



## Shifting the Paradigm: Adolescent Cannabis Abuse and the Need for Early Intervention

Jennifer Golick M.A., L.M.F.T.

To cite this article: Jennifer Golick M.A., L.M.F.T. (2016): Shifting the Paradigm: Adolescent Cannabis Abuse and the Need for Early Intervention, Journal of Psychoactive Drugs, DOI: [10.1080/02791072.2015.1119916](https://doi.org/10.1080/02791072.2015.1119916)

To link to this article: <http://dx.doi.org/10.1080/02791072.2015.1119916>



Published online: 22 Jan 2016.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

## Shifting the Paradigm: Adolescent Cannabis Abuse and the Need for Early Intervention

Jennifer Golick, M.A., L.M.F.T.

Clinical Director, Muir Wood Adolescent and Family Services, Petaluma, CA, USA

### ABSTRACT

This article describes the increasing risks of use of marijuana and related products by adolescents. As THC content increases and methods such as “dabbing” increase frequency of use, risks of marijuana use as perceived by youth are decreasing. At a time when marijuana access is increasing nationally, a new marijuana landscape is forming in which both adolescents and treatment providers must adjust their perceptions of what was once thought of as a “harmless” drug. This article describes this new landscape, and what it may mean for adolescent drug treatment.

### ARTICLE HISTORY

Received 29 October 2015  
Accepted 3 November 2015

### KEYWORDS

Adolescent treatment;  
cannabis; marijuana  
dependence; substance  
abuse

With the November ballot expected to include the legalization of marijuana in California, there has been an increased focus on the impact that legally available marijuana will have on adolescents. This focus is primarily driven by the Blue Ribbon Commission, headed up by Lieutenant Governor Gavin Newsom. Comprised of leading legal, academic, and policy experts from across the state and nation, the blue ribbon panel spent the past two years in a research effort designed to help voters and policy makers evaluate proposals for a strict tax and regulation system. There has also been much discussion about early intervention and resources focused on the most vulnerable members of the community: adolescents.

Cannabis is the most widely used illicit substance in the United States. Results from the 2013 National Survey of Drug Use and Health (NSDUH) indicate marijuana use rose to 7.5% of users aged 12 or older in 2013. This is up from 6.2% of users in 2002. Additional NSDUH findings on marijuana indicated that 19.8 million (7.5%) people were current (past month) users in 2013, making it the most-used illicit drug (SAMHSA 2013). The risk of developing cannabis dependence in adulthood for users who begin smoking at age 18 is approximately 9% (Budney et al. 2007); however, that risk is doubled in users that begin smoking in childhood or adolescence, and can be tripled, as high as 35 to 40%, for daily users under 18 (Winters and Lee 2008; Kandel and Davies 1992).

Recent studies by Monitoring the Future (Johnston et al. 2013) have shown that the adolescent perception

of the dangers of marijuana have decreased and, conversely, the use of marijuana amongst adolescents has increased. Marijuana potency has both increased and evolved over the past 15 years. Of particular concern are the marijuana extracts that are making frequent consumption of high-potency marijuana easy and relatively undetected.

As stated in the DSM-5 (American Psychiatric Association 2013), “Cannabis use disorder is a problematic pattern of cannabis use leading to clinically significant impairment or distress,” which could manifest by at least two symptoms within a 12-month period. Some of the symptoms listed by the DSM-5 include cannabis “taken in larger amounts or over a longer period than was intended,” “persistent desire or unsuccessful effort to cut down or control” use, “craving, or a strong desire or urge to use,” and “continued cannabis use despite having persistent or recurrent social or interpersonal problems exacerbated by the effects of cannabis.”

With the relatively constant incidence of cannabis use, why has dependence increased? It is clear that a major factor is a substantially higher potency of THC in current engineered marijuana being consumed. Since 1983, when THC concentrations averaged below 4%, many marijuana samples now reflect content in the 10 to 20% range, with some specialty products showing concentrations exceeding 30% (Meserve and Ahlers 2009). Specialty products seen in adolescent treatment include “wax” aka “dabs,” in which hash oil is extracted using alcohol heated with a butane flame. Cannabis

extracts have a THC concentration of as much as 80% (Doan 2013).

The increasing use of high-potency cannabis extracts then heightens the propensity for adolescents to become chemically dependent and then experience withdrawal symptoms. While a specific cannabis withdrawal syndrome is not included in the ICD-10 or the DSM-5, there is growing consensus of the existence and clinical relevance of such a syndrome. A review by Budney et al. (2004) concluded that the evidence indicates "...that a valid and clinically significant cannabis withdrawal syndrome is prevalent in a substantial proportion of heavy cannabis users." Although none of the symptoms comprising the proposed withdrawal syndrome are unique to cannabis and are frequently seen in other substance withdrawal syndromes, they are of clinical relevance to many dependent users and their recognition and management by clinicians is an important area for consideration.

Chronic use of cannabis, particularly use of cannabis extracts, can lead to dependence, tolerance, and withdrawal when the drug is stopped, and progress to drug-seeking behavior, often with adverse consequences. Therefore, cannabis dependence qualifies as a psychoactive drug addiction and is so characterized both by the American Society of Addiction Medicine (ASAM) and by the American Psychiatric Association (APA) in the DSM-5.

Symptoms commonly experienced in cannabis withdrawal are sleep difficulty, decreased appetite and weight loss, irritability, nervousness and anxiety, restlessness, and increased anger and aggression (Budney and Hughes 2006). The majority of symptoms peak between days two and six of abstinence and most return to baseline by day 14. Sleep difficulty, anger/aggression, irritability, and physical tension have persisted for three to four weeks in some studies (Budney et al. 2003; Kouri and Pope 2000). Anecdotal evidence also suggests that adolescents who have lower levels of body fat experience faster and more intense withdrawal symptoms than their heavier cohorts. This is due, in part, to the fat-soluble nature of THC and the rapid leaching of the THC out of the fat cells of thinner individuals.

The growing problem of cannabis dependence in youth is posing an increasing challenge to adolescent addiction treatment programs. Part of this challenge is the prevailing belief in the youth drug culture that marijuana is a safe drug that has medical utility, which researchers are increasingly finding may be true.

Epidemiologists have found that approximately 9% of people who begin smoking marijuana at 18 years or older satisfy the criteria for dependence (Budney et al.

2007). For near-daily marijuana users, the risk for dependence some time later in life is estimated to be 35–40% (Kandel and Davies 1992). While approximately 9% of all individuals who begin using marijuana after age 18 eventually satisfy the criteria for dependence at some time in their lives, much higher rates hold for individuals who initiate use before 18, with the highest rates being shown by the youngest initiates (Winters and Lee 2008). Data collected in 2012 found that nearly 13% of those with a substance use disorder began using marijuana by the time they were 14 (SAMHSA 2013). Hence, addiction is a chronic disease with a childhood age of onset that typically doesn't receive treatment until adulthood. This is due, in part, to the belief that adolescent substance use is a "rite of passage." Additionally, as the perception of danger associated with cannabis use has declined, the acceptance of cannabis has increased.

As with other substances, the diagnosis of dependence involves significant intrusion of the substance into a patient's life, with clinically significant impairment in function in multiple areas. In the adolescent population, that impairment may manifest itself in impairment in school, peer and family relationships, as well as basic emotional, cognitive, and psychological function. Accordingly, the diagnoses of cannabis dependence and cannabis withdrawal have recently been added to the psychiatric and medical literature (Budney et al. 2004; Budney and Hughes 2006; Ramesh et al. 2011). The severity of the cycles of intoxication and withdrawal in cannabis dependence are now recognized internationally as significant (Danovitch and Gorelick 2012).

The perception of diminished danger associated with cannabis use is not the only reason adolescents are using/abusing the drug. Increasingly, adolescents are using marijuana to self-medicate the symptoms of underlying psychological and/or psychiatric comorbidities. In addition, it seems that adolescent substance use is often born out of the experience of stress. Studies have found a positive relationship between stress and substance abuse (Adams, Boscarino, and Galea 2006; Stewart et al. 1999). Emerging studies have found a significant negative relationship between stress and self-esteem (Dixon and Kurpius 2008; Edwards et al. 2010). An adolescent's self-esteem is an enormous segment of their self-empathy that is likely to fluctuate and is receptive to both overt and covert influence (Abela et al. 2006). Self-esteem is a vital facet of psychological work during adolescence. Stressful life issues were reduced among adolescents with high self-esteem (Orth, Robins, and Meier 2009). In addition, both earlier and later studies (Liem, Cavell, and Lustig 2010;

Zamboanga et al. 2009) have found significant and negative correlations between self-esteem and substance abuse among adolescents.

Successful treatment of adolescent addiction requires that the medical and treatment community shift the paradigm of how we understand addiction and treat it as a pediatric illness. The approach to treatment has been, historically, rooted in adult treatment approaches. Thus, parents and treatment professionals alike hold the belief that we must wait for the adolescent to “hit bottom” and then have a willingness to engage in treatment. We must instead approach adolescent substance use as a constellation of issues, which at any point can be intervened upon, rather than viewing it through the lens of a downward trajectory at which the bottom, or catastrophic event, is the point of intervention.

Adolescents are generally less likely than adults to feel that they need help or to seek treatment on their own. Given their shorter histories of using drugs (as well as parental protection), adolescents may have experienced relatively few adverse consequences from their drug use; their incentive to change or engage in treatment may correspond to the number of such consequences they have experienced (Breda and Heflinger 2004). When adolescents do get treatment, it is often for different reasons than adults. By far, the largest proportion of adolescents who receive treatment are referred by the juvenile justice system. Given that adolescents with substance use problems often feel they do not need help, engaging them in treatment often requires parents to make the decision to admit the adolescent to treatment without their consent.

Adolescents in treatment report abusing different substances than adult patients do. For example, many more people aged 12–17 received treatment for marijuana use than for alcohol use in 2011 (65.5% versus 42.9%), whereas it was the reverse for adults (SAMHSA 2008). Adolescents are less likely than adults to report withdrawal symptoms when not using a drug, being unable to stop using a drug, or continue use of the drug in spite of physical or mental health problems; but they are more likely than adults to report hiding their substance use, getting complaints from others about their substance use, and continuing to use in spite of fights or legal trouble.

In addition to understanding that the adult model of treatment does not fit with adolescents, we must also understand that early intervention is the best approach to adolescent substance abuse treatment. We must keep in mind that, even without substance use, adolescence is a period where the greatest number of psychiatric disorders first present. The 12-month prevalence of psychiatric illness is 40% in adolescents compared to

25% in adults, highlighting the vulnerability of the developing adolescent brain to substance exposure broadly and, as discussed earlier, to cannabis exposure specifically (Chadwick, Miller, and Hurd 2013; Heng et al. 2011).

From a clinical psychiatric perspective, the correlation between adolescent cannabis use and psychiatric illness is an area of great concern and urgent clinical investigation (Chadwick, Miller, and Hurd 2013). Areas of inquiry include vulnerability to other substance addictions, depression and suicide, anxiety, cognition, memory, psychosis, and problems with personality and psychosocial development. Current research indicates potentially significant correlation in all areas (Degenhardt et al. 2013; Fergusson, Horwood, and Swain-Campbell 2002; Fergusson, Boden, and Horwood 2006; Ferdinand et al. 2005; Moore et al. 2007; Winters et al. 2008; Galéra et al. 2013). This increasing understanding lends special consideration to the diagnosis and treatment of cannabis use disorders in the adolescent population.

In summary, the potential harm of cannabis use in adolescence is becoming increasingly clear, as is the need for more effective treatment and early intervention. The treatment community must shift the paradigm of adolescent treatment to reflect the unique aspects of adolescent substance abuse and to eliminate the concept of “hitting bottom” prior to initiating treatment. The conceptualization and understanding of cannabis dependence and cannabis withdrawal is rapidly evolving, though it currently lacks standard evidence-based treatment protocols. Therefore, at present, we must do our best to construct treatment plans that correlate broad scientific considerations with the specific presentation of each adolescent and family.

## References

- Abela, J. R. Z., C. A. Webb, C. Wagner, M. R. Ho, and P. Adams. 2006. The role of self-criticism: Dependency, and hassles in the course of depressive illness: A multiwave longitudinal study. *Personality and Social Psychology Bulletin* 32:328–38.
- Adams, R. E., J. A. Boscarino, and S. Galea. 2006. Alcohol use, mental health status and psychological well-being two years after the World Trade Center attacks in New York City. *The American Journal of Drug and Alcohol Abuse* 32:203–24. doi:10.1080/00952990500479522.
- American Psychiatric Association. 2013. *Desk reference to the diagnostic criteria from DSM-5*. Arlington, VA: American Psychiatric Association.
- Breda, C., and C. A. Heflinger. 2004. Predicting incentives to change among adolescents with substance abuse disorder. *The American Journal of Drug and Alcohol Abuse* 30 (2):251–67. doi:10.1081/ADA-120037377.

- Budney, A. J., and J. R. Hughes. 2006. The cannabis withdrawal syndrome. *Current Opinion in Psychiatry* 19 (3):233–38. doi:10.1097/01.yco.0000218592.00689.e5.
- Budney, A. J., J. R. Hughes, B. A. Moore, and R. Vandrey. 2003. The time course and significance of cannabis withdrawal. *Journal of Abnormal Psychology* 112:393–402. doi:10.1037/0021-843X.112.3.393.
- Budney, A. J., J. R. Hughes, B. A. Moore, and R. Vandrey. 2004. Review of the validity and significance of cannabis withdrawal syndrome. *American Journal of Psychiatry* 161 (11):1967–77. doi:10.1176/appi.ajp.161.11.1967.
- Budney, A. J., R. Roffman, R. S. Stephens, and D. Walker. 2007. Marijuana dependence and its treatment. *Addiction Science & Clinical Practice* 4 (1):4–16. doi:10.1151/ascp.
- Chadwick, B., M. L. Miller, and Y. L. Hurd. 2013. Cannabis use during adolescent development: Susceptibility to psychiatric illness. *Frontiers in Psychiatry* 14 (4):129.
- Danovitch, I., and D. A. Gorelick. 2012. State of the art treatments for cannabis dependence. *Psychiatric Clinics of North America* 35 (2):309–26. doi:10.1016/j.psc.2012.03.003.
- Degenhardt, L., C. Coffey, H. Romaniuk, W. Swift, J. B. Carlin, W. D. Hall, and G. C. Patton. 2013. The persistence of the association between adolescent cannabis use and common mental disorders into young adulthood. *Addiction* 108 (1):124–33. doi:10.1111/add.2013.108.issue-1.
- Dixon, S., and S. E. R. Kurpius. 2008. Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference? *Journal of College Student Development* 49:412–24. doi:10.1353/csd.0.0024.
- Doan, C. 2013. Officials warn of dangers associated with earwax marijuana. *KCRA.com*. <http://www.kcra.com/news/officials-warn-of-dangers-associated-with-earwax-marijuana/-/11797728/23041300/-/13ywi4/-/index.html>
- Edwards, D., P. Burnard, K. Bennett, and U. Hebden. 2010. A longitudinal study of stress and self-esteem in student nurses. *Nurse Education Today* 30:78–84.
- Ferdinand, R. F., J. Van Der Ende, I. Bongers, J. P. Selten, A. Huizink, and F. C. Verhulst. 2005. Cannabis–psychosis pathway independent of other types of psychopathology. *Schizophrenia Research* 79 (2–3):289–95. doi:10.1016/j.schres.2005.07.027.
- Fergusson, D. M., J. M. Boden, and L. J. Horwood. 2006. Cannabis use and other illicit drug use: Testing the cannabis gateway hypothesis. *Addiction* 101 (4):556–69. doi:10.1111/add.2006.101.issue-4.
- Fergusson, D. M., L. J. Horwood, and N. Swain-Campbell. 2002. Cannabis use and psychosocial adjustment in adolescence and young adulthood. *Addiction* 97 (9):1123–35. doi:10.1046/j.1360-0443.2002.00103.x.
- Galéra, C., J.-B. Pingault, E. Fombonne, G. Michel, E. Lagarde, M.-P. Bouvard, and M. Melchior. 2013. Attention problems in childhood and adult substance use. *The Journal of Pediatrics* 163 (6):1677–83. doi:10.1016/j.jpeds.2013.07.008.
- Heng, L., J. A. Beverley, H. Steiner, and K. Y. Tseng. 2011. Differential developmental trajectories for CB<sub>1</sub> cannabinoid receptor expression in limbic/associative and sensorimotor cortical areas. *Synapse* 65 (4):278–86. doi:10.1002/syn.v65.4.
- Johnston, L. D., P. M. O'Malley, J. G. Bachman, and J. E. Schulenberg. 2013. *Monitoring the future national results on drug use: 2012 overview, key findings on adolescent drug use*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.
- Kandel, D. B., and M. Davies. 1992. Progression to regular marijuana involvement: Phenomenology and risk factors for near-daily use. In *Vulnerability to Drug Abuse*, eds. M. D. Glantz, and R. W. Pickens, 211–53. Washington, DC: American Psychological Association.
- Kouri, E. M., and H. G. J. Pope. 2000. Abstinence symptoms during withdrawal from chronic marijuana use. *Experimental and Clinical Psychopharmacology* 8:483–92. doi:10.1037/1064-1297.8.4.483.
- Liem, J. H., E. C. Cavell, and K. Lustig. 2010. The influence of authoritative parenting during adolescence on depressive symptoms in young adulthood. *The Journal of Genetic Psychology* 171 (1):73–92. doi:10.1080/00221320903300379.
- Meserve, J., and M. M. Ahlers. 2009. Marijuana potency surpasses ten percent, US says. *CNN*. <http://www.cnn.com/2009/HEALTH/05/14/marijuana.potency>
- Moore, T. H., S. Zammit, A. Lingford-Hughes, T. R. Barnes, P. B. Jones, M. Burke, and G. Lewis. 2007. Cannabis use and risk of psychotic or affective mental health outcomes: A systematic review. *The Lancet* 370 (9584):319–28. doi:10.1016/S0140-6736(07)61162-3.
- Orth, U., R. Robins, and L. L. Meier. 2009. Disentangling the effects of low self-esteem and stressful life events on depression: Findings from three longitudinal studies. *Journal of Personality and Social Psychology* 97:307–321.
- Ramesh, D., J. E. Schlosburg, J. M. Wiebelhaus, and A. H. Lichtman. 2011. Marijuana dependence: Not just smoke and mirrors. *ILAR Journal* 52 (3):295–308. doi:10.1093/ilar.52.3.295.
- Stewart, S. H., P. J. Conrod, R. O. Pihl, and M. Doniger. 1999. Relationships between posttraumatic stress symptom dimensions and substance dependence in a community-recruited sample of substance abusing women. *Psychology of Addictive Behaviors* 13:78–88.
- Substance Abuse and Mental Health Services Administration (SAMHSA). 2008. *Quantity and frequency of alcohol use among underage drinkers*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Substance Abuse and Mental Health Services Administration (SAMHSA). 2013. *Results from the 2013 National survey on drug use and health: Summary of national findings, NSDUH series H-41*. Rockville, MD: Substance Abuse and Mental Health Services Administration.
- Winters, K. C., and C. S. Lee. 2008. Likelihood of developing an alcohol and cannabis use disorder during youth: Association with recent use and age. *Drug and Alcohol Dependence* 92 (1–3):239–47. doi:10.1016/j.drugalcdep.2007.08.005.
- Winters, K. C., R. D. Stinchfield, S. Lee, and W. W. Latimer. 2008. Interplay of psychosocial factors and the long-term course of adolescents with a substance use disorder. *Substance Abuse* 29 (2):107–19. doi:10.1080/08897070802093460.
- Zamboanga, B. L., S. J. Schwartz, L. H. Jarvis, and K. V. Tyne. 2009. Acculturation and substance use among Hispanic early adolescents: Investigating the mediating roles of acculturative stress and self-esteem. *Journal of Primary Prevention* 30:315–333.