Bodily effects of Cannabis

Eyes:
- Reddening
- Decreased intra-ocular pressure

Mouth:
- Dryness

Skin:
- Sensation of heat or cold

Heart:
- Increased heart rate

Muscles:
- Relaxation

Effects of frequent cannabis use on hippocampal activity during an associative memory task

fMRI in 20 frequent cannabis users and 20 non-users matched for age, gender and IQ

Figure. The correlation between last year cannabis use (number of joints) and task performance, and between lifetime cannabis use (number of joints) and task performance: $r = -0.44$, $p < 0.05$ and $r = -0.77$, $p < 0.001$, two-tailed.
Brain regions of interest and individual volumetric measures. The scattergraphs illustrate hippocampal (A) and amygdala (B) volumes of cannabis users and nonusing control subjects. The horizontal lines represent the group means. Tracings of left (yellow) and right (blue) amygdalae and left (red) and right (green) hippocampi are also illustrated (C).
SHOCKING DOPE EXPOSE

TEEN-AGE DOPE SLAVES

AS EXPOSED BY REX MORGAN, M.D.

BRUCE... BRUCE... YOU'VE GOT TO STOP THIS NOW--BEFORE IT'S TOO LATE!!

STATE

PLEASE... PLEASE... I'LL GET THE MONEY SOMEHOW!

SOMEHOW DON'T COUNT! CASH ON THE LINE, SUCKER--OR NO SHOT!!
Significant brain **growth** and **development** occurs during adolescence, and continues into the twenties. Some studies show that this growth and development extends to the age of 30!

(Sowell et al., 1999; Sowell et al., 2001)
Persistent cannabis users show neuropsychological decline from childhood to midlife


Abstract
Recent reports show that fewer adolescents believe that regular cannabis use is harmful to health. Concomitantly, adolescents are initiating cannabis use at younger ages, and more adolescents are using cannabis on a daily basis. The purpose of the present study was to test the association between persistent cannabis use and neuropsychological decline and determine whether decline is concentrated among adolescent-onset cannabis users. Participants were members of the Dunedin Study, a prospective study of a birth cohort of 1,037 individuals followed from birth (1972/1973) to age 38 y. Cannabis use was ascertained in interviews at ages 18, 21, 26, 32, and 38 y. Neuropsychological testing was conducted at age 13 y, before initiation of cannabis use, and again at age 38 y, after a pattern of persistent cannabis use had developed. Persistent cannabis use was associated with neuropsychological decline broadly across domains of functioning, even after controlling for years of education. Informants also reported noticing more cognitive problems for persistent cannabis users. Impairment was concentrated among adolescent-onset cannabis users, with more persistent use associated with greater decline. Further, cessation of cannabis use did not fully restore neuropsychological functioning among adolescent-onset cannabis users. Findings are suggestive of a neurotoxic effect of cannabis on the adolescent brain and highlight the importance of prevention and policy efforts targeting adolescents

Chronic exposure to cannabinoids during adolescence but not during adulthood impairs emotional behaviour and monoaminergic neurotransmission

The pathophysiological neural mechanism underlying the depressogenic and anxiogenic effects of chronic adolescent cannabinoid use may be linked to perturbations in monoaminergic neurotransmission. We tested this hypothesis by administering the CB1 receptor agonist WIN55,212-2, once daily for 20 days to adolescent and adult rats, subsequently subjecting them to tests for emotional reactivity paralleled by in vivo extracellular recordings of serotonergic and noradrenergic neurons. Chronic adolescent exposure but not adult exposure to low (0.2 mg/kg) and high (1.0 mg/kg) doses led to depression-like behaviour in the forced swim and sucrose preference test, while the high dose also induced anxiety-like consequences in the novelty-suppressed feeding test. Electrophysiological recordings revealed both doses to have attenuated serotonergic activity, while the high dose also led to a hyperactivity of noradrenergic neurons only after adolescent exposure. These suggest that longterm exposure to cannabinoids during adolescence induces anxiety-like and depression-like behaviours in adulthood and that this may be instigated by serotonergic hypoactivity and noradrenergic hyperactivity.
The Impacts of adolescent marijuana use onset on cognition, brain structure, and function

Cannabis use before age 15 and subsequent executive functioning

104 chronic cannabis users (49 early-onset users and 55 late-onset users) and 44 controls
New Onset Cases of Any Drug Use Disorder and Current Executive Function Deficits (EFD)


Pairwise Comparisons:
\(^a\) p < 0.05 vs. Controls; \(^b\) p < 0.05 vs. ADHD; \(^c\) p < 0.05 vs. both ADHD and Use