijuana products.¹⁹⁸ In the 1960s to 1980s, marijuana was mostly a do-it-yourself endeavor.¹⁹⁹ Marijuana dealers and gangs profited, but they rarely sold a purified product.²⁰⁰ Instead, smokers needed to deseed the marijuana leaves they obtained from dealers, roll their own joints, put the buds into bongs, or find some other way to consume the plant.²⁰¹ The public’s acquiescence to marijuana legalization resulted, in part, from memories of low-intensity marijuana from the 70s and 80s:

Many people who have voted for legalization thought they were talking about the marijuana of the 1960s to 1980s when the THC content was less than 2%. However, without any clear guidelines or regulations from government officials, the Cannabis industry has taken a page from the tobacco and alcohol industries’ playbook and developed strains of marijuana and concentrated marijuana products with much higher concentrations of THC, the psychoactive component that causes addiction.²⁰²

Thus, decades ago, the dosage per consumption was low, and a user needed to smoke between five and ten joints to reach the 10 milligrams

194. *SAMHSA Report*, *supra* note 18, at 1.

195. *Drug Use Among Youth: Facts & Statistics*, NAT’L CTR. FOR DRUG ABUSE STATISTICS, <https://drugabusestatistics.org/teen-drug-use/> [<https://perma.cc/Z6CL-HF8J>].

196. *SAMHSA Report*, *supra* note 18, at 6.

197. *Id.* at 2.

198. *Id.* at 3.

199. *See generally How Today’s Cannabis Compares to Weed From the ‘70s*, FLOWER SHOP, <https://theflowershopusa.com/how-todays-Cannabis-compares-to-weed-from-the-70s> [<https://perma.cc/JLN2-HDQE>].

200. *See generally id.* (noting that marijuana during the 70s had zero consistency in terms of quality and potency).

201. *SAMHSA Report*, *supra* note 18, at 3.

202. Stuyt, *supra* note 33, at 482.

THC levels of today's enhanced beverages.²⁰³ But now the “THC content is not like it used to be. Prior to the 1990s, it was less than 2%. In the 1990s it grew to 4%, and between 1995 and 2015 there has been a 212% increase in THC content in the marijuana flower.”²⁰⁴ Whether a consumer buys a product from a dispensary or obtains online gummies produced from the hemp products resulting from 2018 Farm Bill discussed in the following section of this Article, the amount of THC can be intense:

There's ‘no known safe limit.’

It can be difficult to pinpoint exactly how much THC enters someone's brain when they're using Cannabis. That's because it's not just the frequency of use and THC concentration that affect dosage, it's also how fast the chemicals are delivered to the brain. In vaporizers, the speed of delivery can change depending on the base the THC is dissolved in, the strength of the device's battery, and how warm the product becomes when it's heated up. Higher doses of THC are more likely to produce anxiety, agitation, paranoia, and psychosis. ‘The younger you are, the more vulnerable your brain is to developing these problems,’ Dr. Levy said. Youths are also more likely to become addicted when they start using marijuana before eighteen, according to the Substance Abuse and Mental Health Services Administration (SAMHSA). Furthermore, there is growing evidence that Cannabis can alter the brain during adolescence, a period when it is already undergoing structural changes.²⁰⁵

The marijuana industry is “repackaging and spinning weed” into accessible, easy to hide from parents, easy to consume, tasty, and appealing to children forms of THC.²⁰⁶ Some examples include: cookies, sodas, wax, budder, dabs, shatter, lollipops, and chocolate bars, all with unprecedented levels of THC.²⁰⁷ The marijuana industry extracts from the marijuana plant and heats THC to create high-THC products that produce a high that is 50% to 99% times more powerful than the high produced from a Woodstock joint which had 2% to 3% THC potency.²⁰⁸ Budder, which is heated marijuana oil with high-THC, looks like peanut

203. See *Delta-9 Seltzers*, MIGHTY KIND BEVERAGES, <https://bemightykind.com/shop/delta-9-seltzers/> [https://perma.cc/CF7G-LRYB].

204. Stuyt, *supra* note 33, at 482.

205. Caron, *supra* note 39.

206. KEVIN A. SABET, SMOKESCREEN: WHAT THE MARIJUANA INDUSTRY DOESN'T WANT YOU TO KNOW 34 (2021).

207. *Id.*

208. *Id.*

butter on a stick.²⁰⁹ Smaller than a cough drop, it provides a fast and intense high.²¹⁰ Shatter is heated until it forms a thin sheet of pure THC, producing an intense high.²¹¹

Not only does the marijuana industry processing of the plant produce marijuana products with higher levels of THC, growers now cultivate marijuana plants to contain higher levels of THC.²¹² The percentage of THC in marijuana flowers increased from 3% in the early 90s to 14%, and some flowers have concentrations up to 30%.²¹³ Concentrates typically have THC concentrations between 40% to 90% or greater than 90%; the market moved toward higher THC products with no evaluation of safety.²¹⁴ Not only does the high-THC damage the brain, but the absence of CBD removes some protection against the psychoactive effects of THC.²¹⁵ The marijuana industry produces marijuana products with no or little CBD but with extremely high levels of THC.²¹⁶ This phenomenon underscores that the industry is meeting and increasing public demand to get high, not to use marijuana for medicinal purposes.²¹⁷ Increased THC concentration threatens public health because users, especially younger users, cannot discern how much THC they inhale or ingest.²¹⁸ Higher THC is linked with a greater risk of Cannabis use disorder and psychosis.²¹⁹ And state laws regulating these products typically use weight-based measures instead of potency-based measures.²²⁰ This allows purchasers to obtain a small amount of high-intensity marijuana with high psychoactive effects.²²¹

Since marijuana legalization, which was, in fact, commercialization, the marijuana industry designed and marketed marijuana products attractive to younger and younger users.²²² Marijuana use has evolved,

209. *Id.*

210. *Id.*

211. *Id.*

212. *SAMHSA Report, supra* note 18, at 3.

213. *Id.*

214. *Id.*

215. PETER GRINSPOON, *SEEING THROUGH THE SMOKE: A CANNABIS SPECIALIST UNTANGLES THE TRUTH ABOUT MARIJUANA* 310–11 (2023) (stating that while THC can promote psychosis, CBD can help mitigate these symptoms).

216. *Id.*

217. *See id.*

218. *SAMHSA Report, supra* note 18, at 3.

219. *Id.*

220. *Id.*

221. *Id.*

222. *Id.* at 3–5.

allowing youth (ages twelve to seventeen) and young adults options of products including edibles, marijuana-infused beverages, topical applications, and use of products for tobacco use but now for marijuana, including blunts, vaporizing devices, and e-cigarettes.²²³ Youth use marijuana in all these ways, especially edibles, and concentrates.²²⁴ In 2018, U.S. high school seniors who used marijuana in the previous year revealed that 89% smoked marijuana, 34% vaped marijuana, and 40% consumed marijuana in food items.²²⁵

Ingesting edibles increases health risks for America's youth because THC concentration varies between types of products and within batches of a single product.²²⁶ Additionally, there is a delay in the absorption of THC, and young people may not realize how impacted they have been and dangerously continue consuming.²²⁷ Food containing THC such as cookies, brownies, candies, sodas, and alcoholic beverages attract youth especially because packaging mimics correlating non-marijuana products.²²⁸ It does not seem that states enforce rules against such packaging, and not all states that have legalized marijuana have such rules.²²⁹

Sweet-flavored drinks infused with marijuana attract teenagers.²³⁰ The high from these drinks does not emerge until one to two hours after consumption, and the ultimate high can emerge hours after that, leading to overconsumption as well as severe intoxication and overdose.²³¹ Liquid marijuana vaping products do not emit an odor, thereby inhibiting detection, and, therefore, such products are increasingly popular with youth.²³² The marijuana industry packages vaping devices to resemble nondrug paraphernalia devices.²³³ The

223. *Id.* at 4.

224. *Id.*

225. *Id.*

226. *Id.*

227. *Id.* See also Roni Caryn Rabin, *Marijuana Edibles May Pose Special Risks*, N.Y. TIMES (Mar. 25, 2019), <https://www.nytimes.com/2019/03/25/well/eat/marijuana-edibles-may-pose-special-risks.html> [<https://perma.cc/MXD4-TD8T>] (discussing how ingested post takes longer to produce a high making it is harder to gauge the right dose to achieve the desired effect with ingested pot and how the delayed effect from the slower absorption rate may lead users to keep consuming marijuana increasing the risk of overdose).

228. SAMHSA Report, *supra* note 18, at 4–5.

229. *Id.* at 5.

230. *Id.*

231. *Id.*

232. *Id.*

233. *Id.*

marijuana industry adopted the tobacco industry's strategy of flavoring products that produced 80% youth tobacco initiation by flavoring vaping concentrates and hemp wrappers.²³⁴

America's youth too often wrongfully believe that marijuana is harmless and may be good for mental health, failing to recognize the dangers marijuana poses to developing brains.²³⁵ A study of 3,720 undergraduate students ages eighteen to twenty-five found that 80% were unsure or believed that Cannabis was a good way to reduce stress, 67% were unsure or believed that Cannabis was unrelated to increased risk for mental health problems, and 62% were unsure or believed that students who used Cannabis were not more academically disengaged.²³⁶ The researchers noted that these widespread misconceptions could be driving up Cannabis use amongst college students and concluded that dispelling untruths about the harms of Cannabis was key to reducing Cannabis use amongst college students.²³⁷

Instead of being protected from misleading claims about the impact of marijuana, young Americans are being bombarded with misinformation.²³⁸ The fun products and claims of healthy usage abound. Most shocking of all is that the federal government inadvertently unleashed the marketing of dangerous levels of unregulated THC products through its legalization of hemp.²³⁹

B. The 2018 Farm Bill & Tetrahydrocannabinol (THC)

With soothing names and spa-like promises, the slick marketing of marijuana lures in the consumer with today's wellness industry

234. *Id.*

235. See Malinda H. Kennedy et al., *In Harm's Way: Do College Students' Beliefs About Cannabis Put Them at Risk for Use?*, J. AM. COLL. HEALTH 1 (2022).

236. *Id.*

237. *Id.*

238. See Robin Strongin, *The FDA Should Crack Down on Marijuana Misinformation on Social Media*, HILL (May 10, 2023, 11:00 AM), <https://thehill.com/opinion/healthcare/3997381-the-fda-should-crack-down-on-marijuana-misinformation-on-social-media/> [<https://perma.cc/97K8-XC4S>] (discussing how social media has magnified and perpetuated the problem of misleading claims and endorsements regarding the effectiveness of marijuana despite the absence of medical or scientific evidence to support such claims).

239. See Kaitlin Sullivan, *The U.S. Has A Chance To Regulate Delta-8 THC. Will It?*, NBC NEWS (Sept. 5, 2023, 11:01 AM), <https://www.nbcnews.com/health/health-news/delta-8-thc-regulation-loophole-may-make-hard-know-Cannabis-products-rcna102961> [<https://perma.cc/7L54-HC6H>] (discussing how Congress's omission of delta-8 THC in the 2018 Farm Bill created a legal loophole for vendors to sell the compound as long as it comes from hemp, not marijuana, allowing the delta-8 products to soar in popularity and go largely unregulated).

buzzwords: all-natural, organic, pesticide-free, and even gluten-free!²⁴⁰ As explained in Part III of this Article, marijuana legalization has unleashed a multibillion-dollar industry of addiction that aggressively markets its products to youth. Florida offers a typical example:²⁴¹ Medical marijuana healthcare providers offer same-day appointments to diagnose a need for marijuana, and one of a huge list of conditions qualify, including easy-to-feign conditions such as back pain and anxiety.²⁴² The providers register the patient with the State Health Department, granting immediate access to the “marijuana treatment centers” in which a wide variety of products including high-THC products recommended for the alleged ailment by a budtender without medical training are available for purchase.²⁴³ Thus, marijuana dispensaries²⁴⁴ have proliferated, replacing the small businesses that

240. *E.g.*, GOLDLEAF, <https://www.goldleaffl.com/> [<https://perma.cc/328K-JAPK>] (marketing its marijuana as “the highest quality, organic living soil, pesticide-free premium Cannabis experience in the entire state of Florida).

241. *Medical Card Information*, CURALEAF, <https://curaleaf.com/medical-card> [<https://perma.cc/535U-9W7V>] (series of questions regarding legal cannabis eligibility on Curaleaf website: “How can I become a qualified medical Cannabis patient? The steps to get started are relatively similar in each state, but there are some variances. Here’s an overview on what it takes to become a patient. 165,000+ people are medical Cannabis patients at Curaleaf. Could you become one? Because Cannabis isn’t federally regulated, the prospect of becoming a certified card-carrying medical Cannabis patient rests on the regulations for your home state, and how your personal needs fit into the puzzle. Let’s do a quick exploration to see if you’re eligible. It Starts With You. Do you have a physical or mental health condition? Do you believe Cannabis could improve your quality of life in relation to this condition? If you’ve answered YES to both questions, you’re a candidate for a medical Cannabis card. But your eligibility isn’t a sealed deal yet.”).

242. *See, e.g.*, DR. GREEN RELIEF, <https://www.drgreenrelief.com/> [<https://perma.cc/A8TW-BJL>] (advertising to the public to “see a doctor today” and that “many conditions qualify”).

243. *Obtaining a Medical Marijuana Card in Florida*, MARIJUANA DOC+OR, <https://marijuanadoctor.com/> [<https://perma.cc/JF33-UTBK>] (“Since January 3, 2017, Florida residents have been able to obtain a recommendation for medical marijuana for the treatment of certain qualifying conditions. Our board-certified physicians will evaluate you to determine if you may benefit from a medical marijuana card. Once you’ve received your recommendation, our helpful staff will assist you with every step of the process necessary to obtain your medical marijuana card in Florida, from registering with the Florida Department of Health to locating the nearest medical marijuana treatment centers in your area.”).

244. *Curaleaf-Orlando Semoran*, MARIJUANA DOC+OR, <https://marijuana-doctor.com/dispensaries/curaleaf-Orlando-Semoran> [<https://perma.cc/D92S-M95X>] (“Curaleaf mission is to produce pharmaceutical-grade, standardized-dose medical [C]annabis to improve your health and well-being. Curaleaf is known for high-quality, reliable, and effective medical

formerly populated strip malls.²⁴⁵

The massive increase of marijuana industry sales stems not only from legalized medicinal marijuana, nor from the increasingly legalized recreational marijuana, but from the bipartisan 2018 Federal Farm Bill that permitted farmers to grow hemp. Hemp is another product derived from the Cannabis plant.²⁴⁶ At the time of the Farm Bill passage, hemp was expected to find new markets, most likely fiber, and oilseed.²⁴⁷ However, in practice, today's hemp is one of the biggest producers of addictive, psychoactive products typically associated with marijuana.²⁴⁸

Tetrahydrocannabinol (THC) is the psychoactive ingredient that causes the “high” associated with smoking marijuana.²⁴⁹ Psychoactive means that THC affects how the brain works and “has significant effects on psychological processes, such as thinking, perception, and

[C]annabis products which are available in a variety of strains and preparations.”).

245. *E.g.*, Leticia Miranda, *Your Shopping Mall's Latest Tenant? A Pot Dispensary*, NBC NEWS (July 22, 2021, 6:47 AM), <https://www.nbcnews.com/business/consumer/your-shopping-mall-s-latest-tenant-pot-dispensary-n1274621> [<https://perma.cc/2X4F-TE5Q>].
246. Agriculture Improvement Act of 2018, Pub. L. No. 115-334, 132 Stat. 4908 (2018); John Hudak, *The Farm Bill, Hemp Legalization and the Status of CBD: An Explainer*, BROOKINGS (Dec. 14, 2018), <https://www.brookings.edu/articles/the-farm-bill-hemp-and-cbd-explainer/> [<https://perma.cc/YKF5-4A5V>].
247. Michael Nepeux, *2018 Farm Bill Provides a Path Forward for Industrial Hemp*, FARM BUREAU (Feb. 28, 2019), <https://www.fb.org/market-intel/2018-farm-bill-provides-a-path-forward-for-industrial-hemp> [<https://perma.cc/QY4N-YLL3>] (“The markets for bast fibers, such as industrial hemp, include specialty textiles, paper, and composites. Hemp fibers are used in textiles, fabrics, yarns, paper, carpeting, insulation, construction materials, and even auto parts. Hemp seed and oilcake are used in various foods and beverages, including salad and cooking oil. Hemp seeds are crushed for their oil, producing hempseed oil, which is used in soap, shampoo, and cosmetics. Other various uses of industrial hemp include hempcrete (a mixture of hurds and other products), which is used as a building material, and composites for use as a fiberglass alternative for the auto and aviation industry.”).
248. Anna Kaufman, *What is Delta-8 THC? What to Know About the Safety of 'Diet Weed' (And If It Gets You High)*, USA TODAY (Apr. 15, 2023, 6:00 AM), <https://www.usatoday.com/story/news/health/2023/04/15/what-is-delta-8/11521735002/> [<https://perma.cc/QZ92-6CG5>] (discussing how the loophole in the 2018 Farm Bill allowed for the hemp market to be dominated by a new product: delta-8 THC).
249. Terence Ng et al., *Tetrahydrocannabinol (THC)*, NAT'L CTR. FOR BIOTECH. INFO. (Nov. 12, 2023), <https://www.ncbi.nlm.nih.gov/books/NBK563174/> [<https://perma.cc/89ZX-XKVU>] (“THC or Tetrahydrocannabinol is the major psychoactive component and one of the 113 cannabinoids recognized in Cannabis.”).

emotion.²⁵⁰ THC is one compound in Cannabis, and another compound is CBD.²⁵¹ CBD and THC can interact with other medications intensifying or reducing their effectiveness, and the public is unaware of this important risk.²⁵² Consumers are interested in both of these products, which are chemically removed from the marijuana plant, exacerbating public confusion as CBD-infused products are typically considered non-psychoactive.²⁵³ However, studies in which researchers tested samples of CBD products found incidents of detectable levels of THC in products labeled as THC-free.²⁵⁴ Hemp also contains both THC and CBD.²⁵⁵ Although marijuana remains illegal under federal law, the fact that hemp is used to make THC-infused products, available without any age or other restrictions, reveals a loophole in the current federal regulatory framework. And, of course, this further confuses the public.²⁵⁶

To understand the Farm Bill loophole that enabled the marijuana industry to extract THC from hemp and then sell high-THC products without restriction, one must understand the relationship between hemp and marijuana.²⁵⁷

-
250. *Psychoactive Drug*, AM. PSYCH. ASS'N (Apr. 19, 2018), <https://dictionary.apa.org/psychoactive-drug> [<https://perma.cc/MSA5-N2H9>].
251. Kimberly Holland, *CBD vs. THC: What's the Difference?*, HEALTHLINE (Jan. 24, 2024), <https://www.healthline.com/health/cbd-vs-thc> [<https://perma.cc/KQ7R-9V4T>].
252. Premalatha Balachandran et al., *Cannabidiol Interactions with Medications, Illicit Substances, and Alcohol: A Comprehensive Review*, 36 J. GEN. INTERNAL MED. 2074, 2074 (2021).
253. *Id.*
254. Tory R. Spindle et al., *Cannabinoid Content and Label Accuracy of Hemp-Derived Topical Products Available Online and at National Retail Stores*, 5 JAMA NETWORK OPEN 1, 5–6 (2022); Katie Gerhards, *Non-Prescription CBD Product Labeling Largely Inaccurate, Study Finds*, UNIV. WIS. MADISON SCH. PHARMACY (Mar. 10, 2022), <https://pharmacy.wisc.edu/2022/03/10/non-prescription-cbd-product-labeling-largely-inaccurate-study-finds/> [<https://perma.cc/5U66-URYD>].
255. CANNABIDIOL (CBD) – POTENTIAL HARMS, SIDE EFFECTS, AND UNKNOWNNS, SUBSTANCE ABUSE & MENTAL HEALTH SERVS. ADMIN. 4 (2023), <https://store.samhsa.gov/sites/default/files/pep22-06-04-003.pdf> [<https://perma.cc/82ZV-VPSL>].
256. Kaufman, *supra* note 248 (discussing how the loophole in the 2018 Farm Bill allows for the sale of hemp-derived delta-8 THC).
257. *FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol (CBD)*, FOOD & DRUG ADMIN. (Sept. 28, 2023), <https://www.fda.gov/news-events/public-health-focus/fda-regulation-cannabis-and-cannabis-derived-products-including-cannabidiol-cbd#whatare> [<https://perma.cc/UPD7-SPEP>] (“Cannabis is a plant of the Cannabaceae family and contains more than eighty biologically active chemical compounds. The most commonly known compounds are delta-

Hemp and marijuana are both types of Cannabis plants, but marijuana produces delta-9-THC and hemp doesn't. Think of hemp and marijuana like two varieties of tomato plants, if one type of tomato could get you high.

The Farm Bill stated that hemp could be grown legally as long as it contained less than 0.3 percent THC. But, said Kent Vrana, a professor of pharmacology at Penn State University, the authors of the bill made an oversight: They defined THC specifically as delta-9-THC, which is still illegal federally. With that definition, a market for delta-8 was born.²⁵⁸

The 2018 Farm Bill differentiates hemp from marijuana by focusing on the chemical compounds.²⁵⁹ Hemp is defined as:

. . . the plant *Cannabis sativa* L. and any part of that plant, including the seeds thereof and all derivatives, extracts, cannabinoids, isomers, acids, salts, and salts of isomers, whether growing or not, with a delta-9 tetrahydrocannabinol [THC] concentration of not more than 0.3 percent on a dry weight basis.²⁶⁰

Thus, marijuana contains delta-9 THC and remains a Schedule One drug, illegal under federal law.²⁶¹ However, the 2018 Farm Bill exempted hemp from the definition of marijuana if the delta-9 contained a low

9-tetrahydrocannabinol (THC) and cannabidiol (CBD). Parts of the *Cannabis sativa* plant have been controlled under the Controlled Substances Act (CSA) since 1970 under the drug class “Marihuana” (commonly referred to as “marijuana”) [21 U.S.C. 802(16)].”).

258. Dana G. Smith, *How Delta-8 THC Works, and Why Experts Are Worried About It*, N.Y. TIMES (July 25, 2022), <https://www.nytimes.com/2022/07/01/well/mind/delta-8-thc-marijuana.html> [<https://perma.cc/4TJA-4LHU>].

259. Lura Briggs, *Is Delta 9 Legal? Hemp-Derived Delta 9's Legality in Your State*, QWIN (June 14, 2023), <https://www.myqwin.com/pages/is-delta-9-legal> [<https://perma.cc/9VDK-TQFD>] (“Delta-9 THC is the primary psychoactive component in all *Cannabis sativa* plants, including hemp and marijuana. From a chemical perspective, delta-9 is delta-9 no matter what plant it comes from, but from a legislative perspective, hemp delta-9 and marijuana delta-9 are very different cannabinoids. Hemp-derived Delta-9 THC is legal in various states, whereas marijuana delta-9 is legal US-wide.”).

260. Agriculture Improvement Act of 2018, Pub. L. No. 115-334, 132 Stat. 4908 (2018).

261. Hudak, *supra* note 246 (explaining how the Farm Bill creates exceptions to the default Schedule I status of cannabinoids and that only hemp products produced in a manner consistent with the bill are entitled to such exception).

enough level of THC.²⁶² In fact, hemp also contains a wide variety of THC compounds, including delta-8 and delta-9.²⁶³ While federal law prohibits delta-9 above a certain amount, there is no regulation of delta-8 compounds, and they can be harmful and are psychoactive.²⁶⁴

Therefore, because of this Congressional oversight in drafting the bill, THC-infused products are widely available.²⁶⁵ “Delta-8 tetrahydrocannabinol, also known as delta-8 THC, is a psychoactive substance found in the *Cannabis sativa* plant, of which marijuana and hemp are two varieties.”²⁶⁶ When the federal government legalized the manufacturing of hemp, it failed to prevent all uses of THC which is derived from hemp.²⁶⁷

Marijuana contains delta-9 THC, and hemp contains delta-9 THC and delta-8 THC just in tiny percentages.²⁶⁸ “Delta-8 THC is a substance found in the *Cannabis sativa* plant, of which marijuana and hemp are two varieties.”²⁶⁹ Commercial producers devised ways to

262. *Id.*

263. See Sian Ferguson, *Delta-8 vs. Delta-9 vs. Delta-10 – What’s the Difference?*, HEALTHLINE (Sept. 28, 2022), <https://www.healthline.com/health/delta-8-vs-delta-9-vs-delta-10> [https://perma.cc/ZF9L-424X].

264. Anna Kaufman, *Is Delta-8 THC Legal? Here’s Where (and Why) the Hemp Product Skirts Marijuana Laws*, USA TODAY (Nov. 2, 2023, 3:08 PM) <https://www.usatoday.com/story/news/health/2023/04/29/is-delta-8-legal/11530893002/> [https://perma.cc/D93V-T25V].

265. Sullivan, *supra* note 239 (discussing how Congress’s omission of delta-8 THC in the 2018 Farm Bill created a legal loophole for vendors to sell the compound as long as it comes from hemp, not marijuana, allowing the delta-8 products to soar in popularity).

266. *5 Things to Know About Delta-8 Tetrahydrocannabinol – Delta-8 THC*, FOOD & DRUG ADMIN. (May 4, 2022), <https://www.fda.gov/consumers/consumer-updates/5-things-know-about-delta-8-tetrahydrocannabinol-delta-8-thc> [https://perma.cc/22ER-F5Q3].

267. Elizabeth Hobbs & Whitt Steineker, *Delta-8: What Is and What Should Never Be*, JD SUPRA (Aug. 30, 2022), <https://www.jdsupra.com/legalnews/delta-8-what-is-and-what-should-never-be-9987781/> [https://perma.cc/UP42-45PA] (discussing how the 2018 Farm Bill’s definition of marijuana, and, by extension hemp, is tied to delta-9 THC effectively leaving delta-8 THC without current federal oversight).

268. See Ferguson, *supra* note 263; see also Deb Hipp, *Delta-8 THC vs. Delta-9 THC: What’s the Difference?*, FORBES (Oct. 3, 2023, 12:30 PM), <https://www.forbes.com/health/cbd/delta-8-vs-delta-9/> [https://perma.cc/NTD7-U3DU] (stating that while the *Cannabis sativa* plant contains significant amounts of delta-9 THC, it contains very little delta-8 THC).

269. Press Release, FDA, *FTC Warn Six Companies for Illegally Selling Copycat Food Products Containing Delta-8 THC*, FOOD & DRUG ADMIN. (July 5, 2023), <https://www.fda.gov/news-events/press-announcements/fda-ftc-warn-six-companies-illegally-selling-copycat-food-products-containing-delta-8-thc> [https://perma.cc/3S95-3U3H] (“It has psychoactive and intoxicating effects that may be dangerous to consumers and

extract both compounds from legally grown hemp.²⁷⁰

And hence the 2018 Farm Bill loophole is threatening public health as THC delta-9 remains unregulated if the compound is derived from hemp and not marijuana.²⁷¹ Thus, the hemp industry extracts both delta-8 and delta-9 compounds, infuses them into products sold nationwide, from the Internet to the local farmer's market, with virtually no limitations.²⁷² Manufacturers of hemp gummies and other psychoactive products explain this legal loophole:

Delta-9, the infamous high-inducing compound found in [C]annabis, is being made from legal hemp, rendering it legal to buy and sell in all 50 states thanks to a 2018 Farm Bill loophole . . . The truth is that hemp-derived delta-9 is derived from hemp similarly to the way that delta-8, delta-10, THC-O, and other psychoactive hemp cannabinoids are made. As long as manufacturers abide by the dry weight rule (meaning the product contains less than 0.3% delta-9), then it's legal. Now, we know what you're thinking—that's not enough delta-9 to do much at all—but you'd be wrong, because many hemp delta-9 edibles contain at least 10 milligrams of delta-9 per dose, sometimes more.²⁷³

Essentially, the 2018 Farm Bill created mass confusion and a dangerous loophole. Congress exacerbated the already dangerous environment for America's youth unleashed by massive marijuana

it has not been evaluated or approved by the FDA for safe use in any context, including when added to food.”)

270. Perhaps in part this was a result of hemp not really being a cash crop until the THC was extracted for use in gummies and similar products. “Hemp is a tricky, labor-intensive crop, however. Many growers in 2019 lost plants to pests and bad weather. They had to destroy plants that grew ‘hot,’ meaning the THC levels exceeded the legal limit of 0.3%. They faced high harvest costs and a shortage of drying space. And many couldn't find buyers or failed to sell their hemp for a profit. “When it came to harvest time, there wasn't the demand that everyone had expected at the beginning of the year,” said Miller of the Hemp Roundtable. ‘And as a result, prices crashed. We saw a lot of bankruptcies. And then COVID hit.’” Sophie Quinton, *The Hemp Boom Is Over. What Now?*, STATELINE (July 9, 2021, 12:00 AM), <https://stateline.org/2021/07/09/the-hemp-boom-is-over-what-now/> [https://perma.cc/GXV3-CQL2].

271. See Agriculture Improvement Act of 2018, Pub. L. No. 115-334, 132 Stat. 4908 (2018); Hudak, *supra* note 246.

272. See *What Is Hemp-Derived Delta-9-THC? Is it Legal?*, VIDAOPTIMA (Feb. 8, 2023), <https://vidaoptimacbd.com/blogs/Cannabis-encyclopedia/what-is-hemp-derived-delta-9-thc-is-it-legal?> [https://perma.cc/3S8A-GCYD].

273. *Id.*

legalization by allowing for commercialization of certain hemp derived products.

‘The medical marijuana and recreational marijuana industries are very regulated to the point where identification, passports, driver’s licenses are all held very tightly at these dispensaries,’ said Eric Wang, vice president of sustainability for the U.S. Hemp Roundtable, a Kentucky-based trade group. By contrast, he said, a twelve or thirteen-year-old child can buy a hemp-derived product legally.²⁷⁴

Hemp-derived THC products including fruit-flavored gummies,²⁷⁵ snacks,²⁷⁶ breakfast cereals,²⁷⁷ and fruit drinks²⁷⁸ are widely available to everyone in the U.S.²⁷⁹ Businesses that sell hemp-derived THC products tout of their products’ legality, sometimes mentioning their Wild West

274. Eric Berger, *What Looks Like Pot, Acts Like Pot, But Is Legal Nearly Everywhere? Meet Hemp-Derived Delta-9 THC*, USA TODAY (Oct. 29, 2022, 11:54 AM), <https://www.usatoday.com/story/news/health/2022/10/29/hemp-delta-9-thc-regulation-explained/10595313002/> [<https://perma.cc/FL9Z-S6PW>].

275. *Pink Lemonade – Relief Delta-8 Gummies*, HOMETOWN HERO, <https://hometownherocbd.com/products/delta-8-thc-gummies-pink-lemonade> [<https://perma.cc/G4SG-5AJA>] (“Taste the sweet and sour of freshly squeezed pink lemonade with every bite of these handcrafted gummies. Unwind with a relaxing infusion of 25mg Delta-8 THC in each juicy piece.”).

276. *SMOKIN’ Popcorn Product Details*, SHOP LIQUID LOUD, <https://shopliquidloud.com/products/smokin-hot-popcorn> [<https://perma.cc/HX3E-DRQ4>] (“If you like spicy popcorn, well this is it!! Our flammin’ hot popcorn is fye! LITERALLY 🤯🤯. You’ll love every bite, made with our delta-8 butter. It’ll be love after first bite, and you’ll be pleasantly at ease. Paired with Delt-8 lemonade, this is the perfect combo!”).

277. One product is designed to look like Fruit Loops, down to the parrot mascot. See *Rainbow Rings | Delta-8 Cereal | 250mg*, HIPPIY MOOD, <https://www.hippymood.com/collections/snacks/products/rainbow-rings-delta-8-cereal-250mg> [<https://perma.cc/2RM4-LQLU>] (“This delta 8 cereal offers an indulgent flavor reminiscent of your favorite cereal brand, lacking any hemp-derived aftertaste for a truly memorable experience. Each cereal contains a high dose of Delta 8, so be mindful when consuming it.”).

278. Amanda Reed & Johnny Brayson, *The Best Weed Drinks for a Booze-Free Buzz*, GEAR PATROL, (Sept. 25, 2023), <https://www.gearpatrol.com/food/drinks/a40050238/best-weed-drinks/> [<https://perma.cc/AU5S-KRHA>].

279. Berger, *supra* note 274 (“Some 120 brands are selling hemp-derived delta-9 products online, according to an April study published by CBD Oracle, which reports on the industry.”).

status.²⁸⁰ They make statements like “[t]hese products have not been evaluated by the Food and Drug Administration.”²⁸¹ Flaunting the misconception that such products might fall under medical marijuana, the websites caution: “This product is not intended to diagnose, treat, cure, or prevent any disease.”²⁸² While these businesses may address restrictions concerning shipping their products containing hemp-derived THC to certain states, they appear unconcerned about selling their psychoactive hemp products to children, teenagers, and young adults.²⁸³

In addition to delta-8 compounds, hemp also contains low levels of delta-9 compounds, the very reason that marijuana remains federally illegal.²⁸⁴ “What looks like pot, acts like pot, but is legal nearly everywhere? Meet hemp-derived delta-9 THC.”²⁸⁵ The same companies that produce delta-8 products also derive delta-9 THC from very low levels found in hemp.²⁸⁶ One manufacturer “argues that his hemp-derived delta-9 beverage is legal because the amount of THC in the beverage is less than 0.3% of the weight of the liquid.”²⁸⁷ Like other manufacturers, this manufacturer of psychoactive hemp products claims this process complies with the 2018 Farm Bill.²⁸⁸

The infusion of delta-9 into snacks and beverages demonstrates ingenuity and an almost magical interpretation of the law. The “hemp-derived delta-9 is made from one of two methods: extracting the cannabinoid from the hemp plant or through a chemical conversion in which CBD from the hemp is dissolved in a solvent.”²⁸⁹ Thus, the manufacturers begin with the hemp plant, legalized under the 2018 Farm Bill, that contains less than 0.3% dry weight delta-9 THC²⁹⁰. The

280. *See id.*

281. *Pink Lemonade – Relief Delta-8 Gummies*, *supra* note 275.

282. *Id.*

283. Although practically every company defends the legality of selling them. *Is Delta-8 THC Legal?*, HOMETOWN HERO, <https://hometownherocbd.com/pages/is-delta-8-thc-legal> [<https://perma.cc/BZ2P-LSZU>] (“Yes, hemp-derived cannabinoids, including Delta 8, are Federally Legal. Made legal under the 2018 Farm Bill, Delta 8 THC products are available for purchase in most states. Delta 8 has properties similar to Delta 9 THC, the most well-known and prevalent type of THC. Delta 8 is less potent and can provide different effects.”).

284. Berger, *supra* note 274.

285. *Id.*

286. *Id.*

287. *Id.*

288. *Id.*

289. *Id.*

290. *Id.*

manufacturer takes the hemp-derived THC, which would be illegal if extracted from a marijuana plant, and injects it into a beverage or food.²⁹¹ The manufacturer must carefully note that the physical amount of THC they injected is less than 0.3% of the overall product weight.²⁹² Such a process does nothing to limit the amount of THC levels in the products, and products are available on the market with ten milligrams of THC per serving and higher.²⁹³

While the dry weight of 0.3% THC applies to the hemp-derived delta-9 THC, the THC of delta-8 simply is unregulated.²⁹⁴ According to the FDA, “Delta-8 THC products have not been evaluated or approved by the FDA for safe use in any context. They may be marketed in ways that put the public health at risk and should especially be kept out of reach of children and pets.”²⁹⁵ Furthermore:

The FDA has received reports of serious adverse events experienced by people who have consumed these products, such as hallucinations, vomiting, tremors, anxiety, dizziness, confusion, and loss of consciousness. The FDA is also concerned that companies are producing delta-8 THC in ways that could result in products with harmful contaminants.²⁹⁶

The federal government has noted public confusion surrounding the psychoactive products.²⁹⁷ “Facing a lack of federal regulation, [fourteen] states have banned either delta-8 or all unregulated forms of THC (there’s a Delta-10, too). This includes several states where recreational marijuana is legal, including Colorado and New York.”²⁹⁸ Of course, when recreational marijuana is legal, states have an interest in regulating sales to maintain tax revenue.²⁹⁹

291. *Id.*

292. *See id.*

293. *Id.* (discussing an ad of a hemp-derived delta-9 THC seltzer that stated “Contains 10mg of the good stuff, which equals less than 0.3% by volume. This means it can be sold almost anywhere!”).

294. Smith, *supra* note 258.

295. *5 Things to Know About Delta-8 Tetrahydrocannabinol – Delta-8 THC*, *supra* note 266.

296. *FDA, FTC Warn Six Companies for Illegally Selling Copycat Food Products Containing Delta-8 THC*, *supra* note 269.

297. Smith, *supra* note 258.

298. *Id.*

299. Briggs, *supra* note 259 (“Colorado legalized hemp in 2019, including all derivatives, as Delta-9 THC remains below the Farm Bill Limit. However, in 2021, Colorado’s Department of Public Health and Environment and the Marijuana Enforcement Division issued a notice explaining that ‘chemically modifying or converting any naturally-occurring cannabinoids from industrial hemp is non-compliant with the statutory definition of an

The federal government has noticed confusion surrounding marijuana-infused products.³⁰⁰ In July 2023, the U.S. Food and Drug Administration (FDA) warned six companies, demanding that products be clearly distinguishable from their non-toxic lookalikes:

Today, the U.S. Food and Drug Administration and the Federal Trade Commission issued warning letters to six companies for illegally selling copycat food products containing delta-8 tetrahydrocannabinol, also known as delta-8 THC. These products can easily be mistaken for traditional foods like chips, cookies, candy, gummies, or other snack food items. The FDA is concerned that these products can be accidentally ingested by consumers, including children, or taken in higher doses than intended.³⁰¹

Consumers of such products may have no information about THC levels and may assume that since these items are easily obtained there is no need for concern³⁰². The FDA warned that companies producing these products are intentionally misleading consumers: “[t]he products we are warning against intentionally mimic well-known snack food brands by using similar brand names, logos, or pictures on their packaging that consumers, especially children, may confuse with traditional snack foods.”³⁰³ While the FDA might be able to prohibit confusing labeling of these psychoactive hemp products, the 2018 Farm Bill prevents the FDA from prohibiting production of these harmful products.³⁰⁴

“industrial hemp product.” This includes any process that converts an industrial hemp cannabinoid, such as CBD isolate, into delta-9, delta-8, delta-10-THC, or other tetrahydrocannabinol isomers or functional analogs.’ Colorado’s clarification essentially bans all delta-8 products and most hemp delta-9 extracts.”).

300. *FDA, FTC Warn Six Companies for Illegally Selling Copycat Food Products Containing Delta-8 THC*, *supra* note 269.

301. *Id.*

302. *Id.*

303. *Id.* “The Federal Trade Commission has noted that misleading advertising does violate federal law. ‘Marketing edible THC products that can be easily mistaken by children for regular foods is reckless and illegal,’ said Samuel Levine, director of the FTC’s Bureau of Consumer Protection.” *Id.*

304. See Hannah Docter-Loeb, *A Guide to All the (Technically) Legal Cannabinoids You Can Buy Right Now*, SLATE (Sept. 3, 2022, 5:55 AM), <https://slate.com/technology/2022/09/delta-8-thc-cbd-cannabinoids-legal-farm-bill.html> [<https://perma.cc/B2AX-2VB8>] (discussing how the Farm Bill of 2018 created a legal loophole that allows consumers to buy edibles in states where marijuana is not legalized as long as final product contains less than 0.3% delta-9-THC by weight).

Additionally, widely available CBD products exacerbate public confusion surrounding Cannabis's impact on human health. Most manufacturers claim that "CBD doesn't contain tetrahydrocannabinol (THC), the psychoactive ingredient found in marijuana that produces a high."³⁰⁵ Yet CBD is also derived from hemp. The 2018 Farm Bill "removed hemp from the federal Controlled Substances Act, effectively legalizing CBD if it comes from hemp."³⁰⁶ Considering the federal government does not regulate hemp products, a consumer cannot know whether CBD products derived from hemp contain THC. Some studies detected THC in widely available CBD products where the packaging claimed the products contained only CBD and did not contain THC.³⁰⁷

Further, science has not conclusively supported CBD oil's alleged benefits in beauty products, such as hair or skincare, or in easing aches and pains.³⁰⁸ Ongoing scientific research may demonstrate future medical benefits beyond one narrow use for epilepsy recognized by the FDA.³⁰⁹ Conversely, such studies may also demonstrate reasons for concern about the use of CBD.³¹⁰ Adding to the lack of clarity, many companies that sell THC products also sell CBD products.³¹¹ Thus, sellers sometimes use claims of CBD's health benefits to market THC products to consumers.

In sum, marijuana remains a federally controlled substance because of its mind-altering ingredient, THC –a psychoactive component that changes mood and behavior.³¹² Marijuana legalization activists and the

-
305. Brent A. Bauer, *What Are the Benefits of CBD – And Is It Safe to Use?*, MAYO CLINIC (Dec. 6, 2022), <https://www.mayoclinic.org/healthy-lifestyle/consumer-health/expert-answers/is-cbd-safe-and-effective/faq-20446700> [<https://perma.cc/A3A9-8N9P>].
306. *CBD: What You Need to Know*, *supra* note 67.
307. See Walter B. Wilson et al., *Study Reveals Inaccurate Labeling of Marijuana as Hemp*, NAT'L INST. OF JUSTICE (Oct. 17, 2022), <https://nij.ojp.gov/topics/articles/study-reveals-inaccurate-labeling-marijuana-hemp> [<https://perma.cc/ZZ4V-TQPX>].
308. *CBD: What You Need to Know*, *supra* note 67 (stating that potential harms and side effects of using CBD products include: liver damage, interference with other drugs, drowsiness or sleepiness, diarrhea or changes in appetite, and changes in mood such as irritability).
309. *FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol (CBD)*, FOOD & DRUG ADMIN. (July 5, 2023), <https://www.fda.gov/news-events/public-health-focus/fda-regulation-cannabis-and-cannabis-derived-products-including-cannabidiol-cbd> [<https://perma.cc/T468-A4VM>].
310. *CBD: What You Need to Know*, *supra* note 67.
311. See, e.g., HEMP PANTRY, <https://www.hemppantry.net/> [<https://perma.cc/DQM7-E4XD>].
312. *FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol (CBD)*, *supra* note 309.

marijuana industry continue to push for expanded medical and recreational legalization of marijuana.³¹³ Manufacturers sidestepped these legalization movements, making them unnecessary once the 2018 Farm Bill legalized the production of hemp.³¹⁴ While some Americans still object to legalizing marijuana for recreational purposes, many of these objectors recognize that the train has left the station – recreational marijuana legalization now seems unstoppable.³¹⁵ Moreover, a huge percentage of Americans pose no objection to legalizing medicinal marijuana.³¹⁶ Unbeknownst to many people, the FDA has only approved marijuana compounds to treat a small number of conditions.³¹⁷

C. Medicinal Uses of CBD & THC

Another reason for the confusion surrounding marijuana is the widespread belief that there are several FDA-approved medicinal uses of THC and CBD. Despite the rush to legalize “medical” marijuana, the FDA has approved very few conditions for the use of marijuana compounds as treatment.³¹⁸ The FDA does not approve plants as medicine but instead approves compounds.³¹⁹ While CBD products are widely available and marketed for an endless variety of benefits, “the only CBD product approved by the FDA is a prescription oil called

313. *E.g.*, Kyle Jaeger, *Nebraska Activists Tout Medical Marijuana Legalization Petition Progress in 16 Counties and Set Up Push for Support Ahead of 2024*, MARIJUANA MOMENT (Dec. 18, 2023), <https://www.marijuanamoment.net/nebraska-activists-tout-medical-marijuana-legalization-petition-progress-in-16-counties-and-step-up-push-for-support-ahead-of-2024/> [https://perma.cc/ZKP5-5AWU]; David A. Lieb & Kavish Harjai, *Medical Marijuana Firms Lead Donors for Legal Weed Campaigns*, AP NEWS (Nov. 2, 2022, 12:46 PM), <https://apnews.com/article/2022-midterm-elections-marijuana-industry-donors-d97a216994afd9933d0f733b3def6742> [https://perma.cc/8L8T-3V7P]; Greg Fox, *Trulieve CEO Talks Economic Impacts of Legalizing Recreational Marijuana in Florida*, WESH (Nov. 14, 2023, 6:24 PM), <https://www.wesh.com/article/trulieve-ceo-economic-impacts-marijuana/45839784> [https://perma.cc/2RUA-LUD8].

314. *FDA Regulation of Cannabis and Cannabis-Derived Products, Including Cannabidiol (CBD)*, *supra* note 309.

315. *See* Katherine Schaeffer, *7 Facts About Americans and Marijuana*, PEW RSCH. CTR. (Apr. 13, 2023), <https://www.pewresearch.org/short-reads/2023/04/13/facts-about-marijuana/> [https://perma.cc/999K-ULHX].

316. *Id.*

317. *FDA and Cannabis: Research and Drug Approval Process*, FOOD & DRUG ADMIN. (Feb. 24, 2023), <https://www.fda.gov/news-events/public-health-focus/fda-and-cannabis-research-and-drug-approval-process> [https://perma.cc/D6YA-5TCT].

318. *SAMHSA Report*, *supra* note 18, at 2–3.

319. *Id.*

Epidiolex to treat two types of epilepsy.”³²⁰ The FDA has not approved another other use for CBD.³²¹

The marijuana industry claims that marijuana treats a variety of conditions, such as Alzheimer’s, cancer, autism, anxiety, PTSD, and depression; generally, these claims are exaggerated or untrue.³²² “A growing number of states have identified PTSD as an approved condition for medical marijuana. [However, the research concerning the medicinal value of marijuana to treat PTSD is inconsistent at best.] And there is evidence that marijuana can make PTSD worse.”³²³ However, spurious claims of marijuana’s efficacy in treating a host of medical conditions continue to dominate the marijuana legalization movement.³²⁴ In one survey, almost 70% of dispensaries recommended marijuana to address morning sickness symptoms associated with pregnancy.³²⁵

320. Bauer, *supra* note 305 (“Aside from Epidiolex, state laws on the use of CBD vary. While CBD is being studied as a treatment for a wide range of conditions, including Parkinson’s disease, schizophrenia, diabetes, multiple sclerosis and anxiety, research supporting the drug’s benefits is still limited.”).

321. *FDA and Cannabis: Research and Drug Approval Process*, *supra* note 317.

322. *See, e.g.*, Andrea Petersen & Julie Wernau, *The Cannabis That People Are Using for Anxiety Is Probably Making It Worse*, WALL ST. J. (Oct. 26, 2023, 8:00 AM), <https://www.wsj.com/health/wellness/anxiety-medical-marijuana-treatment-4bfd2cc3> (discussing how many people suffering from anxiety rely on Cannabis to treat their symptoms, but the science shows that it Cannabis probably does not help alleviate symptoms of anxiety and may make those symptoms worse).

323. Stuyt, *supra* note 33, at 484. The author goes on to explain that “Marijuana is not the answer for PTSD similar to the reason why benzodiazepines or alcohol are not the answer for PTSD. All these compounds do is provide temporary relief by numbing the individual and disconnecting them from the traumatic emotion. It does not resolve the trauma, and they have to continue to use multiple times a day in order to continue with the benefit.” *Id.*

324. *E.g.*, Alex Berenson, *What Advocates of Legalizing Pot Don’t Want You to Know*, N.Y. TIMES (Jan. 4, 2019), <https://www.nytimes.com/2019/01/04/opinion/marijuana-pot-health-risks-legalization.html> [<https://perma.cc/9UKD-TM7V>] (discussing how marijuana legalization advocates have shrewdly recast marijuana as a medicine rather than an intoxicant, claiming that marijuana can help slow the opioid epidemic, while squelching discussion of the serious mental health risks of marijuana and THC).

325. *See* GRINSPOON, *supra* note 215. *E.g.*, Berenson, *supra* note 324 (discussing how marijuana legalization advocates have shrewdly recast marijuana as a medicine rather than an intoxicant, claiming that marijuana can help slow the opioid epidemic, while squelching discussion of the serious mental health risks of marijuana and THC).

As mentioned previously in this Article, Cannabis comes in “two categories” under the Controlled Substances Act, marijuana and hemp, both of which come from the same group of plants.³²⁶ “Marijuana” is another word for the Cannabis plant or its derivative products that have more than 0.3% of the chemical compound delta-9-tetrahydrocannabinol (THC).³²⁷ THC is the main psychoactive component of marijuana that produces the mind-altering high.³²⁸ “Hemp” refers to a Cannabis plant that contains THC levels that are no higher than 0.3%.³²⁹ Marijuana plants have more than one hundred cannabinoids, and many other chemicals, but THC is the main psychoactive component that produces the high and is susceptible to addiction.³³⁰ Marijuana’s other chemical components have more minor effects on the human mind than THC, and when people refer to the strength of marijuana, they refer to the THC content.³³¹ Cannabidiol (CBD) is the second most common component of marijuana, and it does not produce a high.³³²

The FDA has approved pharmaceutical THC and CBD formulations for treating certain narrow conditions, including seizures, nausea from cancer treatment, and AIDS wasting syndrome.³³³ A licensed healthcare provider can prescribe a patient the following FDA-approved medications: (1) Epidiolex, which contains CBD and is approved for treating seizures connected to Lennox-Gastaut syndrome, Dravet syndrome, or tuberous sclerosis complex in patients one year or older, (2) Marinol and Syndros (dronabinol), which is synthetic THC used to treat anorexia associated with weight loss in patients with AIDS nausea and vomiting associated with chemotherapy for cancer, and (3) Cesamet (nabilone), which is synthetic THC approved for nausea and vomiting associated with chemotherapy for cancer.³³⁴

The above-listed FDA-approved drugs are distinct from non-FDA-approved medical marijuana products.³³⁵ Consumers obtain such products from state-run medical marijuana dispensaries, and they cannot obtain the products from pharmacies.³³⁶ Medical marijuana

326. *SAMHSA Report*, *supra* note 18, at 2.

327. *Id.*

328. *Id.*

329. *Id.*

330. *Id.*

331. *Id.*

332. *Id.*

333. *Id.*

334. *Id.* at 2–3.

335. *Id.* at 3.

336. *Id.*

involves using the whole unprocessed marijuana plant for its “basic extracts” to treat symptoms of illness as recommended by a practitioner in a state where medical marijuana is legal.³³⁷ The FDA does not recognize the marijuana plant as medicine.³³⁸ According to the FDA, only the medicines listed above are approved for medical use.³³⁹

Thus, to paraphrase Mark Twain, “[t]he reports of medical marijuana benefits are greatly exaggerated.” Whether marijuana and its compounds can have medicinal value when used by adults under a doctor’s supervision is unrelated to the question of recreational marijuana.³⁴⁰ Promising medicinal uses are no reason to unleash massive commercialization of marijuana, including advertising to America’s youth.

III. LEGALIZATION OR COMMERCIALIZATION?

Justifications for legalizing marijuana have promoted the belief that marijuana is not dangerous.³⁴¹ “People who pushed to legalize marijuana promoted marijuana as a harmless wellness tool,” “but to the rich investors everywhere – and the bureaucracies and systems supporting them this misinformed and ignorant attitude represents a golden opportunity.”³⁴² The marijuana industry duped the American public just as the tobacco industry did decades ago, cloaking dangerous marijuana products with images of healthfulness and style.³⁴³

A. *Wall Street, Not Woodstock*³⁴⁴

The Green Rush began in 2012 when Washington and Colorado legalized marijuana, unleashing a burgeoning industry now larger than

337. *Id.*

338. *See FDA and Cannabis: Research and Drug Approval Process, supra* note 317.

339. *Id.*

340. *See Medicinal and Recreational Cannabis vs. Synthetics: What’s the Difference?*, ADF (Feb. 9, 2023), <https://adf.org.au/insights/various-Cannabis-use/> [<https://perma.cc/B8W8-K9BZ>].

341. A young Congressional staffer explained “she would be perfectly fine if a commercial airline pilot lit up a joint before taking the controls in the cockpit. ‘It’s not like the pilot’s actually impaired,’ she said, ‘besides, alcohol is worse.’” SABET, *supra* note 206, at 39.

342. *Id.*

343. *Id.* at 35.

344. *Id.* at 39.

Hollywood.³⁴⁵ The term “Green Rush” describes the moneyed marijuana industry in the United States that blossomed after legalization.³⁴⁶

The term “Green Rush” itself exposes marijuana legalization as essentially marijuana commercialization. Decriminalization would have removed criminal penalties for marijuana including arrests and incarceration and expunged criminal records.³⁴⁷ Decriminalization does not promote commercialization.³⁴⁸ Further, decriminalization does not offer profit opportunities for retail sales, marketing, or partnering with Big Tobacco, Big Pharma, Big Alcohol, Hollywood, and social media influencers.³⁴⁹

Americans see Green Rush evidence everywhere: in pot shops as ubiquitous as cafés, in Netflix series glamorizing marijuana, on social media posts promoting marijuana products, in bookstores selling marijuana cookbooks, and on billboards advertising the joys of weed. The Green Rush invites Wall Street investors and private equity to profit from unprecedented increases in marijuana consumption,³⁵⁰ provides real estate investment opportunities for land for marijuana-

-
345. *See Legalizing and Regulating Pot: A Growth Industry*, NPR (Nov. 13, 2012, 4:20 PM), <https://www.npr.org/2012/11/13/164981433/legalizing-and-regulating-pot-a-growth-industry> [https://perma.cc/P8J7-WA25] (discussing how on election day in 2012, Colorado and Washington became the first two states to greenlight marijuana for recreational use which was big news for the expanding marijuana industry); SABET, *supra* note 206, at 31–39 (discussing how the marijuana industry developed into a “goliath,” similar to the tobacco and pharmaceutical industries); Will Yakowicz, *Why Mainstream Businesses Are High on the Cannabis Industry*, FORBES (Oct. 26, 2021, 12:09 PM), <https://www.forbes.com/sites/willyakowicz/2021/10/26/why-mainstream-businesses-are-high-on-the-cannabis-industry/> [https://perma.cc/SE5F-TCWB] (noting that the marijuana industry is one of the U.S.’s fastest-growing industries and that annual sales across the U.S. will reach \$100 billion by 2030).
346. Ali Bektaş, *Withering Green Rush: California Cannabis Breeding at a Crossroads*, L.A. REV. BOOKS (Aug. 5, 2023), <https://lareviewofbooks.org/article/withering-green-rush-california-cannabis-breeding-at-a-crossroads/> [https://perma.cc/Q8RG-6L2A].
347. Katharine Neill Harris & William Martin, *The Case for Marijuana Decriminalization*, BAKER INST. DRUG POL’Y (Apr. 16, 2019), <https://www.bakerinstitute.org/research/case-marijuana-decriminalization> [https://perma.cc/QBD9-QDUD].
348. *Id.*
349. *See generally id.* (discussing how decriminalization does not increase access to marijuana, allow for advertising of its use, or fuel the commercial market for marijuana).
350. *See, e.g.*, Tim Mullaney, *As Marijuana Goes Legit, Investors Rush In*, USA TODAY (Apr. 7, 2013, 6:08 PM), <https://www.usatoday.com/story/money/business/2013/04/07/medical-marijuana-industry-growing-billion-dollar-business/2018759/> [https://perma.cc/KUG6-JPQ5] (discussing how investors are scrambling for stakes in the billion-dollar marijuana industry as more states continue to trend towards legalization).

related businesses,³⁵¹ and business opportunities for marijuana industry consultants such as law firms, marketing and public relations consultants, and trade shows to serve marijuana businesses.³⁵² The Green Rush also refers to the movement of capital and people into locales that legalized marijuana.³⁵³

B. *The Business Model*

Industries that market addictive substances rely on a business model that reaps in 80% of profits from heavy users and 20% from occasional users.³⁵⁴ Therefore, such industries have every incentive to convince prospective users to use marijuana frequently.³⁵⁵ Individuals who use drugs in early adolescence will more likely heavily use drugs later in life.³⁵⁶ Thus, the marijuana industry has every incentive to

-
351. Chloë Harper Gold, *Why the Green Rush Means a New High in Real Estate Markets*, HIGH TIMES (Dec. 12, 2017), <https://hightimes.com/news/green-rush-means-new-high-real-estate-markets/> [<https://perma.cc/Z4HU-NRPY>] (stating that real estate professionals have noticed a recent boom in the demand for suitable spaces for individuals and entities in the legal Cannabis industry, noting that the majority of people are looking for suitable buildings and properties to grow their plants).
352. See, e.g., Javier Hasse, *How Public Relations Firms Are Capitalizing on the Marijuana Green Rush*, HIGH TIMES (Sept. 8, 2017), <https://hightimes.com/business/public-relations-firms-capitalizing-marijuana-green-rush/> [<https://perma.cc/B43G-AGZW>]; Joyce E. Cutler, *Cannabis Practices Sprout as Big Law Firms Follow the Money*, BLOOMBERG L. (Sept. 21, 2021, 6:01 AM), <https://news.bloomberglaw.com/business-and-practice/Cannabis-practices-sprout-as-big-law-firms-follow-the-money> [<https://perma.cc/3NP3-4HH6>].
353. See, e.g., Alicia Wallace, *Colorado Pot Sales Hit a Record \$1.5 Billion in 2017, and Border Towns Saw a Green Rush From Neighbors*, DENV. POST, <https://www.denverpost.com/2018/02/10/colorado-pot-sales-2017-border-towns/> [<https://perma.cc/25VC-KGS5>] (discussing how border towns in Colorado experienced a “green rush” from neighboring states leading to booming sales after the legalization of recreational marijuana in 2012); Alissa Ponchione, *Entrepreneurs, Investors High on the Pot Business*, CFO (Jan. 8, 2014), <https://www.cfo.com/news/entrepreneurs-investors-high-on-the-pot-business/> [<https://perma.cc/MB92-C93S>] (noting that in response to Colorado, Washington, and other states loosening up marijuana laws, investors and entrepreneurs are rushing in to take advantage, calling the phenomenon the “green rush”).
354. See, e.g., George F. Will, *The 80/20 Ratio: Rethinking America’s Drug-Control Strategy*, SEATTLE TIMES (Apr. 11, 2012, 5:00 PM), <https://www.seattletimes.com/opinion/the-80-20-ratio-rethinking-americas-drug-control-strategy/> [<https://perma.cc/B2KG-QPP4>] (discussing how heavy and illicit drugs consumed 80% of alcohol and illicit drugs in the U.S.).
355. *Id.*
356. Chloe J. Jordan & Susan L. Andersen, *Sensitive Periods of Substance Abuse: Early Risk for the Transition to Dependence*, 25 DEVELOPMENTAL COGNITIVE NEUROSCIENCE 29 (2017) (finding that early substance use

encourage people to start using when they are young and to use heavily.³⁵⁷ Research and experience with addictive substances show that the risk of misuse of a substance increases with increased access by prospective users.³⁵⁸ Thus, the marijuana industry's strategy for encouraging heavy use of marijuana begins early in the lives of potential customers.

C. *Lobbying the Government*

“The marijuana industry and lobbyists implemented a strategy to ‘medicalize or decriminalize to desensitize first, then legalize to make money.’”³⁵⁹ For the marijuana industry, tackling marijuana prohibition is necessary to make billions, so spending on lobbying is worth the investment to enable the industry to push marijuana products on the public.³⁶⁰ Researchers asserted the marijuana industry has every interest to push a regulatory environment enabling it to make high profits, at the expense of public health.³⁶¹ Furthermore, researchers determined the marijuana industry spent over \$7 million from 2010 to 2021 lobbying the Colorado Legislature on 367 bills.³⁶² Out-of-state actors contributed

dramatically increases the risk of substance use disorder later in life and that teenagers who start using substances before the age of 14 years old are at the greatest risk of developing substance dependence); *Adolescent and Young Adult Health*, WORLD HEALTH ORG. (Apr. 28, 2023), <https://www.who.int/news-room/fact-sheets/detail/adolescents-health-risks-and-solutions> [https://perma.cc/FU4Y-82U3]; *Risk Factors for Addiction*, P'SHIP TO END ADDICTION, <https://drugfree.org/article/risk-factors-for-addiction/> [https://perma.cc/KS9P-VYAA4] (noting that 90% of people with addictions started using substances during their teen years).

357. Jordan & Andersen, *supra* note 356; *Adolescent and Young Adult Health*, *supra* note 356; *Risk Factors for Addiction*, *supra* note 356.
358. *See Substance Use Disorder*, CLEV. CLINIC, <https://my.clevelandclinic.org/health/diseases/16652-drug-addiction-substance-use-disorder-sud> [https://perma.cc/87V2-3H8V] (discussing how easy access and exposure to addictive substances is a significant risk factor for developing substance use disorder, especially during the adolescent years); SAMHSA *Report*, *supra* note 18, at 26 (discussing how reducing the access and availability of addictive substances significantly impacts youth use of those substances).
359. SABET, *supra* note 206, at 59.
360. Aaron, Smith, *It's Time for the Marijuana Industry to Focus on Advocacy and Lobbying if It's Going to Thrive*, MARIJUANA MOMENT (Aug. 11, 2023), <https://www.marijuanamoment.net/its-time-for-the-marijuana-industry-to-focus-on-advocacy-and-lobbying-if-its-going-to-thrive-op-ed/> [https://perma.cc/G2GM-LNKB].
361. Thomas Rotering & Dorie E. Apollonio, *Cannabis Industry Lobbying in the Colorado State Legislature in Fiscal Years 2010-2021*, 102 INT'L J. DRUG POL'Y 1 (2022).
362. *Id.*

over \$800,000, 11% of the total marijuana industry funding for lobbying efforts.³⁶³ In 48% of lobbyist reports, lobbyists failed to disclose their funders' marijuana affiliation.³⁶⁴ Marijuana organizations employed strategies to hide the true amount and source of funding.³⁶⁵ Lobbyists concurrently represented the alcohol, tobacco, and marijuana industries, thereby exposing alliances between those industries' interests.³⁶⁶ Researchers concluded the marijuana industry invested significant monetary resources toward lobbying the Colorado Legislature to support policies facilitating marijuana industry profits by promoting increased marijuana use.³⁶⁷ Furthermore, researchers determined that creating transparency about the relationships between the marijuana industry, related industries of addiction such as alcohol and tobacco, and policymakers is essential to ensuring the necessary regulation of marijuana to protect public health.³⁶⁸

The marijuana industry spent over \$4.2 million lobbying on a variety of issues in 2021.³⁶⁹ One example is the Marijuana Opportunity, Reinvestment and Expungement Act (MORE) which purported to remove marijuana from the list of federally controlled substances, create a tax on marijuana products, and form a trust fund supporting communities impacted by the drug war.³⁷⁰ The marijuana industry gave the Representative who introduced the legislation \$2,500 and over \$52,000 to the Florida Representative who cosponsored the bill.³⁷¹ Another Representative who cosponsored the bill from Oregon, is the second highest recipient of marijuana industry money and received \$50,970 from the marijuana industry.³⁷² Other bill cosponsors received over \$5,000 from the marijuana industry during their tenure in Congress.³⁷³ While the marijuana industry spent \$4.2 million lobbying, there were at least twenty-four organizations that spent a combined

363. *Id.*

364. *Id.*

365. *Id.*

366. *Id.*

367. *Id.* at 5–6.

368. *Id.* at 12.

369. William Gavin, *The Marijuana Industry Spent Millions Lobbying on Legalization in 2021*, OPEN SECRETS (Apr. 4, 2022, 2:30 PM), <https://www.opensecrets.org/news/2022/04/the-marijuana-industry-spent-millions-lobbying-on-legalization-in-2021/> [<https://perma.cc/27C4-SQVS>].

370. *Id.*

371. *Id.*

372. *Id.*

373. *Id.*

\$31.1 million in lobbying on issues including the MORE Act.³⁷⁴ Amazon spent \$14.5 million lobbying between April and December on issues including the MORE Act.³⁷⁵ The American Civil Liberties Union spent \$920,000 on lobbying between July and December on issues including the MORE Act, and tobacco companies, including Altria Group spent nearly \$2.1 million and \$6.6 million on lobbying issues including the MORE Act.³⁷⁶ The American beverage company Molson Coors paid three lobbyists \$2.1 million to lobby for the MORE Act among other issues.³⁷⁷ The National Beer Wholesalers Association also hired lobbyists to lobby for the MORE Act and other issues, spending \$650,000 in 2021.³⁷⁸ These numbers demonstrate the financial benefits expected by the passage of such laws.

D. Big Alcohol, Big Pharma, and Big Tobacco

[S]ome of the most well-funded and wide-ranging interests have a stake in this new [marijuana] business. Among these many groups are Big Tobacco, Big Pharma, and Big Alcohol.³⁷⁹

Scholar Mark Kleiman explained,

The people now being hired by the guys in suits doing Cannabis-business stock promotions play by different rules. I expect them to have about the same ethical standards as lobbyists for the alcohol, tobacco, pharmaceutical, food, and fossil fuels industries: that is, I expect them to be utterly willing to sacrifice human health and welfare on the altar of the operating statement.³⁸⁰

Industries of addiction, like Big Tobacco, Big Alcohol, and Big Pharma have joined the Green Rush. Cigarette makers are moving into the marijuana market.³⁸¹ Addiction industries are collaborating to push marijuana as the next legal drug.³⁸² Many big players in tobacco,

374. *Id.*

375. *Id.*

376. *Id.*

377. *Id.*

378. *Id.*

379. SABET, *supra* note 206, at 34.

380. *Id.* at 32; Mark Kleiman, *The Marijuana Movement and the Marijuana Lobby*, WASH. MONTHLY (Oct. 1, 2015), <https://washingtonmonthly.com/2015/10/01/the-marijuana-movement-and-the-marijuana-lobby/> [<https://perma.cc/4X97-NZHP>].

381. SABET, *supra* note 206, at 35.

382. *Addiction Industries: Cannabis Attracts Big Tobacco, Big Alcohol, and Pharma Investments*, MOVENDI INT'L (Sept. 19, 2020), <https://movendi.ngo/news/2020/09/19/addiction-industries-Cannabis-attracts-big->

alcohol, and pharmaceuticals invested in the Cannabis industry.³⁸³ Altria, the owner of Phillip Morris and Marlboro cigarettes and the world's largest tobacco company, invested \$1.8 billion in Canadian Cannabis producer, Cronos, and now owns 45% of the company.³⁸⁴ That deal encompasses a provision for Altria to provide an additional \$1.05 billion for a 55% stake in the Cannabis business.³⁸⁵ In August 2018, Constellation Brands, the alcohol company that makes Corona beer, purchased a 38% share in the largest Canadian Cannabis company, Canopy Growth, for \$4 billion.³⁸⁶ Before this purchase, in October 2017, Constellation Brands invested \$200 million into Canopy.³⁸⁷ The deal allowed Constellation to purchase a majority share of Canopy.³⁸⁸ In total, Constellation Brands invested about \$5 billion into emerging Big Marijuana.³⁸⁹

Novartis, a giant in the world of Big Pharma, formed a strategic relationship with Tilray, one of the biggest medicinal marijuana companies.³⁹⁰ One reason Big Alcohol companies are joining the Green Rush could be to recapture the Millennial and Gen Z Generations.³⁹¹ Younger generations are steering away from alcohol.³⁹² One reason for this could be warnings by the scientific and healthcare industries that alcohol has harmful effects.³⁹³ However, these younger generations remain confused about the impact of marijuana, causing them to steer away from alcohol and gravitate towards marijuana.³⁹⁴ Since marijuana marketers aim to convince these generations that marijuana is a wellness tool, they do not highlight that marijuana can cause serious mental illnesses.³⁹⁵ Constellation Brands engages in this harmful

tobacco-big-alcohol-and-pharma-investments/ [https://perma.cc/8P7E-G2HN].

383. *Id.*

384. *Id.*

385. *Id.*

386. *Id.*

387. *Id.*

388. *Id.*

389. *Id.*

390. *Id.*

391. *Id.*

392. *Id.*

393. Alejandra O'Connell-Domenech, *Why Is Gen Z Drinking Less?*, HILL (Apr. 6, 2023), <https://thehill.com/changing-america/well-being/3936579-why-is-gen-z-drinking-less/> [https://perma.cc/LE52-EKDN].

394. *Addiction Industries: Cannabis Attracts Big Tobacco, Big Alcohol, and Pharma Investments*, *supra* note 382.

395. *E.g.*, Berenson, *supra* note 324.

marketing by endorsing a calorie-free alcoholic drink infused with marijuana as a tool to help fight depression.³⁹⁶ This is a spurious claim given marijuana’s link to depression, psychosis, anxiety, and suicide.³⁹⁷ Constellation Brands was the first Big Alcohol business to join the Green Rush to bring THC-infused beer to Canada and the US.³⁹⁸

In September 2018, Molson Coors, the second largest beer maker in North America, invested in a joint venture with a Canadian Cannabis industry giant.³⁹⁹ In August 2020, the companies put their first line of Cannabis-infused beverages on the market, including high-THC products misleadingly labeled “veryvell”, or “little victory.”⁴⁰⁰ Molson Coors’s CEO said the Cannabis market would produce up to \$10 billion in Canada, and Cannabis beverages could account for as much as \$3 billion or 30% of the market.⁴⁰¹

In December 2018, Anheuser-Busch announced its \$100 million investment in a Canadian Cannabis producer, with each company investing \$50 million to research cannabidiol or CBD.⁴⁰² This joint venture brought nonalcoholic CBD drinks to Canada in 2019, but the companies plan to launch THC beverages.⁴⁰³ In July 2018, Heineken’s newly acquired brewery introduced a THC-infused drink in California, making them the first Big Alcohol giant to launch such a beverage.⁴⁰⁴ Major merger and acquisition activity in the U.S. marijuana industry has happened since 2018, illustrating that the U.S. Cannabis industry is pursuing deals with other addiction industries.⁴⁰⁵ Marijuana businesses partnered with multinational companies to produce products attractive to youth such as: (1) Big Alcohol and Big Tobacco to produce

396. *Addiction Industries: Cannabis Attracts Big Tobacco, Big Alcohol, and Pharma Investments*, *supra* note 382.

397. *E.g., Marijuana Health Effects: Mental Health*, CTRS. FOR DISEASE CONTROL & PREVENTION (Oct. 19, 2020), <https://www.cdc.gov/marijuana/health-effects/mental-health.html> [<https://perma.cc/SYT7-Z2YY>].

398. *Addiction Industries: Cannabis Attracts Big Tobacco, Big Alcohol, and Pharma Investments*, *supra* note 382.

399. *Id.*

400. *Id.*

401. *Id.*

402. *Id.*

403. *Id.*

404. Erin Brodwin, *Heineken Is Betting on a Brew Made with Marijuana Instead of Alcohol, and It Could Help Give a Boost to the Struggling Beer Industry*, BUS. INSIDER (Aug. 8, 2018, 9:03 AM), <https://www.businessinsider.com/heineken-marijuana-beer-taste-photos-lagunitas-2018-8> [<https://perma.cc/D4FJ-KXKV>].

405. *Addiction Industries: Cannabis Attracts Big Tobacco, Big Alcohol, and Pharma Investments*, *supra* note 382.

marijuana-infused beers, (2) soda manufacturers to produce marijuana-infused sodas, and (3) Uber Eats to deliver marijuana making it easier for young people who do not yet have driver's licenses to obtain marijuana.⁴⁰⁶ Big Pharma has also moved into the lucrative marijuana market. The CEO of Purdue Pharma, the company that created OxyContin was later the president and director of a pharmaceutical division of Emblem, a marijuana company."⁴⁰⁷

E. The Bribes

State marijuana legalization has yielded massive corruption.⁴⁰⁸ By making local officials the gatekeepers for marijuana businesses, states "created a breeding ground for bribery and favoritism."⁴⁰⁹ The citizenry of Fall River, Massachusetts elected their mayor in 2015.⁴¹⁰ Four years later, federal agents led the Fall River mayor away in handcuffs, charging him with attempting to extort \$600,000 from a marijuana company in exchange for granting a license to sell marijuana.⁴¹¹ This story is "emblematic of a rash of [C]annabis-related corruption across the nation from Massachusetts to California to Arkansas and beyond."⁴¹² Marijuana legalization created "a market for local corruption."⁴¹³ Generally, states that legalized marijuana require approval of local officials or set a statewide limit on the number of marijuana licenses, chosen by a board, giving responsibility to local politicians for big dollar decisions, creating an environment ripe for corruption and "a culture in which [C]annabis entrepreneurs feel obliged to make large campaign contributions or hire politically connected lobbyists."⁴¹⁴

Several state politicians have also engaged in corruption surrounding marijuana businesses. A former Maryland state representative was sentenced to two years in prison for accepting bribes in exchange for introducing and voting on legislation favorable for medicinal marijuana businesses.⁴¹⁵ When a state legalizes marijuana by

406. *Id.*

407. SABET, *supra* note 206, at 35.

408. Mona Zhang, *How State Marijuana Legalization Became a Boon for Corruption*, POLITICO (Dec. 27, 2020, 6:50 AM), <https://www.politico.com/news/2020/12/27/marijuana-legalization-corruption-450529> [<https://perma.cc/Z4XB-5532>].

409. *Id.*

410. *Id.*

411. *Id.*

412. *Id.*

413. *Id.*

414. *Id.*

415. *Id.*

ballot or legislation, generally, local communities have a say in whether marijuana shops will be in their communities.⁴¹⁶ The Massachusetts law that legalized marijuana granted wide latitude to local authorities.⁴¹⁷ Marijuana businesses found ways to exceed this limit, and big businesses could offer municipalities more financial treats.⁴¹⁸ For example, one national marijuana business, PharmaCann, whose slogan is “Improving People’s Lives through Cannabis” offered a Cape Cod town funding for police, preservation of a painting, and a local oyster festival.⁴¹⁹

Many of California’s cities ban commercial marijuana businesses. Thus, in the California cities that permit commercial marijuana businesses, competition is fierce. Moreover, many states limit the number of licenses issued. Having local politicians choose the businesses that can legally sell marijuana creates an environment ripe for corruption. A culture has emerged in which marijuana businesses contribute large sums to local politicians’ campaigns and hire politically connected lobbyists to obtain marijuana licenses.⁴²⁰ These cities enacted their own regulations for granting marijuana businesses licenses, leading to corruption, such as bribes to local sheriffs and campaign-finance violations.⁴²¹ Federal prosecutors charged California city officials with corruption after they solicited bribes from an undercover FBI agent in exchange for a marijuana business permit.⁴²² With over \$3 billion in marijuana sales in 2019, Los Angeles is home to the largest municipal marijuana market in the United States⁴²³ The FBI arrested a Los Angeles city councilmember for corruption.⁴²⁴ Later, FBI agents raided a Compton California councilman’s home and an attorney’s office investigating their dealings with marijuana businesses.⁴²⁵ Three marijuana businesses complained to law enforcement about paying as much as \$250,000 in cash, in a brown paper bag, for city officials to issue them a marijuana license.⁴²⁶

416. *Id.*

417. *Id.*

418. *Id.*

419. *Id.*

420. *Id.*

421. *Id.*

422. *Id.*

423. *Id.*

424. *Id.*

425. *Id.*

426. *Id.*

The FBI warned states across the nation about the corruption the marijuana industry brings to a city.⁴²⁷ FBI officials have seen bribes as high as \$500,000 in exchange for a marijuana license.⁴²⁸ In Sacramento, a marijuana business executive was indicted on federal campaign-finance violations.⁴²⁹ Corruption allegations have similarly plagued the medical marijuana programs in Arkansas and Missouri. In both states, applicants denied marijuana licenses allege that the process was rigged to benefit the politically well-connected.⁴³⁰ The Arkansas Attorney General raised the issue of the commissioner being offered a bribe by a marijuana business.⁴³¹ In Arkansas, marijuana business license applicants filed a complaint to the ethics commission alleging that the medical marijuana commissioner's ties to one of the businesses receiving a license revealed conflicts of interest because the commissioner had helped the license recipient in previous business matters.⁴³² Other lawsuits alleged Arkansas regulators arbitrarily violated their own rules.⁴³³ The state supreme court found that the Arkansas commission violated Equal Protection in granting marijuana licenses amounting to racial discrimination.⁴³⁴

In Missouri, a legislative report cited allegations of executive branch interference with a corruption investigation related to improperly granting marijuana licenses.⁴³⁵ In Missouri, a legislative report exposed allegations of executive branch interference with a corruption investigation about improperly granting marijuana licenses. Many individuals involved in the medical marijuana program were connected to the Missouri Governor's administration because "where there's money, there's people in powerful positions able to steer contracts and granting of licenses in one direction."⁴³⁶ A long list of individuals is involved in the medical marijuana program connected to the Missouri Governor's administration.⁴³⁷

The marijuana industry is "vulnerable to lacking a set of safeguards and regularity that might hedge against corruption". For decades, federal, state, and local governments have regulated other addiction

427. *Id.*
428. *Id.*
429. *Id.*
430. *Id.*
431. *Id.*
432. *Id.*
433. *Id.*
434. *Id.*
435. *Id.*
436. *Id.*
437. *Id.*

industries such as alcohol, tobacco, and gambling, but in the “[C]annabis space, we’re almost literally making it up as we go. No history, no background, no norms.”⁴³⁸

A former speaker of the U.S. House of Representatives appeared in a marijuana infomercial aimed at investors and the industry: “I used to sit on the board of a major tobacco company . . . You think Big Tobacco is staying on the sidelines? I’ve talked to these guys. They’re not [going to] sit this one out. They have the dollars to acquire whoever they want. We’re just beginning to see some action in the space.”⁴³⁹ At that time, the former speaker of the House could have expected to make \$20 million as a board member and shareholder of a marijuana investment firm, pending the federal government’s legalization of marijuana.⁴⁴⁰

State licensing authorities have granted licenses to drug dealers who now operate legally while continuing their illegal drug business.⁴⁴¹ Regulators and politicians received payoffs from marijuana businesses and distributed licenses to “friends and associates.”⁴⁴² For example, in Illinois, the Chicago Tribune and Chicago Sun-Times exposed conflicts of interest in the marijuana industry.⁴⁴³ The spouse of the marijuana legalization bill’s lead sponsor works in the marijuana business.⁴⁴⁴ The bill’s lead sponsor denied that there was a conflict because the legalization bill passed before her spouse took the job.⁴⁴⁵

Also, leaders of the marijuana business Green Renaissance Illinois include a former Chicago police commander, a Republican Party operative, a former Transit Authority official related to a former state lawmaker, and a former director of the Illinois agency overseeing marijuana dispensaries.⁴⁴⁶ This company submitted twenty-five marijuana license applications with the potential to yield more than \$130 million.⁴⁴⁷ The business is located at the same address as Illinois lobbyists, causing an Illinois state representative to say, “the well-

438. *Id.*

439. SABET, *supra* note 206, at 31.

440. *Id.*; Elizabeth Williamson, *John Boehner: From Speaker of the House to Cannabis Pitchman*, N.Y. TIMES (June 3, 2019), <https://www.nytimes.com/2019/06/03/us/politics/john-boehner-marijuana-Cannabis.html> [<https://perma.cc/94LP-WFGB>].

441. SABET, *supra* note 206, at 35.

442. *Id.*

443. *Id.*

444. *Id.*

445. *Id.* at 35–36.

446. *Id.*

447. *Id.*

connected [are] having their way in the cesspool of state government.”⁴⁴⁸ FBI officials investigated Nevada’s marijuana program because of “how regulators deleted disciplinary records of dispensary sales to minors, bent the rules for certain establishments, and stored undocumented, unsecured, and unknown quantities of seized marijuana in a state office.”⁴⁴⁹ The deputy director of licensing was accused of favoritism and bribes.⁴⁵⁰ Jack Abramoff, previously sentenced to federal prison, pleaded guilty in 2019 to criminal conspiracy related to marijuana lobbying.⁴⁵¹ Authorities charged Lev Parnas and Igor Fruman with conspiring to give political contributions of up to \$2 million to obtain licenses for marijuana businesses in California, Nevada, and Florida.⁴⁵²

F. Regulation Vacuum

States that legalized Cannabis are uninformed about the true contents of marijuana products.⁴⁵³ State agencies overseeing marijuana businesses are understaffed; therefore, state inspectors frequently fail to detect key safety issues.⁴⁵⁴ This regulatory oversight has resulted in marijuana dispensaries mistakenly giving customers the wrong dosage of THC because of wrongfully labeled marijuana products.⁴⁵⁵ Regulators have turned a blind eye to unscrupulous players taking over marijuana businesses.⁴⁵⁶ State regulatory quality control laboratories are supposed to ensure marijuana products are free from contamination, but they often do not detect and confiscate marijuana “tainted with mold, hazardous pesticides, and heavy metals.”⁴⁵⁷ People mistakenly assume they are buying regulated, and therefore adequately tested, marijuana-related products from dispensaries.⁴⁵⁸ Furthermore, as explored previously in this Article, CBD products may not have the amount of CBD they purport to have and may contain THC without warning customers.⁴⁵⁹

448. *Id.*

449. *Id.*; Dana Gentry, *Weed Whistleblower Turns to FBI*, NEV. CURRENT (Jan. 14, 2020, 6:14 AM), <https://www.nevadacurrent.com/2020/01/14/weed-whistleblower-turns-to-fbi/> [<https://perma.cc/4TWP-H2NZ>].

450. SABET, *supra* note 206, at 37.

451. *Id.*

452. *Id.*

453. *Id.* at 35.

454. *Id.*

455. *Id.* at 38.

456. *Id.* at 39.

457. *Id.*

458. *Id.* at 38.

459. *See* GRINSPOON, *supra* note 215, at 302–15.

G. Media & Marketing Collusion

Researchers have evaluated marijuana-related content in news, social media, and advertisements, to find: “[o]ver time, news coverage shifted from negative to slightly positive toward marijuana use. Social media and advertisements were overwhelmingly favorable toward marijuana use and legalization by claiming social, romantic, and health benefits of marijuana use while completely downplaying risks.”⁴⁶⁰ In fact, the “majority of social media accounts were also run by advocacy groups and industry interests, rather than individuals who were simply sharing opinions or experiences. Furthermore, the absence of health authorities among the highly popular social media accounts about marijuana was notable.”⁴⁶¹ Researchers concluded that the public widely accessed this pro-marijuana content through the news, social media, and advertising messages.⁴⁶² Researchers urged policymakers to become aware of this widely spread information for potential marijuana users and “take more proactive measures to protect vulnerable populations.”⁴⁶³

A different set of researchers noted that marijuana use had doubled in the past decade in the U.S., but the public’s understanding of marijuana’s risks remained limited.⁴⁶⁴ Only 33% of the public perceived health risks from weekly marijuana use compared to 50% in 2002, before legalization.⁴⁶⁵ The public appeared to believe that recreational marijuana use was not only safe, but that it even had health benefits.⁴⁶⁶ Researchers stated that media contributed greatly to the nation’s perspective on health but may be providing incomplete information.⁴⁶⁷ Researchers concluded the proportion of articles favorably mentioning marijuana increased from 11% in 2012 to 65% in 2016, and news articles discussing benefits and harms were more likely to communicate favorable impressions of marijuana.⁴⁶⁸

460. Sung-Yeon Park & Kyle J. Holody, *Content, Exposure, and Effects of Public Discourses About Marijuana: A Systematic Review*, 23 J. HEALTH COMM’N. 1036, 1036 (2018).

461. *Id.*

462. *Id.*

463. *Id.*

464. Abraham et al., *supra* note 16.

465. *Id.*

466. *Id.*

467. *Id.*

468. *Id.*

The marijuana industry and activists have their own news sources, such as *High Times*, that celebrate marijuana culture.⁴⁶⁹ Respected mainstream news media outlets also romanticize marijuana.⁴⁷⁰ In April 2022,⁴⁷¹ Newsweek featured a beautiful marijuana flower and joyfully explained the 420 holiday that marijuana connoisseurs look forward to every year to celebrate Cannabis culture.⁴⁷² The “holiday” began as a “ritual . . . started by five high school teenagers . . . in the 1970s, who used to meet after school [at] around 4:20 p.m. . . . [to smoke marijuana] . . . and look for a [C]annabis plant, supposedly left behind in a forest by a U.S. Coast Guard member who could no longer maintain the crop.”⁴⁷³ Although the teenagers never found the hidden Cannabis plant, they “managed to introduce a lasting code that became used by weed smokers around the globe.”⁴⁷⁴ The Newsweek article instructed readers to celebrate the Cannabis holiday by: (1) finding the nearest 420 rally, (2) visiting a marijuana-friendly dating site for singles to meet up with a pot-smoking partner with whom to enjoy the holiday, (3) listening to a marijuana podcast, and (4) sampling Cannabis recipes.⁴⁷⁵ Also, the article lightheartedly revealed, without any warning to teenagers to avoid Cannabis, that the history of the 420 holiday celebrates teenagers using marijuana weekly, thus promoting teenage marijuana use.⁴⁷⁶

The marijuana industry targets youth in places they frequently visit: social media websites.⁴⁷⁷ A 2022 study revealed recreational Cannabis companies market Cannabis on social media to appeal to youth.⁴⁷⁸ The study examined one year of social media posts from

469. See HIGH TIMES, <https://hightimes.com/> [<https://perma.cc/LTF3-F2GU>].

470. See, e.g., Jack Dutton, *What is 420 Weed Day and Why Does it Exist? History, Origin Explained*, NEWSWEEK (Apr. 20, 2022, 10:40 AM), <https://www.newsweek.com/what-420-weed-day-why-does-it-exist-history-origin-explained-1699272> [<https://perma.cc/BV6T-E67D>].

471. *Id.*

472. *Id.*

473. *Id.*

474. *Id.*

475. *Id.*

476. *Id.*

477. See Jennifer M. Whitehill et al., *Exposure to Cannabis Marketing in Social and Traditional Media and Past-Year Use Among Adolescents in States with Legal Retail Cannabis*, 66 J. ADOLESCENT HEALTH 247 (2020) (discussing how adolescents are widely exposed to Cannabis marketing via social media and how this exposure is associated with recent Cannabis use).

478. Kyle Jones, *Study Shows Cannabis Companies Use Marketing That Appeals to Kids*, CHANNEL 3000 (Jan. 25, 2022), <https://www.channel3000.com/news/local-news/study-shows-Cannabis-companies-use>

marijuana companies in Alaska, Colorado, Oregon, and Wisconsin, where recreational marijuana is legal.⁴⁷⁹ The data revealed everyone can easily view marijuana advertisements, including children, on whom they have a strong influence.⁴⁸⁰ “Research exposed how alcohol and tobacco businesses marketing makes young people use those products more heavily.”⁴⁸¹ The 2022 study examined 2,660 social media posts from fourteen different marijuana companies, finding that 35% of posts advertised marijuana discounts and promotions, advertisements that are illegal in Wisconsin.⁴⁸² Researchers found fewer than half of the posts contained the required safety warnings.⁴⁸³ Every day, some marijuana businesses generate dozens of social media posts marketing marijuana, and there is no current system to monitor or enforce Wisconsin regulations prohibiting marijuana marketing.⁴⁸⁴ Marijuana companies posted content appealing to youth, including young models and cartoon characters.⁴⁸⁵ Marijuana companies marketed to people facing budgetary constraints, though this was prohibited in Wisconsin.⁴⁸⁶ “It is important for parents to know that [C]annabis companies are actively sharing youth-friendly and restricted content” on social media.”⁴⁸⁷ Children have widespread access to social media messaging from marijuana companies promoting marijuana products.⁴⁸⁸

Hollywood aggressively promotes the marijuana industry.⁴⁸⁹ Marijuana marketers collaborating with Hollywood executives successfully transformed marijuana’s negative stereotypes.⁴⁹⁰ Cheryl Shuman, a marketing and public relations consultant, announced she

marketing-that-appeals-to-kids/article_b7ec48e7-2a74-5650-961d-5191cb7ae722.html [https://perma.cc/KY6T-G739].

479. *Id.*

480. *Id.*

481. *Id.*

482. *Id.*

483. *Id.*

484. *Id.*

485. *Id.*

486. *Id.*

487. *Id.*

488. *Id.*

489. See Scott Meslow, *How TV Fell in Love with Marijuana*, ATLANTIC (Apr. 20, 2012), <https://www.theatlantic.com/entertainment/archive/2012/04/how-tv-fell-in-love-with-marijuana/256169/> [https://perma.cc/96YM-HSEF].

490. See, e.g., Angela Johnson, *13 Celebrities Who Have Talked About Smoking Weed*, BUS. INSIDER (Apr. 20, 2023, 11:10 AM), <https://www.insider.com/celebrities-who-smoke-weed-2018-10> [https://perma.cc/UPM4-BXER].

wanted to improve the image of the stereotypical marijuana user.⁴⁹¹ Her strategy was to replace images of “dreadlocked surfer-types taking hits from tie-dyed bong” with images of modern-day marijuana connoisseurs, which to her are “middle-class soccer moms revving up their pocket vaporizers after their children are in bed and suit-clad professionals taking the edge off the day.” Shuman wanted to drive home the point that “the new weed smoker is a successful professional.”⁴⁹² Shuman stated, “[t]he thought of being associated with the whole druggie loser scene is not appealing to them, which is why branding is changing.”⁴⁹³ An entire industry of Hollywood consultants was “drawn to marijuana in [the] age of growing legalization.”⁴⁹⁴ Such consultants, like Shuman, work with TV and film producers to “make sure on-screen [C]annabis use is depicted in a positive light.”⁴⁹⁵ With marijuana’s increasing legalization, the need for this particular type of consultant has created a multi-billion-dollar industry.

Shuman wanted to “alter public perceptions of marijuana” and she made lots of money working with this “cause.”⁴⁹⁶ She collaborated with Hollywood producers making herself Hollywood’s “go-to consultant” “on how to display Cannabis use in film and TV”⁴⁹⁷, stating, “the most important thing is to get the subject [marijuana] placed in a positive light.”⁴⁹⁸ Shuman advised producers of TV shows such as *Parenthood* and *Law and Order* on how to realistically portray marijuana usage.⁴⁹⁹ She changed the portrayal of marijuana in *Wilfrid*, a TV show featuring a talking marijuana smoking dog.⁵⁰⁰ Shuman stated, “[i]n one of the first episodes, the character built a bong out of an old Gatorade bottle, and it looked disgusting. True Cannabis connoisseurs were offended.”⁵⁰¹ Shuman advised producers to have Wilfrid use a vaporizer, and

491. Eleazar David Melendez, *Marijuana Product Placement, Branding on the Rise as Marketing Execs Reimagine Legal Ganja*, HUFF POST (June 13, 2013, 8:13 AM), https://www.huffpost.com/entry/marijuana-product-placement_n_3431159 [<https://perma.cc/AKN9-54BU>].

492. *Id.*

493. *Id.*

494. *Id.*

495. *Id.*

496. *Id.*

497. *Id.*

498. *Id.*

499. *Id.*

500. *Id.*

501. *Id.*

designed the set for a scene in which the anthropomorphic dog visits a dispensary, promoting the Cannabis brands she represented.⁵⁰²

Shuman explained, “a well-placed product can be a boon” for an industry.⁵⁰³ It is interesting to note that Shuman was the same expert who convinced Tom Cruise to wear Ray Bans in 1983’s *Risky Business*.⁵⁰⁴ After the movie came out, Ray Ban sold over 360,000 pairs of sunglasses in just months.⁵⁰⁵ Shuman advised that Hollywood making marijuana paraphernalia attractive in TV and film helped the marijuana legalization movement. Hollywood messaging changed public attitudes about marijuana and ultimately helped cause the electorate to legalize it.⁵⁰⁶

In contrast, during the 1980s, TV depicted marijuana as an illegal harmful drug to be avoided.⁵⁰⁷ TV series such as *Growing Pains* and *Full House* conveyed to youth that they should avoid the drug.⁵⁰⁸ In 1990, there was a made-for-TV special *Cartoon All-Stars to the Rescue*, with Bugs Bunny, Alf, Garfield, and Muppet Babies who told a pot-smoking teenager how to say “no” to marijuana.⁵⁰⁹ In 1992 when the rates of teenage marijuana use reached their lowest, an ABC sitcom, *Dinosaurs* featured a teenager pleading, “don’t do drugs – and help stop preachy sitcom episodes like this one.”⁵¹⁰ *Dinosaurs* signaled the end of Hollywood discouraging teenagers from smoking marijuana.⁵¹¹ Now, television has for the most part abandoned any attempts to protect children from marijuana use.

Since the Green Rush, TV transformed from warning of marijuana’s dangers to normalizing and promoting marijuana use.⁵¹² Today’s TV shows encourage teenage marijuana use, conveying the message that using marijuana is an exciting rite of passage.⁵¹³ In 2012, a media watchdog group argued TV’s normalization of marijuana increased teenage use.⁵¹⁴ In a 2010 Fox News debate about marijuana legalization, one panelist explained that TV shows featuring marijuana users

502. *Id.*

503. *Id.*

504. *Id.*

505. *Id.*

506. *Id.*

507. *See* Meslow, *supra* note 489.

508. *Id.*

509. *Id.*

510. *Id.*

511. *See id.*

512. *See id.*

513. *See generally id.*

514. *See id.*

communicate to youth that marijuana is normal: “[t]here’s a wink and a nudge when it comes to pot use on television . . . [The message is] [t]his is something that everybody does, and everybody knows that everybody does it.”⁵¹⁵

In 2023, parents searching for TV shows to watch with their children would struggle to find a series that avoids promoting marijuana.⁵¹⁶ In the series *The Summer I Turned Pretty*, the 15-year-old protagonist’s writer mother and her artist friend joyfully smoke joints together.⁵¹⁷ The show created for teenagers conveys that good moms smoke marijuana.⁵¹⁸ The series’ teenage boys range in age from a high school senior to an Ivy League sophomore, and they laughingly search for marijuana.⁵¹⁹ Furthermore, that same Ivy League sophomore smokes marijuana several times in the first few episodes.⁵²⁰

In *That 90s Show*, the 2023 reunion of *That 70s Show*, the original show’s teenage stars are now middle-aged parents whose teenage children get so high from marijuana that they experience colorful, exciting hallucinations, thus romanticizing and normalizing marijuana-induced psychosis.⁵²¹ *The Diplomat*, a political series by the makers of *West Wing* features a sexy lighthearted scene in which the diplomat male protagonist gets stoned with the sister of a British diplomat, normalizing marijuana by featuring high-functioning smokers.⁵²² The plot arc on *Glee* featured a fired high school teacher reselling her medical marijuana.⁵²³

Television propaganda not only entices youth to use marijuana but convinces the public to support marijuana’s legalization.⁵²⁴ Series such

515. *Id.*

516. See Rae Lland, *Casual Cannabis Use on TV Is Becoming Common*, CANNABISNOW (Apr. 14, 2018), <https://cannabisnow.com/casual-cannabis-use-on-tv-is-becoming-common/> [<https://perma.cc/3XDW-6SEU>] (discussing how the depiction and normalization of casual Cannabis use in television and movies is on the rise).

517. *The Summer I Turned Pretty* (Amazon Studios et al. June 2022).

518. *Id.*

519. *Id.*

520. *Id.*

521. Michelle Butterfield, ‘*That ‘90s Show*’: *What’s Changed and Who Remains the Same in Point Place*, GLOB. NEWS (Jan. 20, 2023, 3:00 PM), <https://globalnews.ca/news/9425302/that-90s-show-characters-different-same-changes/> [<https://perma.cc/5VHU-QK94>] (“[T]he infamous weed-smoking circle remains a big plot of the reunion series.”).

522. Rachel Chang, *What Happens in ‘The Diplomat’ Episode 5?*, TUDUM BY NETFLIX, <https://www.netflix.com/tudum/articles/the-diplomat-episode-5-recap> [<https://perma.cc/H4L9-STD6>].

523. Meslow, *supra* note 489.

524. *Id.*

as *The Simpsons*, *South Park*, and *Family Guy* aired episodes surrounding marijuana legalization.⁵²⁵ *Family Guy*'s "420" aired its own song "A Bag of Weed" mocking the "Wonderful Ways to Say No" song of *Cartoon All-Stars to the Rescue!* TV propagandizing to support marijuana legalization works.⁵²⁶

Reality TV embraced marijuana.⁵²⁷ The Discovery Channel and National Geographic aired reality series *Weed Wars* and *American Weed* portraying growing marijuana as a legitimate business.⁵²⁸ In *Herb*, a marijuana culture magazine, a 2021 article *The 11 Best Weed Related Things on Netflix You Can Watch Right Now* stated that Netflix provides "great weed related entertainment."⁵²⁹ The article recommended that weed film lovers use this list "for the next time you're on the couch (and, hopefully, elevated)."⁵³⁰ "We've got the perfect companion for your cannabic Netflix binge watching. Check out this high-quality craft made hybrid that will get you in the mood. The best thing about it? You can order online and have it delivered."⁵³¹ The article recommended: (1) "a green version of *Super Size Me*" showing what happens after using marijuana for thirty days, *Super High Me* that will keep audiences laughing,⁵³² (3) *Dough* a "heartwarming comedy" of a struggling baker until his young employee puts marijuana in the dough,⁵³³ (4) *Rolling Papers* about the Green Rush and the Denver Post, the media outlet that helped win the war against criminalization, (5) *Half-Baked* a stoner comedy,⁵³⁴ (6) Joe Rogan's *Triggered* where the comedian stated he was high but that was good – "a must-see for anyone who has ingested an edible before and from there you'll be hooked,"⁵³⁵ (7) *Disjointed*, a Netflix sitcom, featuring a dispensary owner bringing "passion for life, love, and [C]annabis to light . . . , [w]ith a smart script that seamlessly blends [C]annabis facts and culture with the mainstream,"⁵³⁶ (8) *Mac & Devon Go to High*

525. *Id.*

526. *Id.*

527. *Id.*

528. *Id.*

529. Todd Farmington, *The 11 Best Weed Related Things on Netflix You Can Watch Right Now*, HERB (Jan. 20, 2021), <https://herb.co/news/culture/weed-netflix> [<https://perma.cc/59P8-TQ59>].

530. *Id.*

531. *Id.*

532. *Id.*

533. *Id.*

534. *Id.*

535. *Id.*

536. *Id.*

School featuring the two most prominent marijuana advocates Snoop Dogg⁵³⁷ and Wizz Khalifa “that should definitely be watched high,”⁵³⁸ with a “whirlwind of [C]annabis quotes, thoughts, feelings, and overall, just a good laugh,”⁵³⁹ (9) *Cooked with Cannabis*, a reality cooking show where chefs compete with marijuana dishes, “to change long-standing weed taboos by showing that art, food, and [C]annabis can share a platform,”⁵⁴⁰ (10) *Game Over, Man!* sure to bring giggles,⁵⁴¹ (11) *The Package*, about five high schoolers “who get wound up in an insane adventure to return their friend’s severed penis to him in time for it to be reattached” a crazy outcome of a stoned night, a high school classic “sure to trigger a few laughs,”⁵⁴² and (12) *Rick & Morty* a cartoon series including “freaky adventures . . . through unimaginable worlds that sometimes can only make sense if [] smoking weed”, watching it while stoned is mind expanding.⁵⁴³

A 2019 article *Netflix Curbs Tobacco Use on Screen, But Not Pot. What’s Up with That?*, reported “Netflix recently announced it would curb depictions of cigarette smoking in original programming intended for general audience, after a Truth Initiative study showed its monster summer hit, *Stranger Things*, featured more tobacco use than any other program on streaming, broadcast or cable.”⁵⁴⁴ For decades, the federal government banned advertising tobacco on TV and in film.⁵⁴⁵

While eschewing tobacco use, Netflix seems to endorse marijuana. The Netflix show *On My Block* is rated for 14 and older, the same rating as *Stranger Things*.⁵⁴⁶ The first scene in *On My Block* depicts high school students doing bong hits and a pot-smoking grandmother.⁵⁴⁷

537. See Jordan Greene, *Snoop Dogg Has a Message for Fans: ‘I’m Giving Up Smoke’*, PEOPLE MAG. (Nov. 16, 2023, 4:13 PM) (noting that it is unclear whether Snoop Dogg plans to give up Cannabis altogether or if he will continue to promote Cannabis by using other products such as edibles).

538. See Farmington, *supra* note 529.

539. *Id.*

540. *Id.*

541. *Id.*

542. *Id.*

543. *Id.*

544. Neda Ulaby, *Netflix Curbs Tobacco Use Onscreen, But Not Pot. What’s Up With That?*, NPR (Aug. 17, 2019, 8:00 AM), <https://www.npr.org/sections/health-shots/2019/08/17/749843866/netflix-curbs-tobacco-use-onscreen-but-not-pot-whats-up-with-that> [https://perma.cc/AQK4-Y536].

545. *Id.*

546. *Id.*

547. *Id.*

The Netflix comedy *Always Be My Maybe* is rated PG-13.⁵⁴⁸ One main character smokes weed.⁵⁴⁹ A medical school professor asserted, “[r]ating a film for [fourteen] year olds that’s promoting substances – it’s like the peak of risk.”⁵⁵⁰ Although pot was “widely regarded as holistic and harmless, compared to cigarettes, that’s not accurate.”⁵⁵¹ “Marijuana is not harmless . . . , secondhand marijuana smoke has the same kind of adverse effects on your blood vessels that smoking a cigarette does. Chemically it’s not all that different from cigarette smoke, except for the psychoactive agent.”⁵⁵²

This professor specialized in cardiovascular issues, which may be why he did not mention the risk of inducing psychosis that marijuana, not tobacco, poses.⁵⁵³ The professor stated studies linked teenage exposure to smoking in media to later tobacco use, and studies linking marijuana use to media exposure are emerging.⁵⁵⁴ Netflix representatives distributed marijuana varieties named after popular Netflix shows at a marijuana business event in West Hollywood because marijuana can help make a business cool in today’s environment.⁵⁵⁵ In Hollywood, marijuana has a much better brand than tobacco does.⁵⁵⁶ Hollywood executives claim that characters smoking marijuana in film is mere artistic expression is disingenuous and dangerous to public health. Hollywood featuring such scenes glamorizing marijuana use unabashedly follows the tobacco industry’s playbook of pushing tobacco on the public by glamorizing it in film.⁵⁵⁷ Attorneys General from forty-three states and territories signed a letter to streaming companies pleading for better practices regarding showing tobacco on screen.⁵⁵⁸ In contrast, attorneys general remain silent when Hollywood unabashedly promotes marijuana.

IV. HALT THE GREEN RUSH

Under the mistaken belief that legalization would decriminalize marijuana use, meaning that people smoking joints would not be

548. *Id.*

549. *Id.*

550. *Id.*

551. *Id.*

552. *Id.*

553. *Id.*

554. *Id.*

555. *Id.*

556. *Id.*

557. *Id.*

558. *Id.*

subjected to incarceration, Americans have instead unleashed the commercialization of marijuana. Yet there are other options between these two extremes, as well as better solutions. Americans need to consider alternatives to the Green Rush that better protect the developing brains of our youth.

A. *American Anomaly*

Other countries have considered the issue of marijuana legalization and have reached completely different outcomes than the United States. The legal status of marijuana in the United Kingdom, Australia and Sweden offers a variety of ideas that could be adopted by the United States.

1. The United Kingdom:

The UK classifies drugs as Class A, B, or C depending on their dangerousness.⁵⁵⁹ Class A drugs are the most dangerous and carry the most severe penalties.⁵⁶⁰ Because of the relative dangerousness of Class B drugs, people who use or deal these drugs can be incarcerated.⁵⁶¹ Class C drugs lead to the lowest penalties.⁵⁶² While the United Kingdom's classification of marijuana has varied over the years, modern psychiatric research controls its current restricted status.⁵⁶³

Dr. Robin Murray, a psychiatrist who researched and treated schizophrenia for decades at the Institute of Psychiatry, Psychology, and Neuroscience College London, developed research stemming from a study begun in New Zealand.⁵⁶⁴ Murray determined that not only genetics, but environmental factors caused schizophrenia.⁵⁶⁵ The data enabled Murray to account for pre-existing psychosis when deciding whether adolescent Cannabis use caused psychotic disease in adulthood.⁵⁶⁶ Murray found participants who used Cannabis at fifteen were more than four times more likely to develop schizophrenia or

559. ALEX BERENSON, TELL YOUR CHILDREN: THE TRUTH ABOUT MARIJUANA, MENTAL ILLNESS, AND VIOLENCE 94 (2019).

560. *Id.*

561. *Id.*

562. *Id.*

563. *See id.* at 94–95.

564. *See id.* at 88 (discussing a pediatrician in Dunedin New Zealand, Dr. Patricia Buckfield, who created a database of babies born in the local obstetrics center to connect prenatal issues with later health issues. Dr. Phil Silva joined the research, expanding the pool to cover 1,037 children who were measured at ages: three, five, seven, nine, eleven, thirteen, fifteen, eighteen, and twenty-one).

565. *Id.* at 90.

566. *Id.* at 91–92.

schizophreniform syndrome than participants who never used.⁵⁶⁷ After accounting for participants who had psychotic symptoms at age eleven, Murray found the risk of developing schizophrenia from adolescent Cannabis use was three times higher than if the participant had not used.⁵⁶⁸ Thus, “[u]sing [C]annabis in adolescence increases the likelihood of experiencing symptoms of schizophrenia in adulthood.”⁵⁶⁹

Prior to Murray’s research, the British Government Advisory Committee recommended the reclassification of marijuana as a Class C drug.⁵⁷⁰ If the UK moved marijuana from B to C, marijuana would not technically be legal, but it would be a less serious offense.⁵⁷¹ The committee stuck to its position to re-categorize marijuana as a Class C drug despite Murray’s findings.⁵⁷²

However, marijuana consumption in the UK did not increase, even after the reclassification of the drug as Class C, due to the dissemination of the Institute of Psychiatry’s (Institute) findings connecting Cannabis with psychosis.⁵⁷³ The Institute continued publishing papers connecting Cannabis with psychosis.⁵⁷⁴ British journalists and politicians noticed the Institute’s findings.⁵⁷⁵ Because of public awareness of the psychosis Cannabis connection, in 2007, *The Independent*, a British newspaper switched its position on Cannabis.⁵⁷⁶ Having endorsed Cannabis decriminalization, the British newspaper now recommended re-categorizing Cannabis to Class B.⁵⁷⁷ In 2008, the British government capitulated, because of the schizophrenia Cannabis connection, reclassifying Cannabis back to a Class B drug.⁵⁷⁸ In 2011, Dr. Robin Murray was knighted for his research connecting Cannabis to schizophrenia, and he is the most highly cited researcher of schizophrenia in Europe.⁵⁷⁹

567. *Id.* at 93.

568. *Id.*

569. *Id.*

570. *Id.* at 94.

571. *Id.* at 95.

572. *Id.*

573. *Id.*

574. *Id.*

575. *Id.*

576. *Id.* at 95–96.

577. *Id.*

578. *Id.*

579. *Id.* at 96.

In 2001, more than half of UK adults favored marijuana legalization.⁵⁸⁰ By 2010, only one in three favored marijuana legalization.⁵⁸¹ A 2016 survey of UK students showed they strongly associated Cannabis with mental illness.⁵⁸² Cannabis use in the UK decreased.⁵⁸³ From 2000 to 2005, more than 10% of adults and almost 30% of young adults used Cannabis at least once a year.⁵⁸⁴ Around 2019, those numbers dropped to about 6% for adults and 17% for young adults.⁵⁸⁵ When asked whether he was surprised that so many U.S. states legalized marijuana after his research connected schizophrenia to Cannabis, Murray said, “I’ve been surprised by the power of the business lobby for [C]annabis.”⁵⁸⁶ Thus, medical facts dictate the UK policy toward marijuana, while commercialization reigns in the United States.

A 2019 study⁵⁸⁷ found that teenage Cannabis use was far more prevalent in the U.S., where the Green Rush occurred, than in England.⁵⁸⁸ Investigating Cannabis use amongst sixteen to nineteen-year-olds, researchers found, amongst past 30-day Cannabis users, the prevalence of vaping oils and liquids and consuming Cannabis extracts such as oil, wax, and shatter was significantly higher in the U.S. than in England.⁵⁸⁹ Teenage use of vaping oils and liquids increased from 24.2% in 2017 to 52.1 % in 2019 amongst thirty-day Cannabis consumers in the US.⁵⁹⁰ Researchers concluded that teenage Cannabis use is increasing for the most high-THC Cannabis products, especially among teenagers in the U.S., which, unlike the UK, commercialized Cannabis.⁵⁹¹

2. Australia:

One case in which a judge recognized that marijuana causes schizophrenia may have contributed to Australia’s continued

580. *Id.* at 97.

581. *Id.*

582. *Id.*

583. *Id.*

584. *Id.*

585. *Id.*

586. *Id.* at 97–98.

587. David Hammond et al., *Prevalence and Modes of Cannabis Use Among Youth in Canada, England, and the US, 2017 to 2019*, 219 DRUG ALCOHOL DEPENDENCE 1, 1 (2021).

588. *Id.* at 5.

589. *Id.* at 1.

590. *Id.*

591. *Id.* at 5–6.

criminalization of marijuana. In 2014, Raina Thaiday killed her seven children and her niece.⁵⁹² Thaiday suffered from schizophrenia.⁵⁹³ At her trial, psychiatrists testified that Thaiday was psychotic when she killed the children.⁵⁹⁴ Thaiday's delusional thinking continued after her commitment to a psychiatric hospital.⁵⁹⁵ Even with medication, Thaiday fantasized about killing the other patients.⁵⁹⁶

Presiding Judge Dalton found Thaiday had a mental illness and was entitled to the unsound mind defense.⁵⁹⁷ Thaiday lacked the capacity to understand that what she was doing was wrong and had broken from reality, suffering from psychosis and schizophrenia causing hallucinations, delusions, and paranoia.⁵⁹⁸ Judge Dalton found "Thaiday gave a history of [C]annabis since she was in grade [nine]. . . . All the psychiatrists thought it is likely that it is this long-term use of [C]annabis that caused the mental illness schizophrenia to emerge."⁵⁹⁹ This was one of the first judicial findings linking marijuana and schizophrenia,⁶⁰⁰ and the widespread attention it garnered impacted Australian marijuana policies.

The show *60-Minutes Australia Exposed* aired "Cannabis Induced Psychosis" to the Australian public.⁶⁰¹ The 2009 program featured an expert who stated that Cannabis was more dangerous and stronger than before.⁶⁰² The expert asserted marijuana can permanently damage the brain and explained that there is a link between marijuana and suicide.⁶⁰³ Additionally, a teenager described that marijuana gave him delusions and caused his psychosis.⁶⁰⁴ He went on a three-day psychotic

592. BERENSON, *supra* note 559, at xi.

593. *Id.* at 8–9.

594. *Id.* at 10.

595. *Id.*

596. *Id.*

597. *Id.*

598. *Id.*

599. *Id.*

600. *Id.*

601. See *Telling Our Stories. Unmasking the Marijuana Charade*, MOMS STRONG, <https://momsstrong.org/> [<https://perma.cc/G52C-EY6A>]; see also *60 Minutes Australia, The Chilling Truth About Cannabis Psychosis*, YOUTUBE (July 12, 2022), <https://www.youtube.com/watch?v=5LRBqjtUMBkMBk>.

602. *60 Minutes Australia*, *supra* note 601.

603. *Id.*

604. *Id.*

bender, landing him in a psychiatric ward.⁶⁰⁵ He explained that he could have easily died during the psychotic episode the marijuana caused.⁶⁰⁶

The host declared that it is now clear that, although once a socially acceptable drug, marijuana is extremely dangerous.⁶⁰⁷ Experts in Sweden have demonstrated that young users are at great risk of serious psychiatric illness and that Cannabis can damage their brains permanently.⁶⁰⁸ The Swedish expert stated Cannabis affects the entire brain and can have a profound and lasting impact on developing brains, changing the brain's chemical makeup, including portions of the brain important for emotional processing, and for underlying disorders such as schizophrenia.⁶⁰⁹ The expert stated there is “definitely” a direct link between Cannabis and psychosis, asserting the earlier a person uses marijuana, the greater the effect.⁶¹⁰ Next, the host interviewed a British medical expert who stated that today's marijuana is ten times stronger in THC level than the marijuana from the 1970s and is far more damaging to developing brains.⁶¹¹ The London-based psychotherapist asserted she was at the front line of a losing battle when it comes to marijuana.⁶¹² More patients were being sent to her with psychosis.⁶¹³ They were smoking Skunk, the most potent form available in 2009.⁶¹⁴ Skunk was loaded with THC and regarded as the most dangerous drug on the streets.⁶¹⁵ The expert stated that she would prefer to have a teenager addicted to heroin or crack than Skunk, stating a portion of children who used Skunk did not recover.⁶¹⁶

Currently, a true decriminalization bill is under consideration in Australia.⁶¹⁷ In June 2023, the Legalize Cannabis Party presented the Cannabis personal use bill in three Australian state parliament upper

605. *Id.*

606. *Id.*

607. *Id.*

608. *Id.*

609. *Id.*

610. *Id.*

611. *Id.*

612. *Id.*

613. *Id.*

614. *Id.*

615. *Id.*

616. *Id.*

617. Sean Tarek Goodwin & Ashleigh Barraclough, *Legalise Cannabis Party Introduces Personal Use Bills in NSW, Victoria and Western Australia*, ABC NEWS, <https://www.abc.net.au/news/2023-06-20/legalise-Cannabis-party-bill-nsw-wa-victoria/102498976> [<https://perma.cc/E9V7-NYY4>].

houses: New South Wales, Victoria, and Western Australia.⁶¹⁸ While the bill may not become law, it illustrates a true decriminalization without commercialization effort.⁶¹⁹ The bill will not allow people under eighteen years old to access Cannabis or drive while impaired.⁶²⁰ This decriminalization bill would only allow people to gift small quantities of marijuana to other people and grow up to six Cannabis plants in their households.⁶²¹ Similar to arguments made in the United States, proponents claim that the proposal would divert users from the criminal justice system.⁶²² In Australia, there have been 700,000 Cannabis related offenses since 2010, with police estimating that Cannabis generates approximately \$8 billion in annual profits for organized crime.⁶²³ Seven years ago, medicinal marijuana became legal in Australia.⁶²⁴ Arguments in favor state that Australians have “seen how successful medicinal [C]annabis has been and are sick of governments wasting taxpayers’ money on people who are going to be before the courts for [C]annabis possession.”⁶²⁵ The Western Australian Cannabis Party spokesperson recognized the Cannabis and psychosis connection but noted a similar personal use decriminalization bill passed in the Australian Capital Territory (ACT) and noted that “deaths haven’t gone up.”⁶²⁶

Similar to the American debate, proponents of decriminalization argue that criminalization of Cannabis possession has failed and diverted police and court time.⁶²⁷ Opponents of decriminalization are concerned about increased Cannabis access and use, including by teenagers.⁶²⁸ However, unlike the Green Rush in the United States, both sides of the Australian debate stress the importance of ensuring teenagers do not use Cannabis and recognizing the risks of Cannabis, especially for youth.⁶²⁹

618. *Id.*

619. *Id.*

620. *Id.*

621. *Id.*

622. *Id.*

623. *Id.*

624. Christina Zdanowicz, *Medical Marijuana Legalized in Australia*, CNN, <https://www.cnn.com/2016/02/24/health/medical-marijuana-legal-australia-irpt/index.html> [<https://perma.cc/33VT-LBJU>].

625. Goodwin & Barraclough, *supra* note 617.

626. *Id.*

627. This Arvo in Sydney, *How Our Cannabis Laws Are Set to Go Up in Smoke [SYD]*, LISTNR (June 20, 2023), <https://articles.listnr.com/news/how-our-cannabis-laws-are-set-to-go-up-in-smoke/>.

628. *Id.*

629. *Id.*

In fact, the party proposing the “Regulated Adult Personal Use of Cannabis Bill” does not support a commercial model involving retail outlets, marketing, or advertising.⁶³⁰ Their proposal allows only adult possession of small amounts to be used in the home and for a household to grow up to six plants to be used personally or shared.⁶³¹ The party specifically mentions that both the United States and Canada have made mistakes by rushing into a full-scale commercial retail model involving advertising, production, manufacturing, and marketing to young people – all a clear mistake.⁶³² The Australian proposal intentionally avoids commercialization by authorizing personal possession of up to 50g and cultivation of up to six plants per household, while criminalizing commercial sales.⁶³³

3. Sweden:

Swedish researcher, Sven Andreasson, specialized in addiction medicine and alcoholism while practicing medicine in a Stockholm medical university.⁶³⁴ In the early 1980s, he noticed schizophrenic patients who relapsed with psychotic symptoms had often used Cannabis.⁶³⁵ They returned to the hospital with “much more florid hallucinations or disordered thinking.”⁶³⁶ Sweden had compulsory universal male conscription⁶³⁷ requiring almost every man to serve in the military.⁶³⁸ During intake-processing, men filled out questionnaires about their drug use.⁶³⁹ Questionnaires from 1969 to 1970 did not have personally identifying information removed, unlike other years’ questionnaires because a psychologist wanted to create a database that covered 50,000 recruits.⁶⁴⁰ The men who answered the questionnaires were the right age for assessing schizophrenia onset, between eighteen and nineteen.⁶⁴¹ They filled out the questionnaires at the same time when marijuana use in Sweden was on the rise.⁶⁴² Andreasson consulted

630. *Id.*

631. *Id.*

632. *Id.*

633. *Id.*

634. BERENSON, *supra* note 559, at 50.

635. *Id.*

636. *Id.*

637. *Id.*

638. *Id.* at 51.

639. *Id.*

640. *Id.*

641. *Id.* at 51–52.

642. *Id.* at 52.

Sweden's national healthcare system that tracks hospitalizations.⁶⁴³ Because the surveys contained personally identifying data, Andreasson could identify which recruits had been hospitalized.⁶⁴⁴ Sweden maintained a psychiatric registry, useful because people with schizophrenia are likely to have inpatient treatment.⁶⁴⁵ Andreasson found that Cannabis strongly correlated with schizophrenia, concluding consuming Cannabis only one time more than doubled the risk of developing schizophrenia.⁶⁴⁶ Heavy Cannabis use increased sixfold the risk of developing schizophrenia; heavy Cannabis users were six times more likely to develop schizophrenia than people who never smoked Cannabis.⁶⁴⁷ Andreasson adjusted for other risks of schizophrenia, such as family history and other drug use, called confounding variables.⁶⁴⁸ Even when he accounted for other variables, he continued to see the risk Cannabis posed.⁶⁴⁹ Using Cannabis more than ten times doubled the risk of developing schizophrenia even when he accounted for eleven different confounding factors.⁶⁵⁰

Sweden has a low prevalence of Cannabis users compared to other countries.⁶⁵¹ Although there are voices urging legalization in Sweden, the authors of a 2021 study warned legalization in the U.S. and Canada has “made [C]annabis more available to users by innovative marketing and product development, while the illegal market persists. Meanwhile, the price of Cannabis decreases and potency, which [is] related to many of the risks, increases. Cannabis-related harms include e.g. cognitive impairment, psychosis, and psychosocial problems. The long-term effects from legalization [are] yet to be seen.”⁶⁵² Cannabis is illegal in Sweden for recreational purposes and for nearly all medical purposes.⁶⁵³

643. *Id.*

644. *Id.*

645. *Id.*

646. *Id.* at 53.

647. *Id.*

648. *Id.*

649. *Id.* at 54.

650. *Id.*

651. Susanne Bejerot & Martin Glans, *Legalization of Cannabis: A Swedish Perspective*, 118 LÄKARTIDNINGEN 1 (2021).

652. *Id.*

653. See Ben Hartman, *Is Weed Legal in Sweden?*, CANNIGMA (Oct. 14, 2021), <https://cannigma.com/regulation/sweden-marijuana-laws/> [<https://perma.cc/7GV2-TE8N>].

Possession of even small amounts is criminal.⁶⁵⁴ Use, possession, and distribution in Sweden can carry up to eighteen years in prison.⁶⁵⁵

Australia, Sweden, and the United Kingdom look to the U.S. Green Rush with fear for their youth populations. Therefore, these countries refrain from embracing commercialization.⁶⁵⁶ The U.S. has commercialized a dangerous product backed by Wall Street, industry conferences, lawyers, partnerships with Hollywood and media outlets, and lobbying firms.⁶⁵⁷ In the U.S., the marijuana industry helps fund state governments, creating conflicts of interest between regulators and elected officials some of whom have received payoffs.⁶⁵⁸ This combination of factors has unleashed an industry that claims it produced \$100 billion in the U.S. economy in 2022 and that markets to youth high-THC products that can cause schizophrenia.⁶⁵⁹

B. Solutions

The United States could learn important lessons from the approaches to marijuana by the United Kingdom, Australia, and Sweden. First, to drive down marijuana use amongst youth, disseminate clear, frequent, and consistent public messaging concerning the connection between psychosis and schizophrenia and marijuana. England and Australia did and continue to do this successfully.

654. *See id.*

655. Marguerite Arnold, *Where Is Cannabis Reform in Sweden?*, INT'L CANNABIS BUS. CONF. (July 7, 2020), <https://internationalcbc.com/where-is-cannabis-reform-in-sweden/> [<https://perma.cc/R2DE-T7SB>].

656. Hartman, *supra* note 653; Natasha May, *Legalising Cannabis Will Send 'Wrong Signal' to Australian Public, Peak Medical Body Says*, GUARDIAN (Nov. 9, 2023, 9:00 AM), <https://www.theguardian.com/australia-news/2023/nov/10/legalising-cannabis-will-send-wrong-signal-to-australian-public-peak-medical-body-says> [<https://perma.cc/E7LR-U9SQ>]; Ben Hartman, *Is Weed Legal in the UK?*, CANNIGMA (Oct. 8, 2021), <https://cannigma.com/regulation/uk-marijuana-laws/> [<https://perma.cc/84FV-H8W17>].

657. *See* SABET, *supra* note 206, at 34–39; Josh Wilson, *Hollywood's Three Greatest Contributions to the Fast Growth of the Cannabis Industry*, FORBES (May 25, 2022, 3:14 AM), <https://www.forbes.com/sites/joshwilson/2022/05/25/hollywoods-three-greatest-contributions-to-the-fast-growth-of-the-cannabis-industry/?sh=3fe3a6703fbd> [<https://perma.cc/3RLS-YS2K>]; John Schroyer, *Businesses, Groups, Unions and Tribes Spend Millions Lobbying Congress on Marijuana Issues*, MJ BIZ DAILY, <https://mjbizdaily.com/businesses-groups-unions-tribes-spend-millions-lobbying-congress-on-marijuana-issues/> [<https://perma.cc/5DAP-9YB3>].

658. *See, e.g.*, SABET, *supra* note 206, at 35–36.

659. *Marijuana Industry Will Add Nearly \$100 Billion to US Economy in 2022*, MJ BIZ DAILY, <https://mjbizdaily.com/marijuana-industry-will-add-nearly-100-billion-to-us-economy-in-2022/> [<https://perma.cc/JB39-HD6Z>].

Therefore, marijuana use amongst youth in those countries is lower than in the US.⁶⁶⁰ Second, these three countries with strong cultures of human rights and excellent healthcare systems have intentionally avoided joining the Green Rush.⁶⁶¹ Rather, the United Kingdom, Australia, and Sweden all decided to continue to criminalize marijuana.⁶⁶² This is instructive as Americans are misinformed about the dangerousness of marijuana and further believe that the only reason for marijuana criminalization was baseless propaganda perpetrated by movies such as *Reefer Madness*.⁶⁶³ Rather, England, Australia, and Sweden, all countries with strong protections for civil liberties have decided to continue to criminalize marijuana because it can cause psychosis and schizophrenia.⁶⁶⁴

With good reason, governmental officials from the UK, Australia, and Sweden have expressed fear of the prospect of massive commercialization of marijuana due to their observations of the Green Rush. In the US, the marijuana industry has aggressively marketed to youth, produced high-THC products extremely dangerous especially for youth, and exploited the 2018 Farm Bill allowing the sale of THC products accessible even to children.⁶⁶⁵ Thus, public health reasons support criminalizing marijuana because increased access results in increased use of an addictive substance.⁶⁶⁶ People who fear increased use of increasingly dangerous products by America's youth should not

660. Gabriella Gobbi et al., *Association of Cannabis Use in Adolescence and Risk of Depression, Anxiety, and Suicidality in Young Adulthood*, 76 JAMA PSYCHIATRY 426 (2019) (reporting how the prevalence of Cannabis use among youth is much higher in the U.S. as compared to adolescents in Canada, England, and Australia).

661. See discussion *supra* Part IV.

662. Hartman, *supra* note 653; May, *supra* note 656; Hartman, *supra* note 656.

663. See Kennedy et al., *supra* note 235, at 1; see also Becky Little, *Why the US Made Marijuana Illegal*, HIST., <https://www.history.com/news/why-the-u-s-made-marijuana-illegal> [<https://perma.cc/44XK-CA3P>] (discussing how American criminalization of marijuana was a result of propaganda that was rooted in concerns over immigration from Mexico and not actual concerns about the health or medical impacts of the drug).

664. See discussion *supra* Part IV.

665. Sullivan, *supra* note 239 (discussing the legal loophole created by the 2018 Farm Bill that created a mechanism for the Cannabis industry to sell delta-8 THC products in states where marijuana is not legal and to individuals of any age as there is no minimum age requirement).

666. See, e.g., Megan Marples, *Legalizing Recreational Cannabis Increases Its Use, Research Shows*, CNN, <https://www.cnn.com/2022/08/29/health/recreational-Cannabis-frequent-usage-wellness/index.html> [<https://perma.cc/YC98-2VVV>] (discussing a Colorado study suggesting that states that legalized recreational marijuana experienced increased use among its residents as compared to states that did not legalize recreational marijuana).

be duped by the marijuana industry's messaging that only false myths of marijuana's dangers support criminalization. Recognition of the connection between schizophrenia and marijuana induces these countries to continue criminalization.⁶⁶⁷

There are real justice concerns with imposing criminal penalties such as arrests, incarceration, and criminal records for mere marijuana use. Those important justice concerns should not open the gates for massive commercialization which harms public health, especially for youth. Therefore, a far better alternative to the Green Rush is the decriminalization bill from Australia. Such a regulatory scheme should include the following provisions: (1) allow for individuals to possess relatively small amounts of marijuana for personal consumption, (2) grow a limited number of marijuana plants for personal use, (3) require expungement of criminal records of marijuana-related offenses, (4) prohibit arrests or incarceration for marijuana use, (5) prohibit retail sales and marketing of marijuana products, and (6) prohibit processing of marijuana products to make extremely high-THC products.

Other middle-ground ideas might simultaneously address justice concerns with criminalizing marijuana whilst also protecting America's youth. One idea is that if a state has already opened the door for marijuana legalization, and it is too late to close that door, consider only allowing a limited number of marijuana dispensaries in each city owned only by nonprofits that sell marijuana products, tested for mold, heavy metals, and pesticides.

Another option would be to outlaw all marijuana products designed to be attractive to America's youth, such as candies, flavored sodas, cookies, gummies and other products. One Cannabis doctor who attended a Cannabis conference, who wholeheartedly believes in the therapeutic benefits of medical marijuana, was horrified to see a chocolate bar with 1000 g of THC exhibited at the conference.⁶⁶⁸ He said one small portion of this dangerous chocolate bar could get Godzilla high. These products are too easy for children to obtain and too enticing.⁶⁶⁹

The THC and CBD content of marijuana products should be regulated. Those products should replicate the natural marijuana plant. The marijuana industry has ignored public health and sought profits by creating products containing 99.9% THC that are easy to hide from parents and easy to use near constantly.⁶⁷⁰ If a state is unwilling to

667. *E.g.*, BERENSON, *supra* note 559, at 96–100 (discussing that the United Kingdom recognizes the link between marijuana and psychosis and other mental health consequences and how that has translated into support for criminalization).

668. GRINSPOON, *supra* note 215, at 60.

669. *Id.*

670. SABET, *supra* note 206, at 32–34.

criminalize marijuana, the state should at least regulate the THC content to make marijuana products more like the THC intensity from the 1970s, at most 10% THC. The marijuana industry has often extracted CBD to design products to make people high because addictive products are so profitable. States that decide to decriminalize marijuana should require the presence of CBD in all products containing THC because CBD is thought to have a protective effect on the psychoactive impact of marijuana.⁶⁷¹

Crucially, close the loophole created by the 2018 Farm Bill which has created the nightmare of individuals of any age having easy access to THC products. Because marijuana remains illegal federally, Congress should ensure that the Farm Bill simply forbids the use of hemp-derived THC completely. Both delta-8 and delta-9 compounds produce similar psychoactive effects and harms, and there is no other use for such compounds in products other than for THC.⁶⁷²

Additionally, if the state is unwilling to criminalize marijuana, it should mandate the creation of a database of marijuana purchasers to ensure that individuals do not stockpile marijuana products to sell to others. This will make strides to prevent what happened to Johnny Stack who was able to obtain a medical marijuana card and stockpile high-THC products from various local dispensaries because none of the providers knew he had been stockpiling products from other local dispensaries.

Finally, any state that chooses decriminalization should build a regulatory framework that reflects the medical science which indicates that the brain does not finish developing until the individual is about twenty-five.⁶⁷³

Therefore, we must stop the Green Rush because it is devastating to the brain development of America's youth. Other countries with strong human rights traditions have refused to join the Green Rush and

671. See Kevin Fryling, *CBD May Protect Against Psychiatric Risk From High-THC Cannabis Strains*, NEWS AT IU (Sept. 6, 2017), <https://news.iu.edu/live/news/24146-cbd-may-protect-against-psychiatric-risk-from-https://perma.cc/HD9L-YQ7L> (discussing a study conducted by neuroscientists at Indiana University that revealed that CBD appears to protect against the long-term negative psychiatric effects of THC).

672. CDC HEALTH ALERT NETWORK, CDCHAN-0041, INCREASES IN AVAILABILITY OF CANNABIS PRODUCTS CONTAINING DELTA-8 THC AND REPORTED CASES OF ADVERSE EVENTS (2021) (noting that delta-8 THC can have the same intoxicating psychoactive effects as delta-9 THC depending on the quality and quantity and can cause adverse effects similar to those observed with delta-9 THC intoxication).

673. See *Marijuana and Public Health: Teens*, *supra* note 104 (noting that the teen brain is actively developing and continues to do so until around age twenty-five); see also *SAMHSA Report*, *supra* note 18, at 7.

instead continue to criminalize marijuana.⁶⁷⁴ If a state is determined to decriminalize marijuana, that state should take strong actions to prevent the commercialization of a known dangerous product.

V. CONCLUSION

Federal government research organizations warn against the use of marijuana, especially for people twenty-five and under.⁶⁷⁵ The Centers for Disease Control and Prevention warns that “[t]he teen brain is actively developing and continues to develop until around age twenty-five The association between marijuana and schizophrenia is stronger in people who start using marijuana frequently at an early age.”⁶⁷⁶ The National Institute on Drug Abuse of the National Institutes of Health cautions that marijuana use has been linked to mental illness including hallucinations, paranoia and worsening symptoms in patients with schizophrenia.⁶⁷⁷ The Substance Abuse and Mental Health Service Administration advises that “[m]arijuana use comes with real risks that can impact a person’s health and life.”⁶⁷⁸ The United States Food and Drug Administration has repeatedly issued strong warnings of the hazards of children’s use of THC-containing products.⁶⁷⁹ The federal government organizations responsible for medical research and advising Americans on health unanimously agree that especially people twenty-five and under should avoid THC because of its potential harms to the developing brain.⁶⁸⁰

Moreover, preeminent professional organizations of physicians warn against marijuana use, especially for people twenty-five and under. For example, the American Psychiatric Association, the organization of

674. *See generally Cannabis Laws*, POLS. CO. UK, <https://www.politics.co.uk/reference/Cannabis/> [<https://perma.cc/S75Q-Q5WP>] (discussing how the United Kingdom continues to criminalize marijuana despite calls for legalization).

675. *E.g.*, *SAMHSA Report*, *supra* note 18, at 1 (noting that the research organization views marijuana use among youth and young adults as a major public health concern given scientific studies that suggest that such use negatively impacts brain development).

676. *Marijuana and Youth: The Impact of Marijuana Use on Teen Health and Wellbeing*, CTRS. FOR DISEASE CONTROL & PREVENTION (Apr. 28, 2023), <https://www.cdc.gov/marijuana/featured-topics/marijuana-youth.html> [<https://perma.cc/38X5-9CHM>].

677. *What is Marijuana?*, NAT’L INST. HEALTH (DEC. 2019), <https://nida.nih.gov/publications/drugfacts/Cannabis-marijuana> [<https://perma.cc/8Z22-ZZ5F>].

678. *Know the Risks of Marijuana*, *supra* note 114.

679. *FDA, FTC Warn Six Companies for Illegally Selling Copycat Food Products Containing Delta-8 THC*, *supra* note 269.

680. *E.g.*, *SAMHSA Report*, *supra* note 18, at 7.

psychiatrists who collaborate to ensure humane and effective treatment for people with mental illness, issues unambiguous warnings about the link between marijuana and psychiatric illness and suicide.⁶⁸¹ The American Academy of Pediatrics, the organization of pediatricians dedicated to improving the health and well-being of American youth “opposes legalization of marijuana because of the potential harms to children and adolescents.”⁶⁸² Finally, the American Medical Association, established in the mid-1800s, representing more than 190 state societies and medical specialty associations, opposes marijuana legalization because of marijuana’s potential dangers to human health, especially to developing brains.⁶⁸³ Thus, the preeminent organizations of doctors in America agree in their concern about the dangers of marijuana, especially for people twenty-five and under.

Despite this overwhelming consensus about the harms of marijuana, especially for America’s youth, the Green Rush unleashed a media and legal environment celebrating marijuana’s purported benefits and joys whilst simultaneously downplaying marijuana’s serious risks, especially to the mental health of young people. Dazed and confused by the Green Rush’s pro-marijuana campaign, the American public, especially America’s youth does not recognize marijuana’s dangers and widely believes marijuana is harmless.⁶⁸⁴ All the while, the marijuana industry reaps hundreds of billions of dollars at the expense of the mental health of America’s youth.⁶⁸⁵ In the wake of the Green Rush, the United States is subjecting developing brains to a dangerous experiment.

-
681. “There is evidence that [C]annabis may exacerbate or hasten the start of psychiatric illness, particularly in young adults. Among people with depression, [C]annabis use is associated with increased rates of suicidal ideation and attempts. These risks are higher with more potent [C]annabis and with longer and more frequent use.” *Cannabis: Understanding the Risks*, AM. PSYCHIATRIC ASS’N (May 17, 2021), <https://www.psychiatry.org/news-room/apa-blogs/Cannabis-understanding-the-risks> [<https://perma.cc/HZG2-Y5RA>].
682. Seth D. Ammerman et al., *The Impact of Marijuana Policies on Youth: Clinical, Research, and Legal Update*, 135 AM. ACAD. OF PEDIATRICS 584, 586 (2015).
683. “Approval and use of any drug must be based on sound, evidence-based scientific research. Our AMA believes that in the case of Cannabis, that burden has not yet been met.” Susan R. Bailey, *Questions Still Surround Cannabis Use and Public Health*, AM. MED. ASS’N (Apr. 9, 2021), <https://www.ama-assn.org/about/leadership/questions-still-surround-Cannabis-use-and-public-health> [<https://perma.cc/5CZL-HDKU>].
684. See, e.g., Bettina Friese, “*Is Marijuana Even a Drug?*” *A Qualitative Study of How Teens View Marijuana Use and Why They Use It*, 49 J. PSYCHOACTIVE DRUGS 209 (2017) (discussing a how a San Francisco study of teen perception of marijuana use revealed that many teenagers believe that marijuana is safe and not harmful).
685. See, e.g., Tiffany Kary, *High-Potency Pot Market Worth Billions Draws Regulator Scrutiny*, BLOOMBERG (Aug. 16, 2023), <https://www>.

Today an eighteen-year-old almost anywhere in the United States can feign back pain, obtain a medical marijuana card, and stockpile high-THC products to sell to even younger children. In states where recreational marijuana is legal, a teenager need not be bothered with this charade because marijuana is so readily available. An American thirteen-year-old can visit a host of stores to purchase books and games celebrating marijuana and promoting marijuana as a treatment for anxiety and depression. In states where marijuana is legal, a nine-year-old will be inundated with marijuana dispensary storefronts and billboards, portraying marijuana as natural and healthy.

Hollywood and social media peddle marijuana products to youth, conveying to children and teens that getting high is a normal, harmless part of growing up.⁶⁸⁶ As a result of the 2018 Farm Bill, anyone can legally obtain THC-containing gummies, sodas, and other products attractive to youth on the internet or at a local market.⁶⁸⁷ Countries across the world such as Australia, Sweden, and the United Kingdom have noticed the devastation wrought by the US Green Rush and decidedly rejected legalization of marijuana in their countries.⁶⁸⁸ These countries continue to criminalize marijuana because they have long recognized its dangers to the developing brain.⁶⁸⁹

If this United States trend of massively producing and marketing increasingly dangerous THC products, making them attractive and easily accessible to America's young people continues, there will be countless Johnny Stacks. Young people will continue to frequently use high-THC products, because they will be lured by messaging portraying marijuana as harmless and helpful for mental health. Johnny Stack's life and tragic death exemplify what the Green Rush is doing to America's youth. His mind, enormous potential, and life were sacrificed on the altar of greed.

bloomberg.com/news/features/2023-08-16/marijuana-with-high-thc-levels-draws-scrutiny-in-colorado-washington [https://perma.cc/SKX6-Y2AN] (discussing the commercialization of the budding billion-dollar marijuana industry and the accompanying mental health consequences for American youth).

686. See Meslow, *supra* note 489; Alex Woodruff, *Cannabis Use Among Teens in the Age of Social Media*, INCIDENTAL ECONOMIST (Dec. 5, 2019), <https://theincidentaleconomist.com/wordpress/Cannabis-use-among-teens-in-the-age-of-social-media/> [https://perma.cc/FJ5H-DQZY].

687. See Docter-Loeb, *supra* note 304 (discussing how the legal loophole created by the 2018 Farm Bill allows for consumers in states where marijuana is not legalized to easily obtain and purchase weedlike products, even ones with psychoactive THC).

688. See Hartman, *supra* note 653; May, *supra* note 656; Hartman, *supra* note 656.

689. See, e.g., May, *supra* note 656 (discussing how the top medical body in Australia does not support legalization efforts because of the dangers that the drug poses to mental health and brain function).

