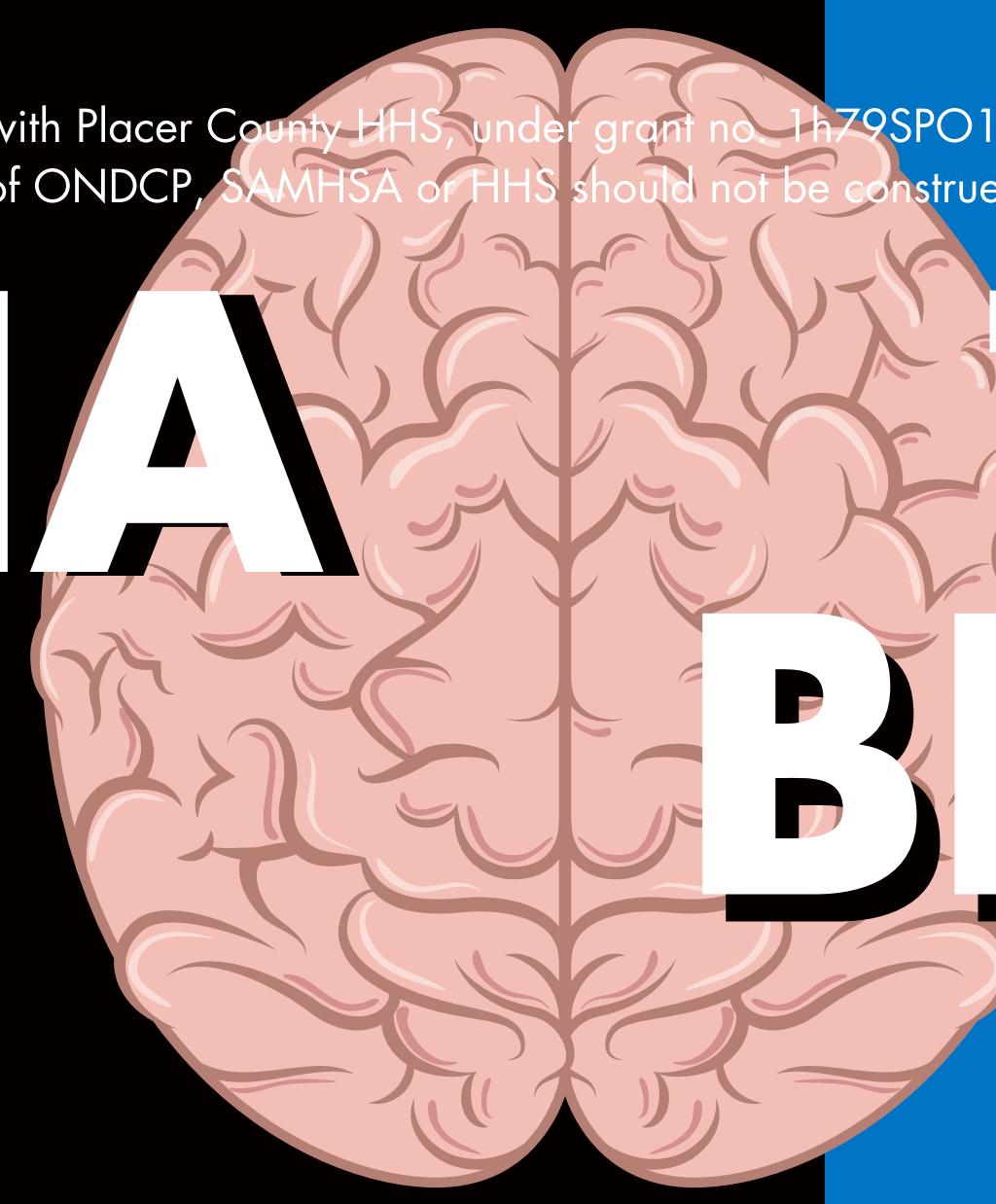


MARIJUANA and the TEEN BRAIN



TEEN BRAIN

*Sources: Mehmedic et al, 2010; Jennifer Golick, PhD, LMFT; D Arnone, TR Barrick, S Chengappa et al, NeuroImage 2008

THC levels have exploded over the past few decades.

2010
11

1960
0.2

1970 1980 1990 2000 2010

THC levels

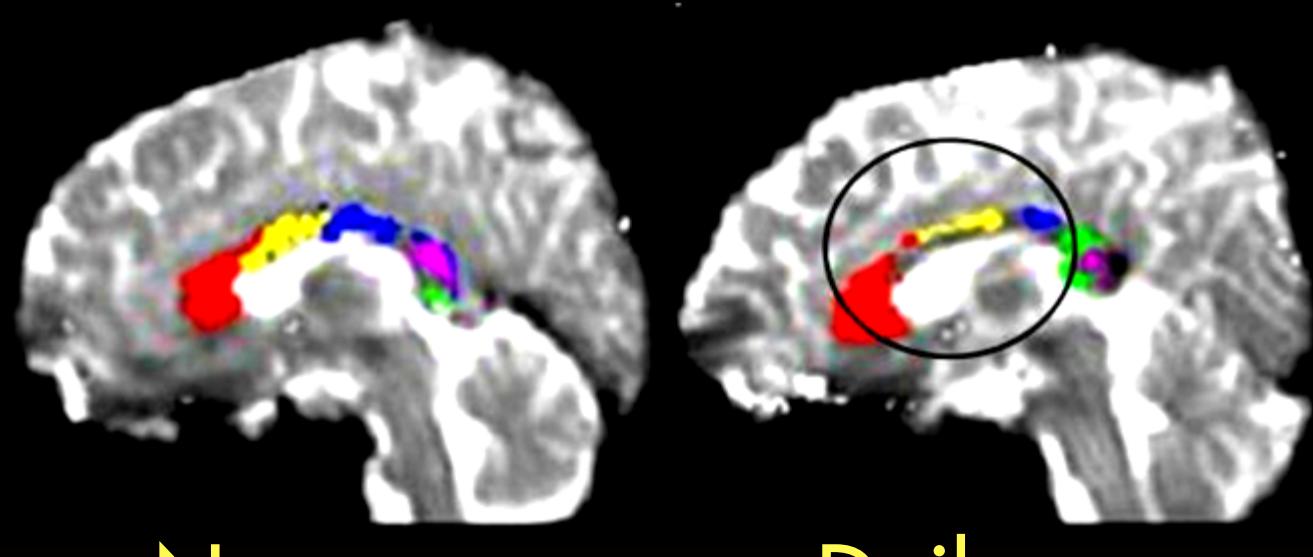
Marijuana potency

The science...

Cannabinoid receptors are broadly distributed through the brain, but selectively activated during adolescence for healthy brain structure development.

Their function is disrupted when flooded by external cannabinoid exposure.

The result? Altered structure and function of brain regions controlling emotion, thought, memory and social interaction — changes that can persist into adulthood.



Non-user

Daily user

White matter matters.

MRI scans of young males who smoked marijuana daily (starting at an average age of 15) showing white matter structure. The impairment is similar to that of a brain affected by schizophrenia.

The risks...

Addiction

Cannabis Use Disorder or Dependence.

Drugged driving

Accidents and fatalities.

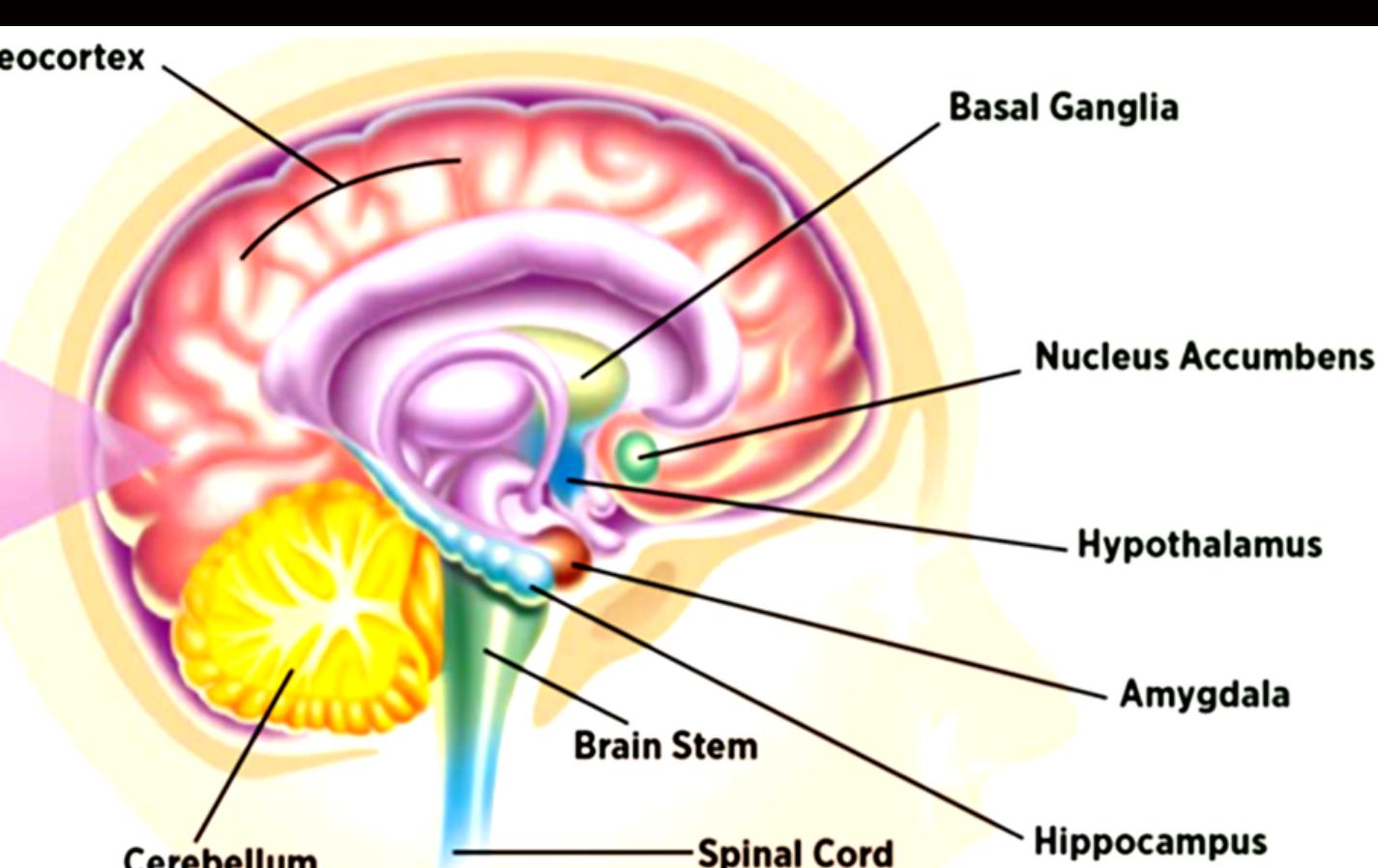
Mental health

Psychosis, including schizophrenia.

Loss of motor coordination

Cognitive impairment

Memory and executive functioning (difficulty thinking, problem solving, distorted perception)



THC

affects these different areas of the brain, leading to panic/paranoia slowed reaction time impaired coordination impaired memory increased appetite altered judgment euphoria altered pain sensitivity & more.

Symptoms of Cannabis Use

DISORDER/DEPENDENCE

- change in friends
- academic decline
- change in personality
- increased family conflict
- school discipline
- abandoning moral compass
- health/legal consequences

WITHDRAWAL

- flu-like symptoms
 - agitation
 - anxiety
 - nausea
 - sweating
 - body aches
- more reported cases of butane hash oil-induced psychosis

Self-medication

Mood & anxiety disorders among respondents with **marijuana dependence** vs. the general population.

61% 20%

any mood disorder

49% 16%

any anxiety disorder

47% 17%

depression

20% 4%

dysthymia

10% 2%

hypomania

14% 4%

panic w/o agoraphobia

27% 9%

specific phobia

21% 4%

generalized anxiety