Evidence-Based Interventions for Adolescents with Substance Use Problems

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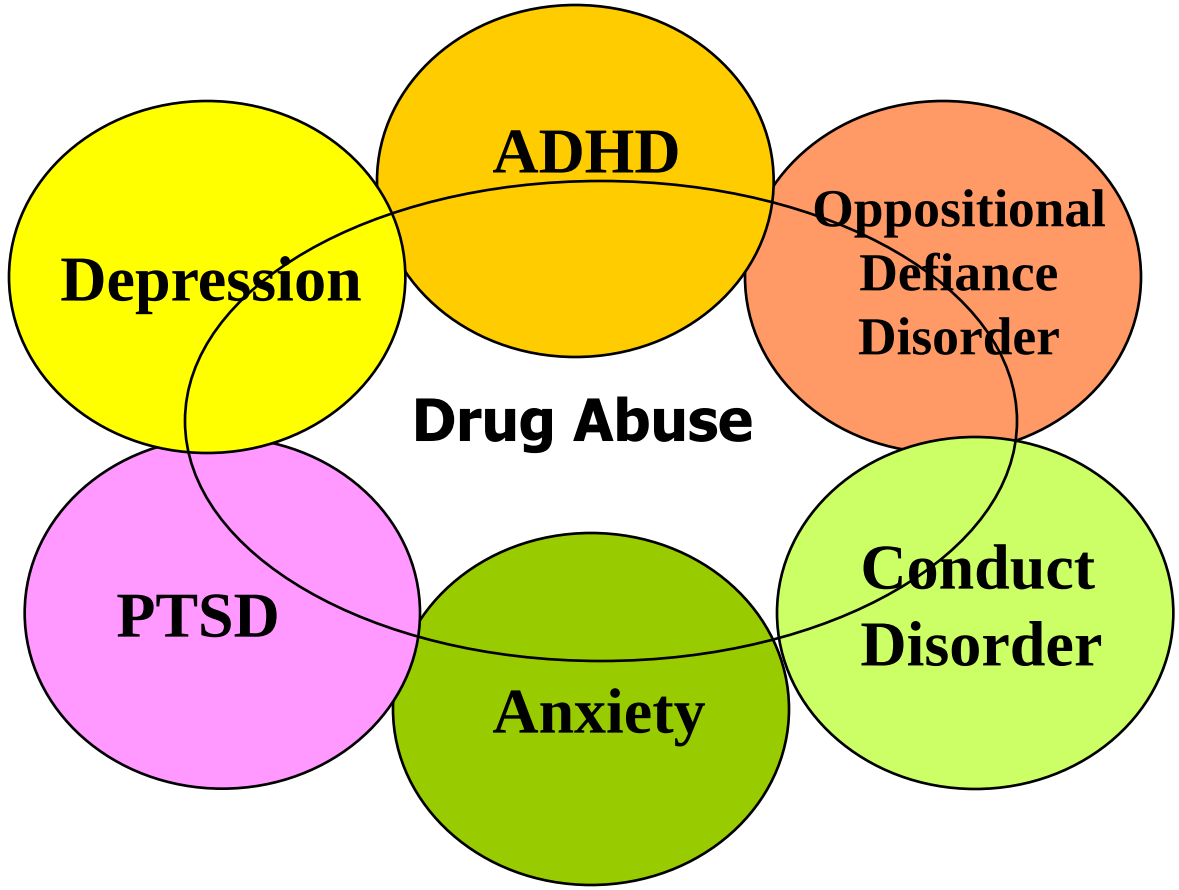
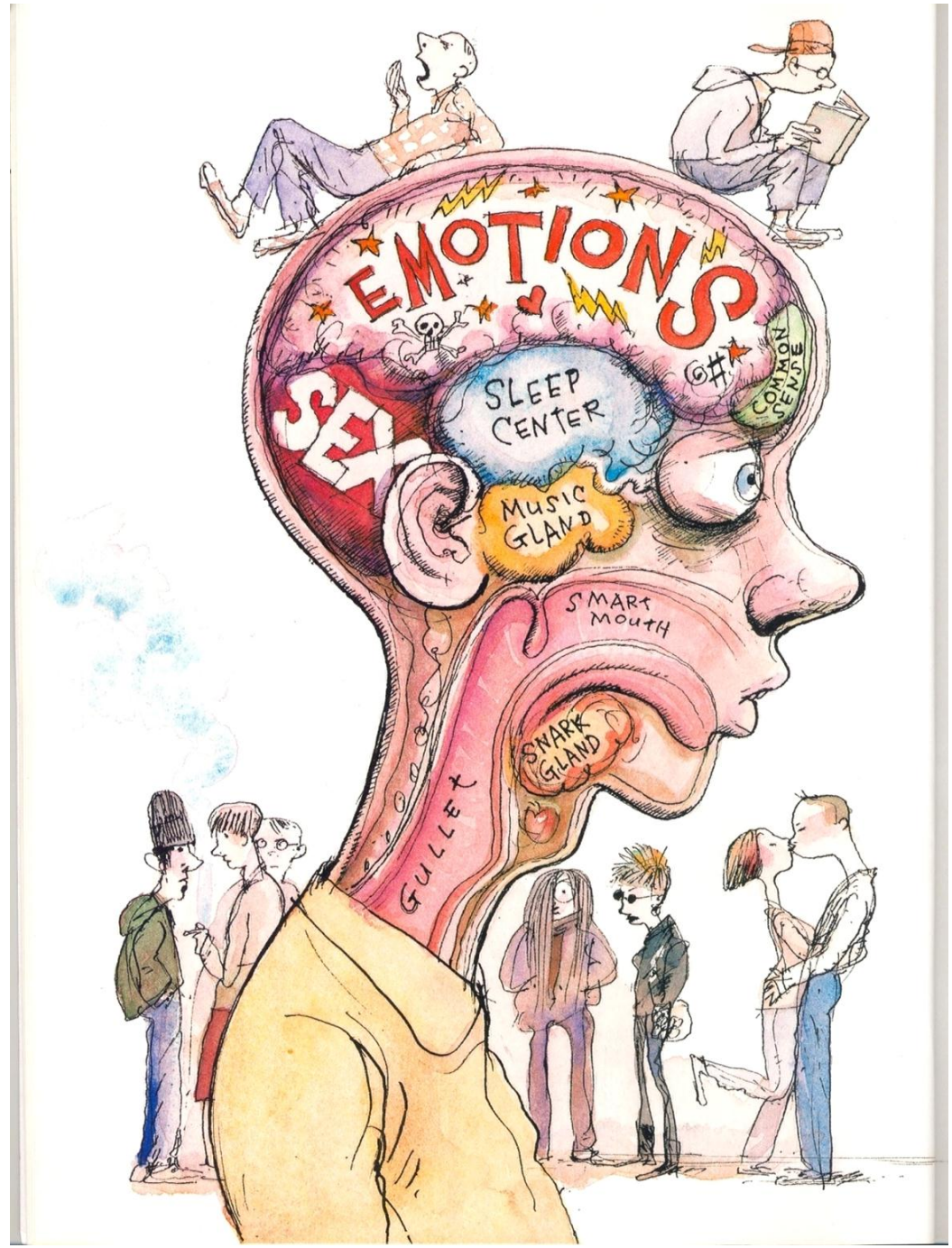
Society for Clinical Child and Adolescent Psychology Dissemination Initiative




EMOTIONS
SEX
SLEEP CENTER
COMMON SENSE
MUSIC GLAND
SMART MOUTH
SNARK GLAND
GULLET

Objectives: Increase Knowledge of…

1. Developmental issues when working with substance-abusing adolescents.

2. Continuum of intervention and treatment services for drug abusing youth.

3. Core elements of effective treatment.

Free Resources

Treatment Improvement Protocol (TIP) Series

www.samhsa.gov/csat

TIP #31: Screening and Assessing Adolescents for Substance Use Disorders

TIP #32: Treatment of Adolescents with Substance Use Disorders

$$ Resources

Clinical Manual of Adolescent Substance Abuse Treatment **(2011) (Kaminer & Winters, editors)**
www.psych.org

Adolescent Substance Abuse: Psychiatric Comorbidity and High-Risk Behaviors **(2008) (Kaminer & Bukstein, editors)**
www.taylorandfrancis.com

Adolescent Substance Abuse: Research and Clinical Advances **(2006) (Liddle & Rowe, editors)**
www.cambridge.org

Publications

Lipsey, M.W., Tanner-Smith, E.E., & Wilson, S.J. (2010). ***Comparative effectiveness of adolescent substance treatment: Meta-analyses with implications for practice.*** **Nashville, TN: Peabody Research Institute, Vanderbilt University.**

7 Habits of Highly Effective Counselors

Habits of Highly Effective Counselors

1. Knowledgeable about the developmental characteristics of youth.

Youth is characterized by....

- risky behaviors
- emotional roller-coaster
- sleep changes

These behaviors are often confused as related to drug abuse

Psychological and Cultural Forces

- Individuation
  - need to develop personal identity
- Separation
  - need to separate from parents

Change in Drug Use by 12th Graders Since 2001

Percent Reporting Past Month Use

	2001	2010	Change as a 2001
Marijuana	22.4%	21.4%	-
Alcohol	49.8%	41.2%	-
Cigarettes	29.5%	19.2%	-
Amphetamines	10.9%	7.4%	-
Methamphetamine	1.7 %	0.5%	-

Source: University of Michigan, 2011 Monitoring the Future survey.

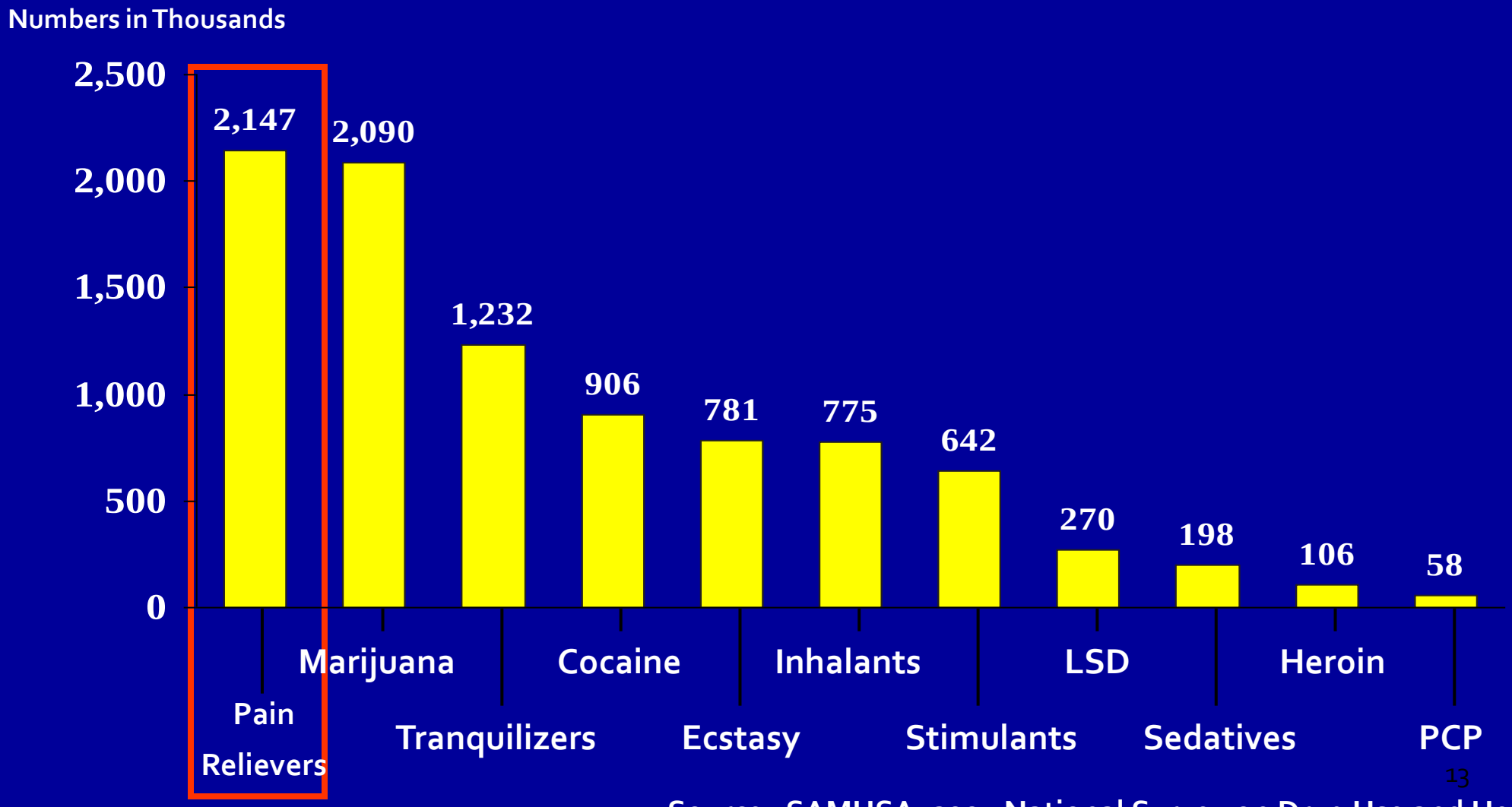
2009 Monitoring the Future Study

Prevalence of Past Year Drug Use Among 12th Graders

Drug	Prev. (%)	Drug	Prev. (%)
Alcohol	66.2	MDMA (Ecstasy)	4.3
Marijuana/Hashish	32.8	Cocaine (any form)	3.4
Vicodin*	9.7	Inhalants	3.4
Amphetamines*	6.6	Cocaine Powder	3.0
Tranquilizers*	6.3	Ritalin*	2.1
Cough Medicine*	5.9	LSD	1.9
Salvia	5.7	Provigil*	1.8
Adderall*	5.4	Ketamine	1.7
Sedatives*	5.2	Steroids	1.5
OxyContin*	4.9	Crack	1.3
Hallucinogens	4.7	Methamphetamine	1.2

*** Nonmedical use, or not prescribed by a doctor**

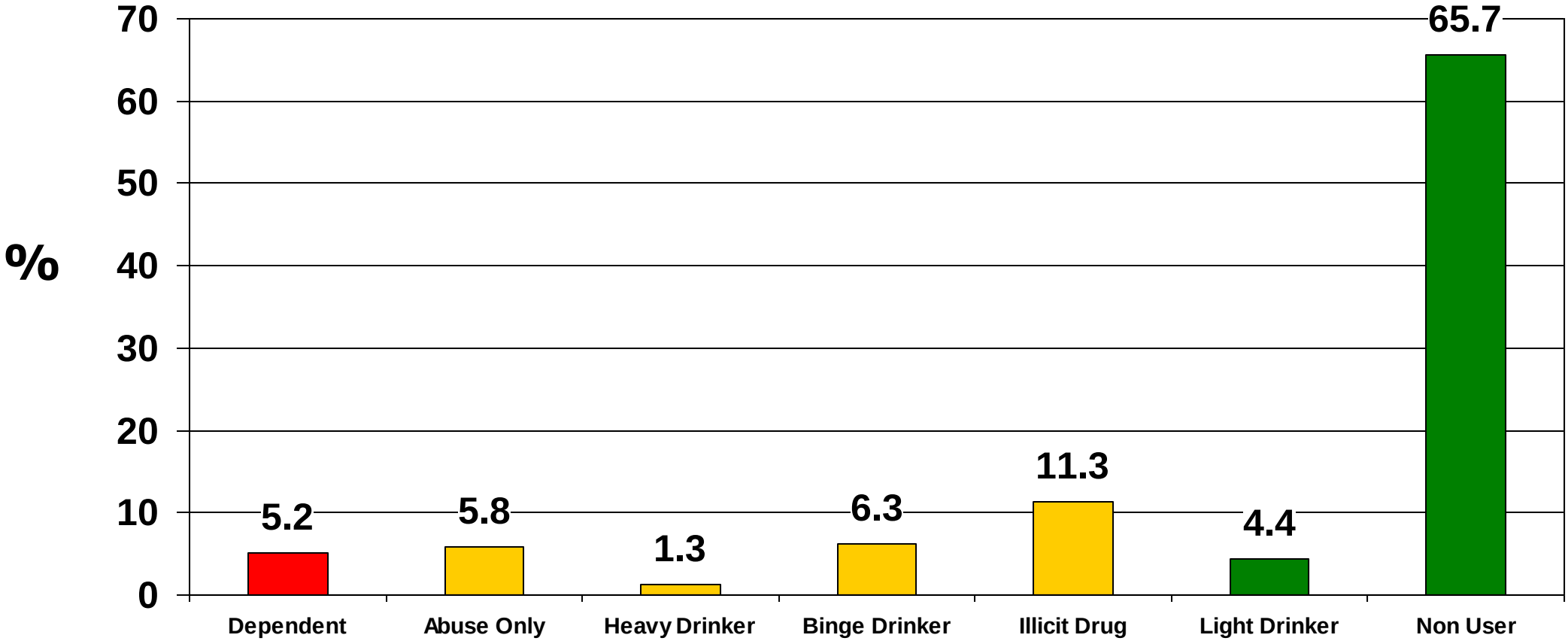
Past Year Initiates for Specific Illicit Drugs, Ages 12+, 2007



Source: SAMHSA, 2007 National Survey on Drug Use and Health

Estimates of Mutually Exclusive Drug Abusing Adolescent Groups, Ages 12-18-year-old

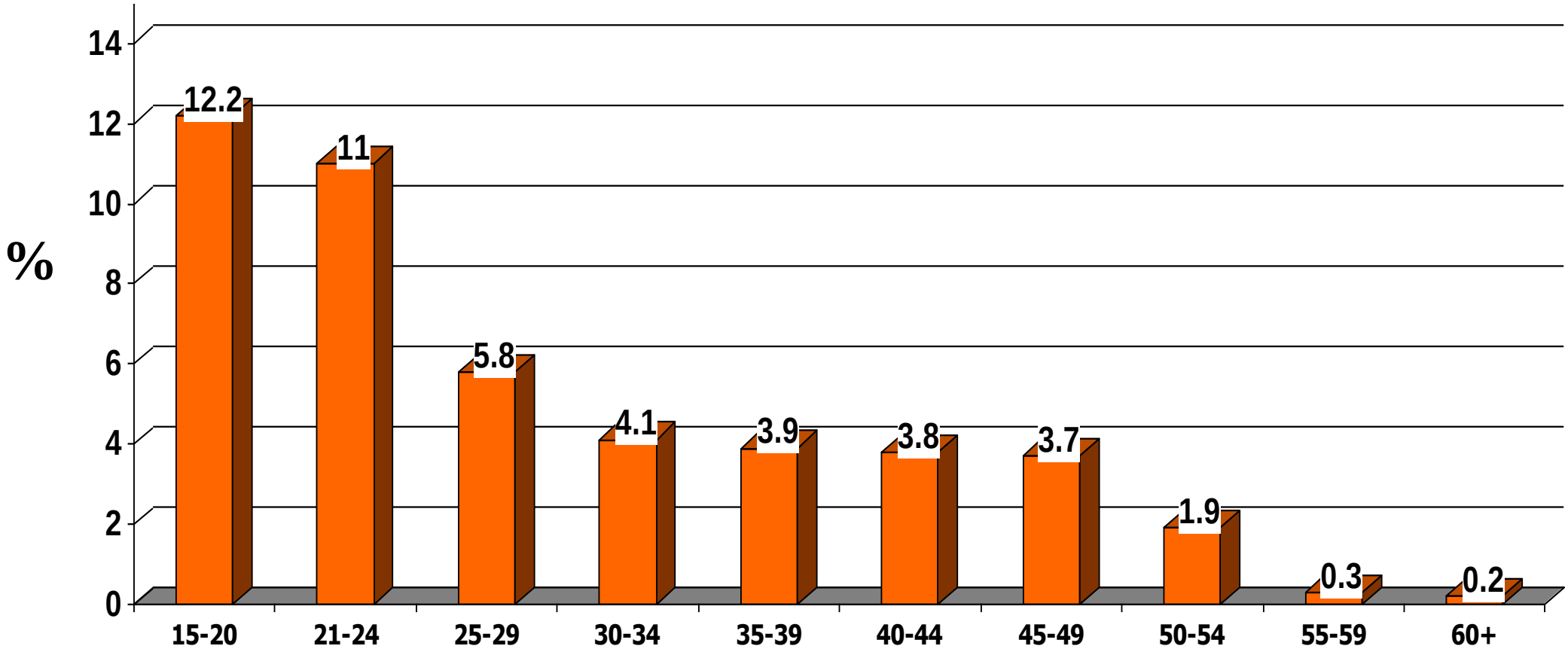
(based on data from SAMHSA, 2005)



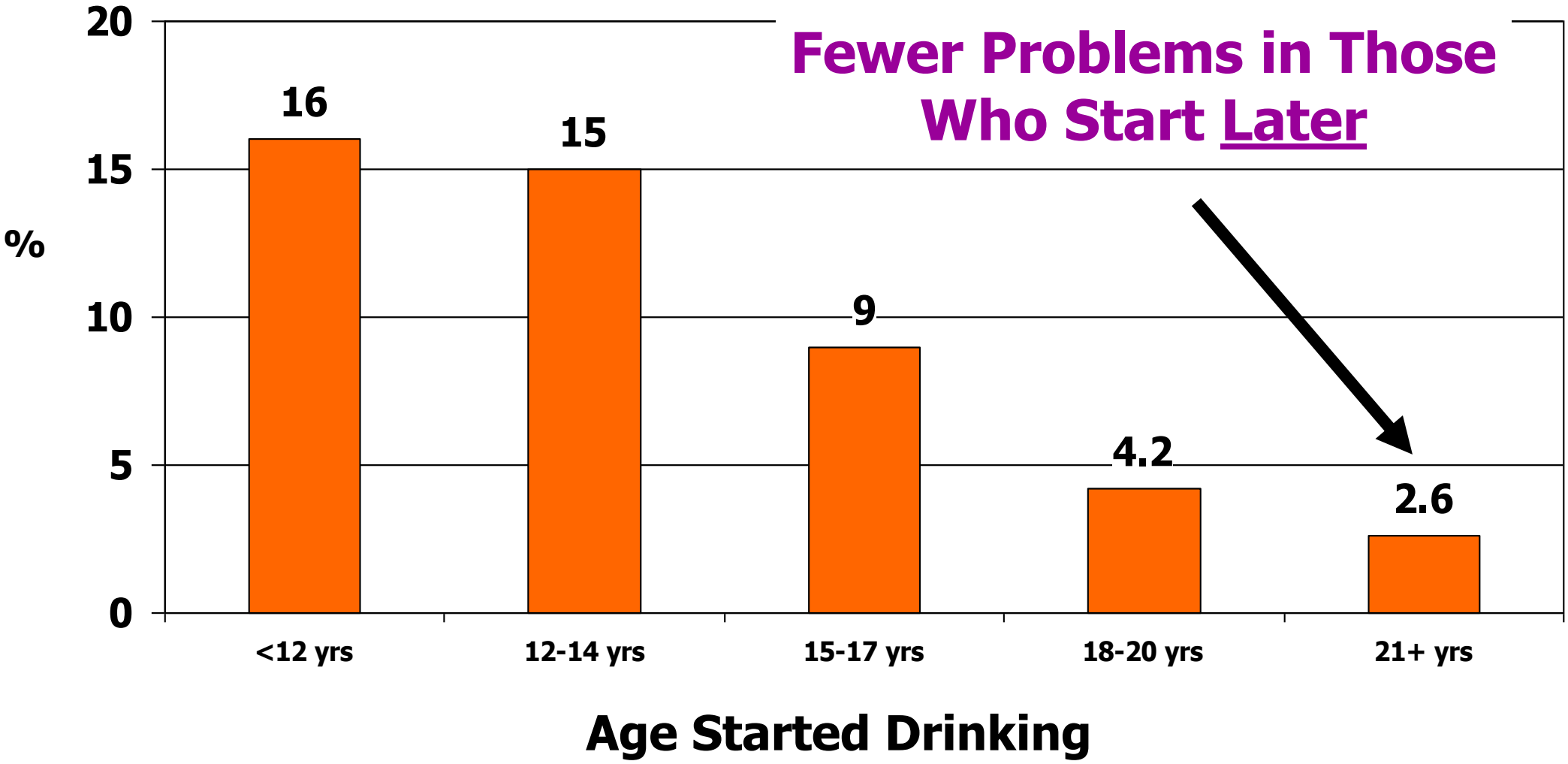
Heavy, Binge, and Light Drinkers: prior 30 days
Dependence, Abuse only, Illicit Drug Use and No Drug Use: prior year

Prevalence of Past-Year DSM-IV Alcohol Dependence: United States, 2001-2002

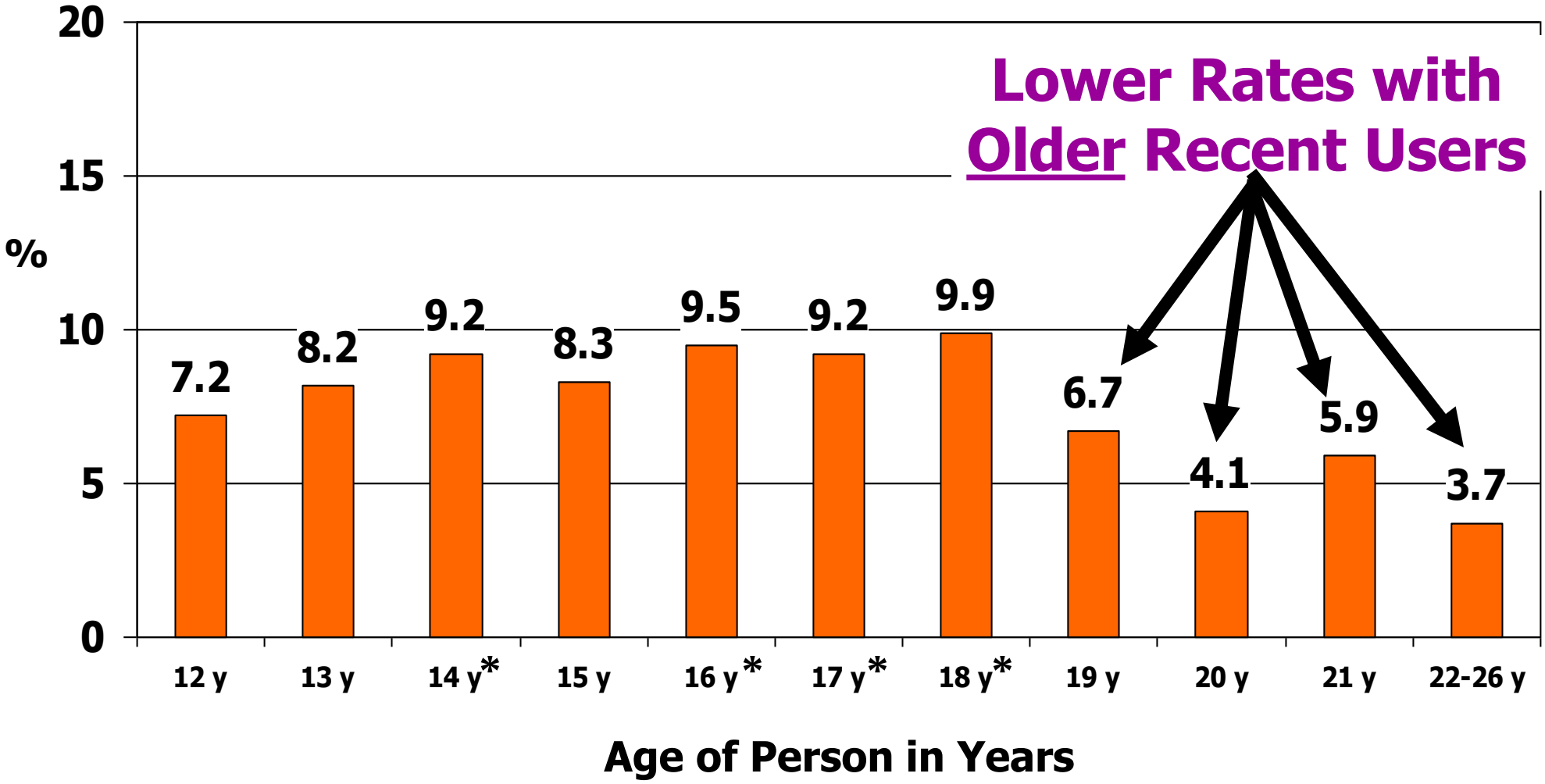
(Grant, B.F., et al., *Drug and Alcohol Dependence*, *74*, 223-234, 2004)



Percentages of Past Year Alcohol Use Disorder (Abuse or Dependence) Among Adults Aged 21 or Older, by Age of First Use (SAMHSA, 2005)

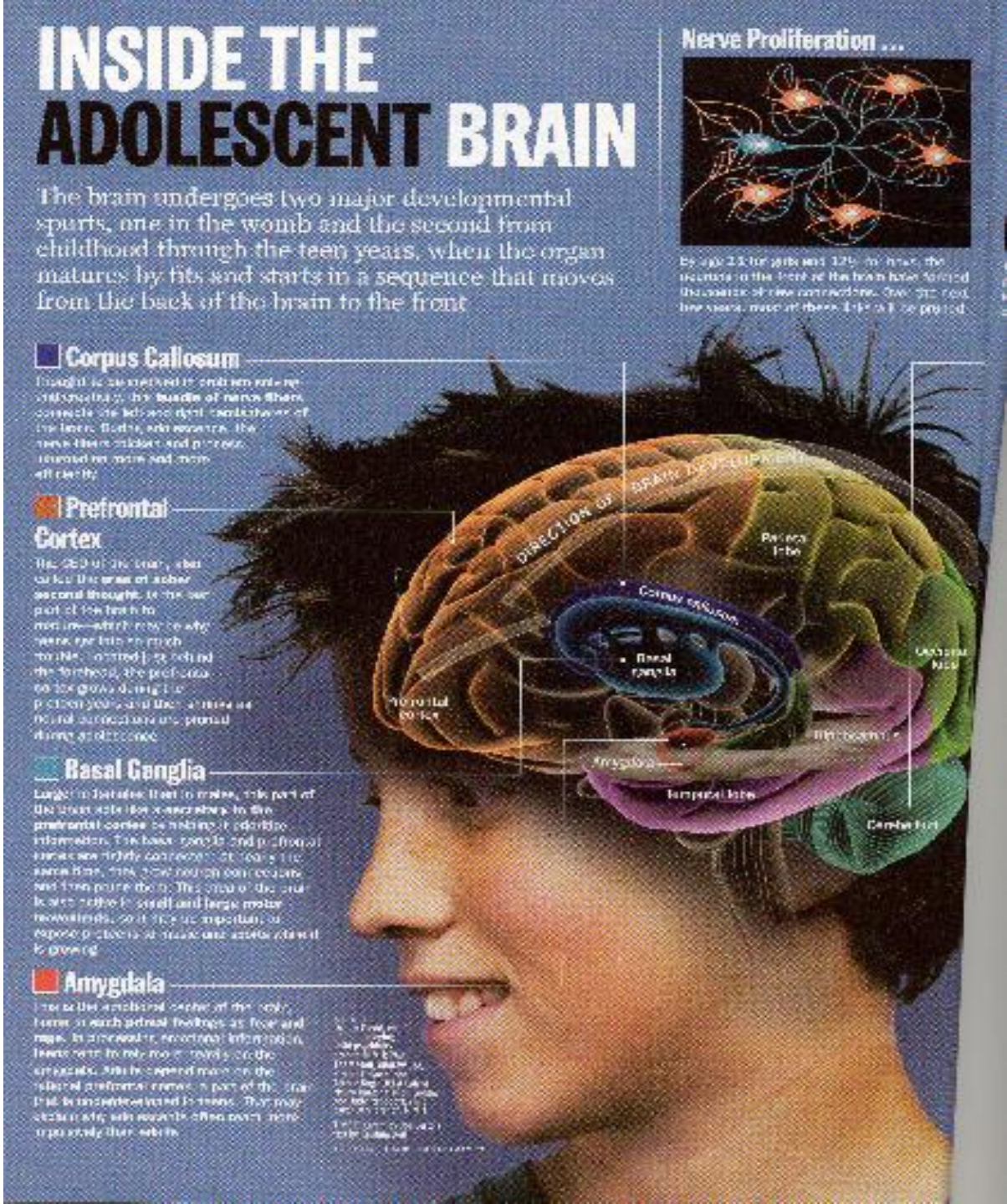


Percentages of past year alcohol use disorder among those with a recent onset (prior 2 years; *n* = 4074) of alcohol use (Winters & Lee, 2007)



* *p* <= .05; compared to 22-26y group

- **Adolescence is a period of profound brain maturation.**
  - **It was believed that brain development was complete during childhood**
  - **The maturation process is not complete until about age 25 !**

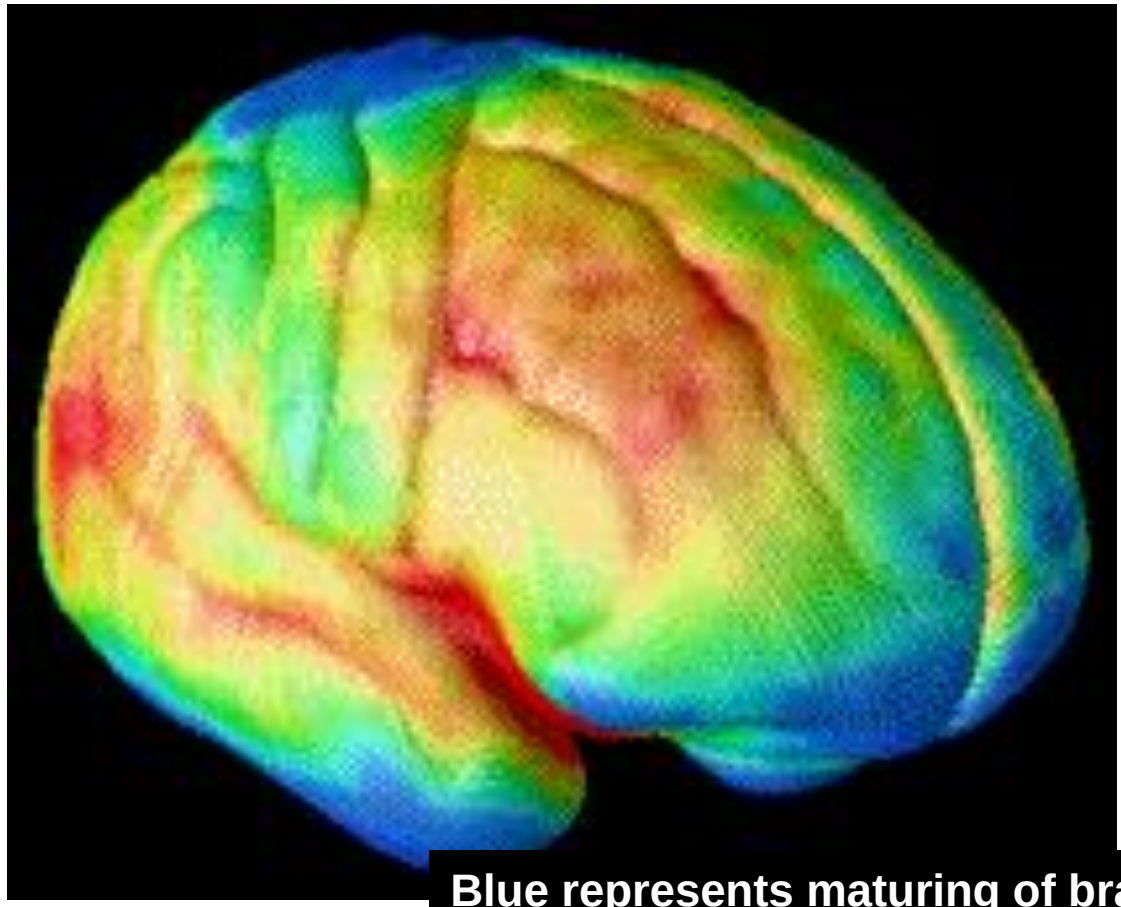


Maturation Occurs from Back to Front of the Brain

Images of Brain Development in Healthy Youth (Ages 5 – 20)

Earlier:
- Motor Coordination
- Emotion
- Motivation

Later:
- Judgment

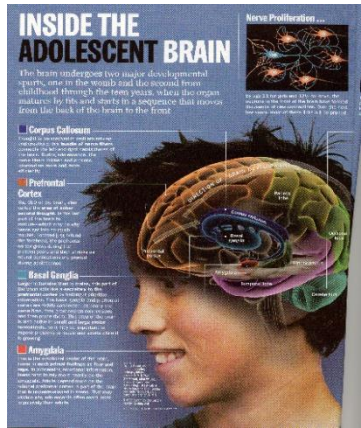


Blue represents maturing of brain areas

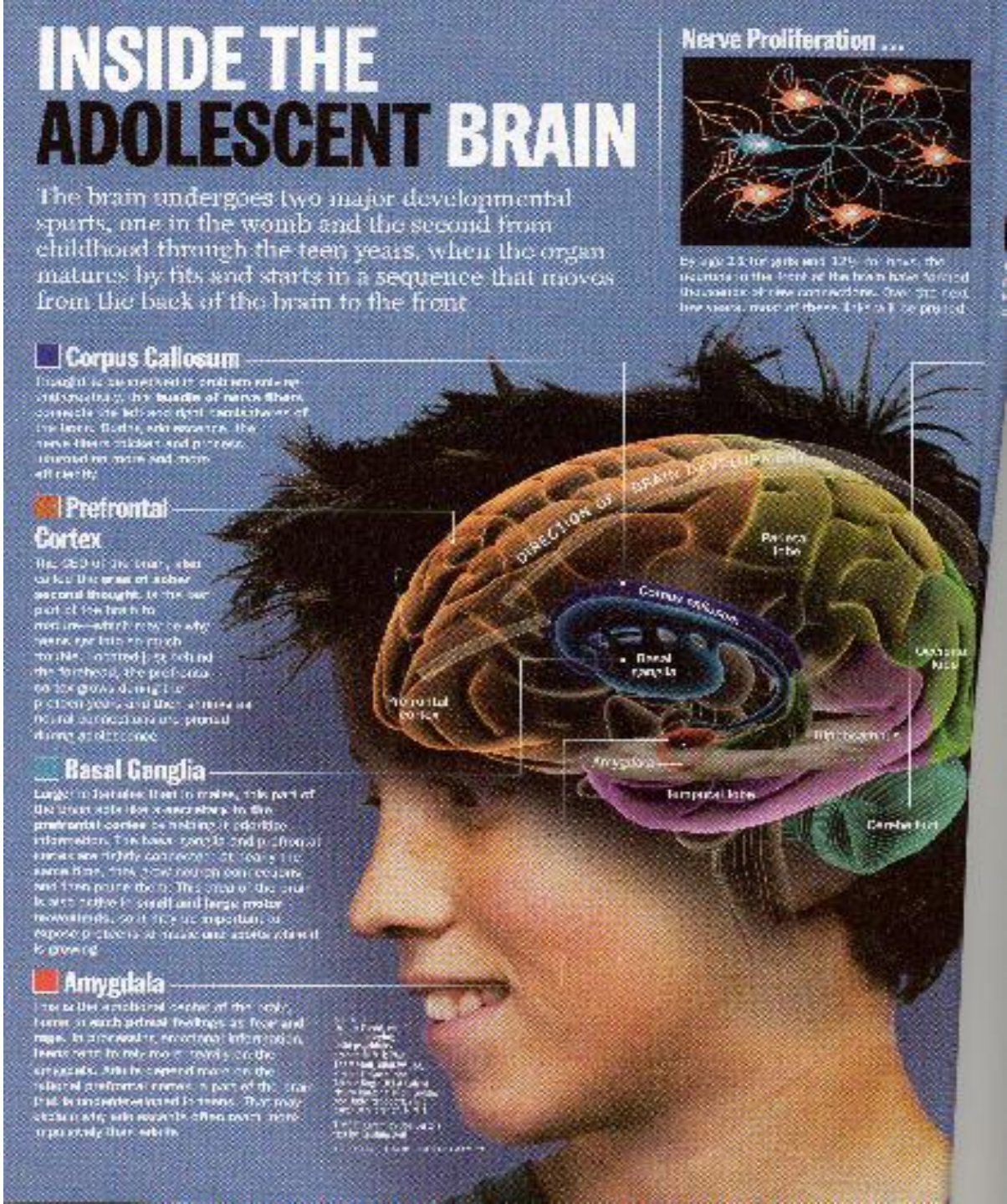
Gogtay et al., 2004

Seven Implications of Arrested Development for Adolescent Behavior

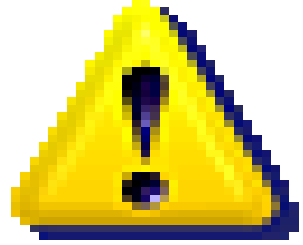
- **Preference for ….**
  1. physical and sensory activities
  2. high excitement and low effort activities
  3. activities with peers that trigger high intensity/arousal
  4. novelty
- **Less than optimal..**
  5. balance of emotion and logic when making decisions
  6. consideration of negative conseq.
- **Greater tendency to…**
  7. take risks and show impulsiveness



Adolescence and alcohol.



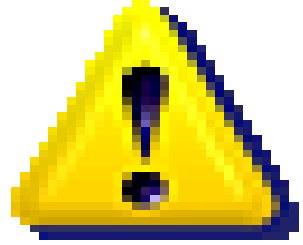
SUMMARY



Evidence in support that youth are highly vulnerable to the effects of alcohol

1. **Reduced sensitivity to intoxication**
2. **Increased social disinhibition**
3. **Increased cognitive disruption**

SUMMARY

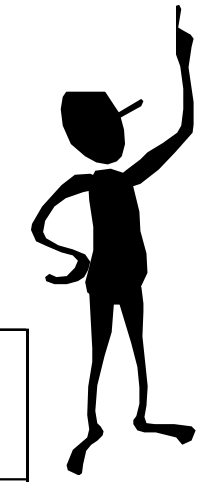


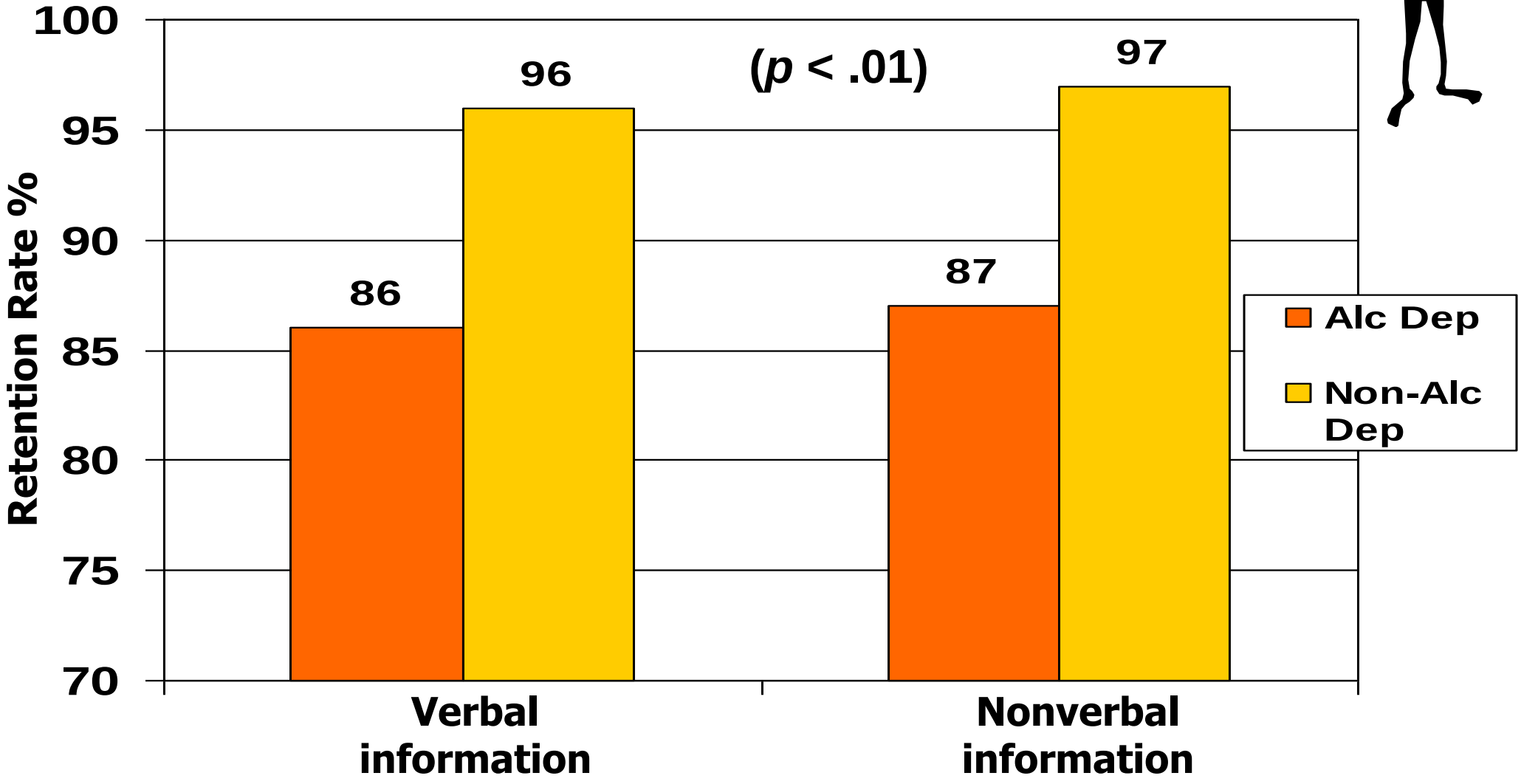
Evidence in support that youth are highly vulnerable to the effects of alcohol

1. Reduced sensitivity to intoxication
2. Increased social disinhibition
3. **Increased cognitive disruption**

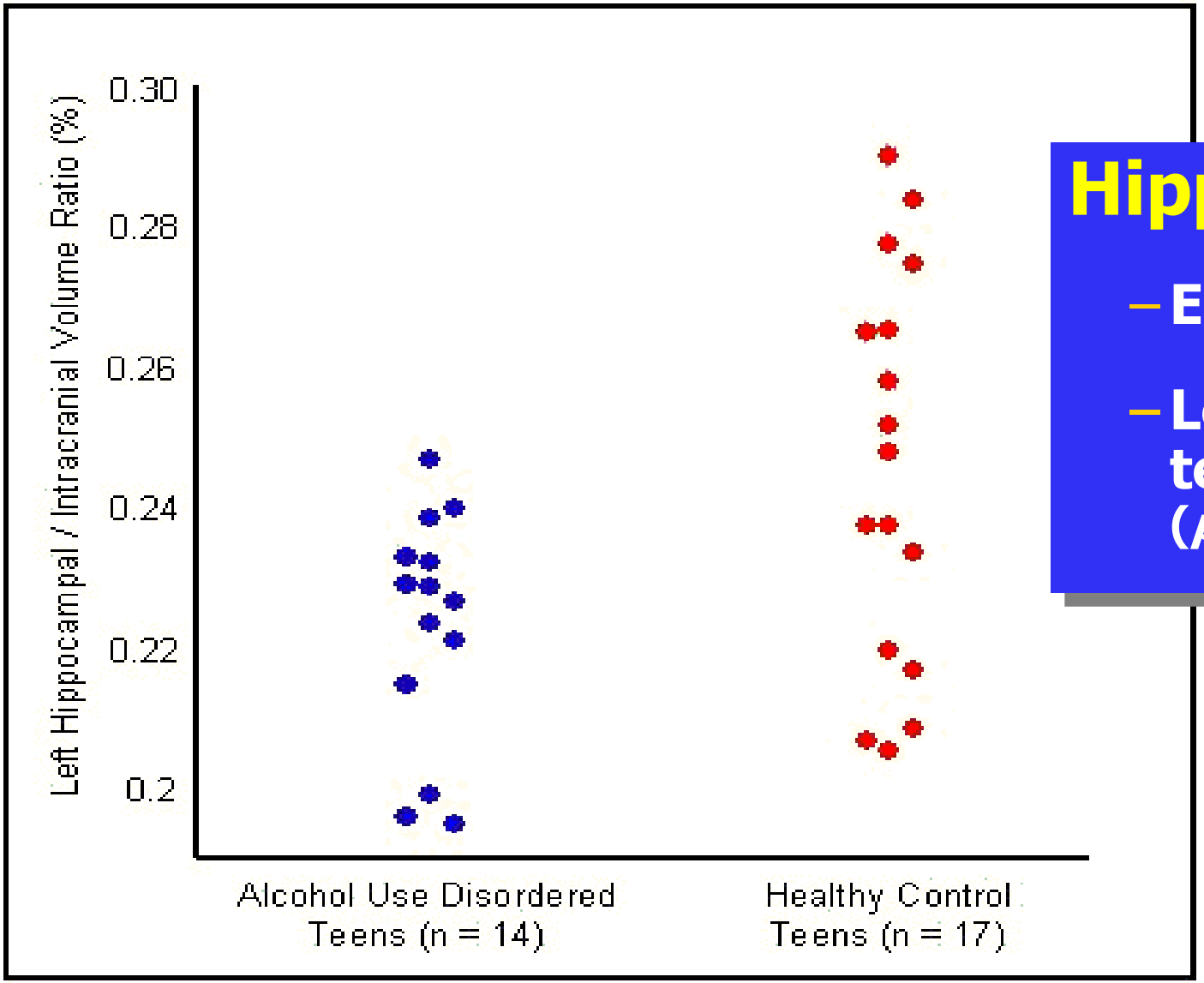
Human Data: Alcohol's Effects

(Brown et al., 2000)





MRI: Hippocampal Size



Hippocampus

- Encodes new info
- Left smaller in AUD teens by approx. 10% (p<.01)

Nagel, Schweinsburg, Pham, & Tapert, 2005

Habits of Highly Effective Counselors

2. Appreciate that treatment can work.

Recent Meta-Analysis of the Outcome Literature (Lipsey et al., 2010)

Report based on two meta-analyses.
Both based on research studies of the effects of treatment on the substance use of adolescents presenting with clinical levels of abuse or dependence.

Lipsey Report – Meta 1

- **Examined findings from 55 experimental or quasi-experimental studies.**
- **A few of these compared a focal treatment of primary interest with a no-treatment control group, but many compared a focal treatment with a practice-as-usual treatment or compared two distinct focal treatments with each other.**
- **319 group difference effect sizes from 94 different treatment-comparison group combinations.**

Lipsey Report – Meta 2

- **This examined the pretest - posttest changes in substance use for adolescents in different treatment conditions.**

- **69 studies that provided information on 199 independent adolescent samples. Many of these samples were drawn from the separate arms of the experimental and quasi-experimental studies, so the two meta-analyses drew on many of the same studies but analyzed the results quite differently.**

Lipsey Report – Meta 2

- **489 effect sizes representing pretest-posttest change on various substance use measures**
  - **159 for alcohol outcomes**
  - **71 for marijuana outcomes**
  - **180 for mixed substance use outcomes**
  - **79 for other substances (e.g., cocaine, heroin).**

Keys to Successful Treatment Outcome:
Insights from the Meta-Analysis by Lipsey et al. (2010)

- No rigorous and controlled comparison between different treatment modalities (e.g., family-based vs. 12-Step vs. cognitive behavioral)

- A major consistent pattern was overall positive effects for all treatment models when compared to comparison conditions
  - "diverse treatment models or approaches were at least somewhat effective"

- However, family therapy, as well as CBT and MET/CBT, tended to show better outcomes

Keys to Successful Treatment Outcome:
Insights from the Meta-Analysis by Lipsey et al. (2010)

- With some exceptions, treatments showed relatively equal effectiveness across groups defined by ethnicity, gender and age
- Length of treatment not (or negatively) related to outcome
- General trend that adolescents with higher levels of drug use problem severity at intake show a greater reduction in subsequent drug use
  - consistent with the expectation that clients with more serious problems have more room to improve

Keys to Successful Treatment Outcome:
Insights from the Meta-Analysis by Lipsey et al. (2010)

- **Youth with chronic use of *marijuana* use revealed less positive treatment outcomes compared to those who abuse alcohol or who were moderate abusers of marijuana.**
  - **perhaps more co-existing disorders among youth engaged in high-end marijuana use compared to others**

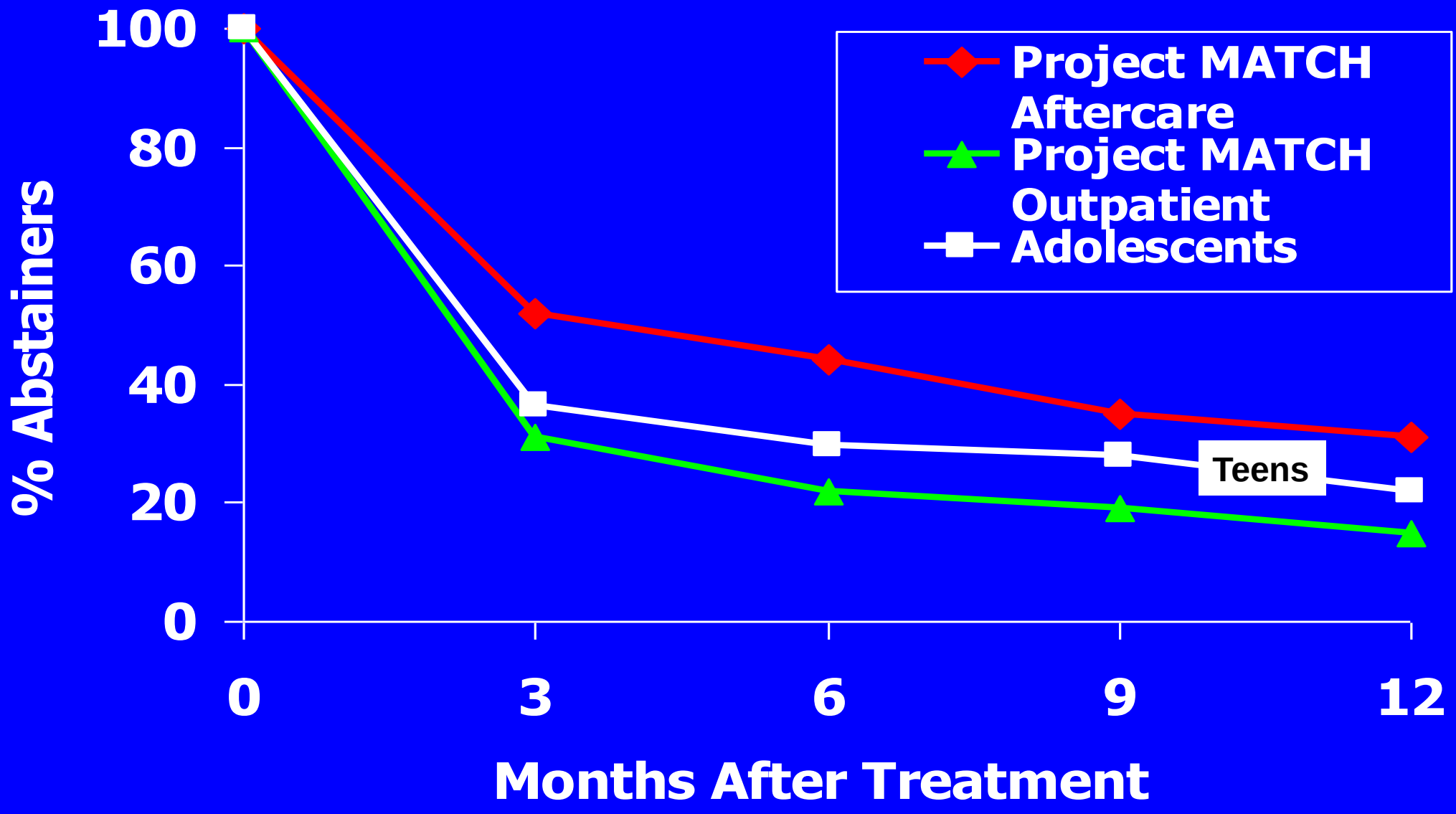
Other Issues
(Winters et al., 2009)

- **Recent advances in the neurochemistry and neuroanatomy of addiction have fostered increased interest and study of medications with adolescents**
  - **the most significant findings for pharmacological treatment are specifically for alcohol use disorders**
    - **Disulfiram (Antabus®)**
    - **Naltrexone (ReVia®)**
    - **Acamprosate (Campral®)**
  - **emerging work on use of buprenorphine (Suboxone) for opioid dependence**

Other Issues
(Winters et al., 2009)

- **Outcomes roughly similar to adult findings.**

Survival Rates : Project Match and Treated Adolescents

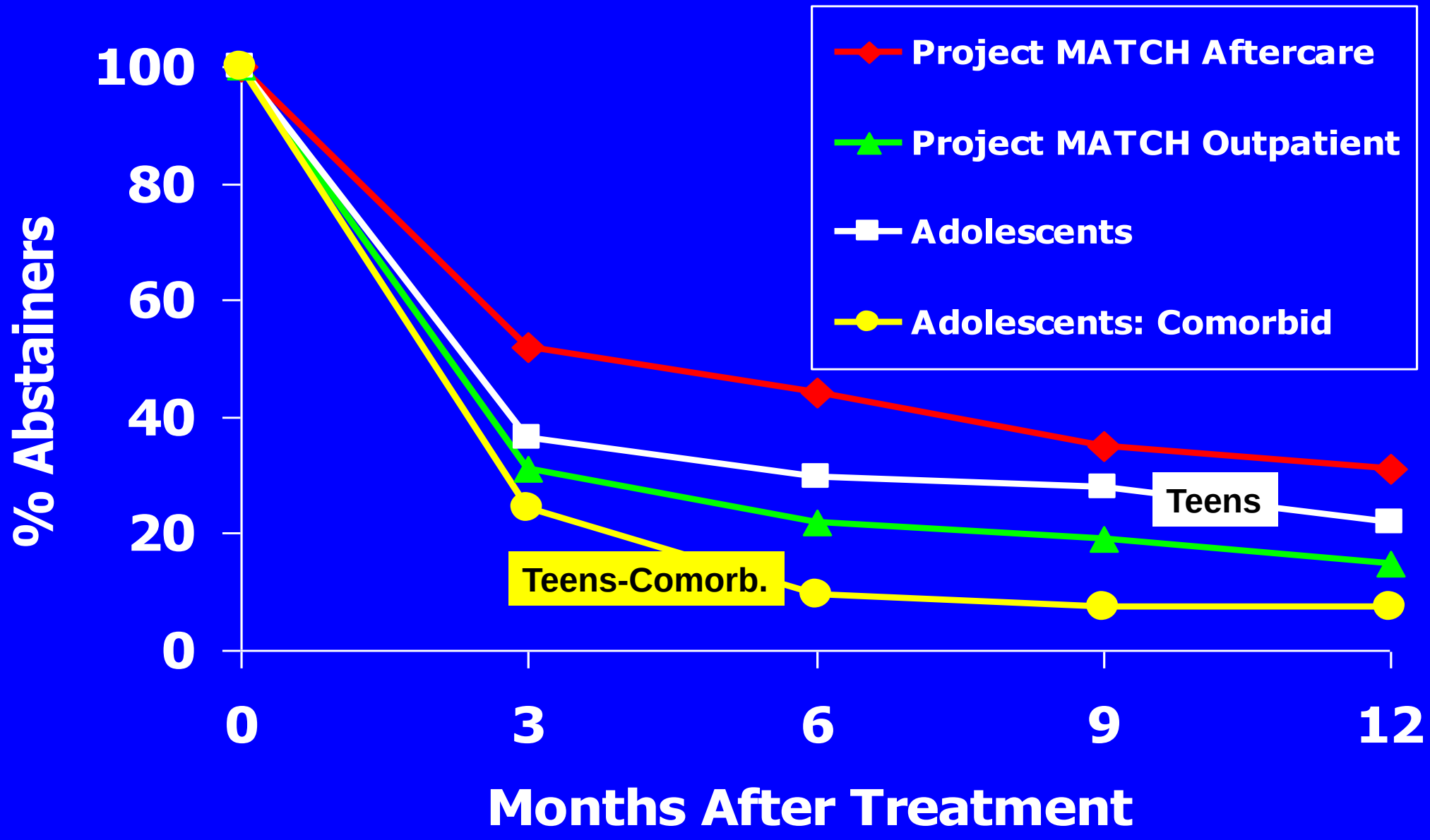


Tomlinson, Brown, Abrantes (2004). PAB

Other Issues
(Winters et al., 2009)

- Recovery linked with extent of coexisting conditions (e.g. CD, ADHD)

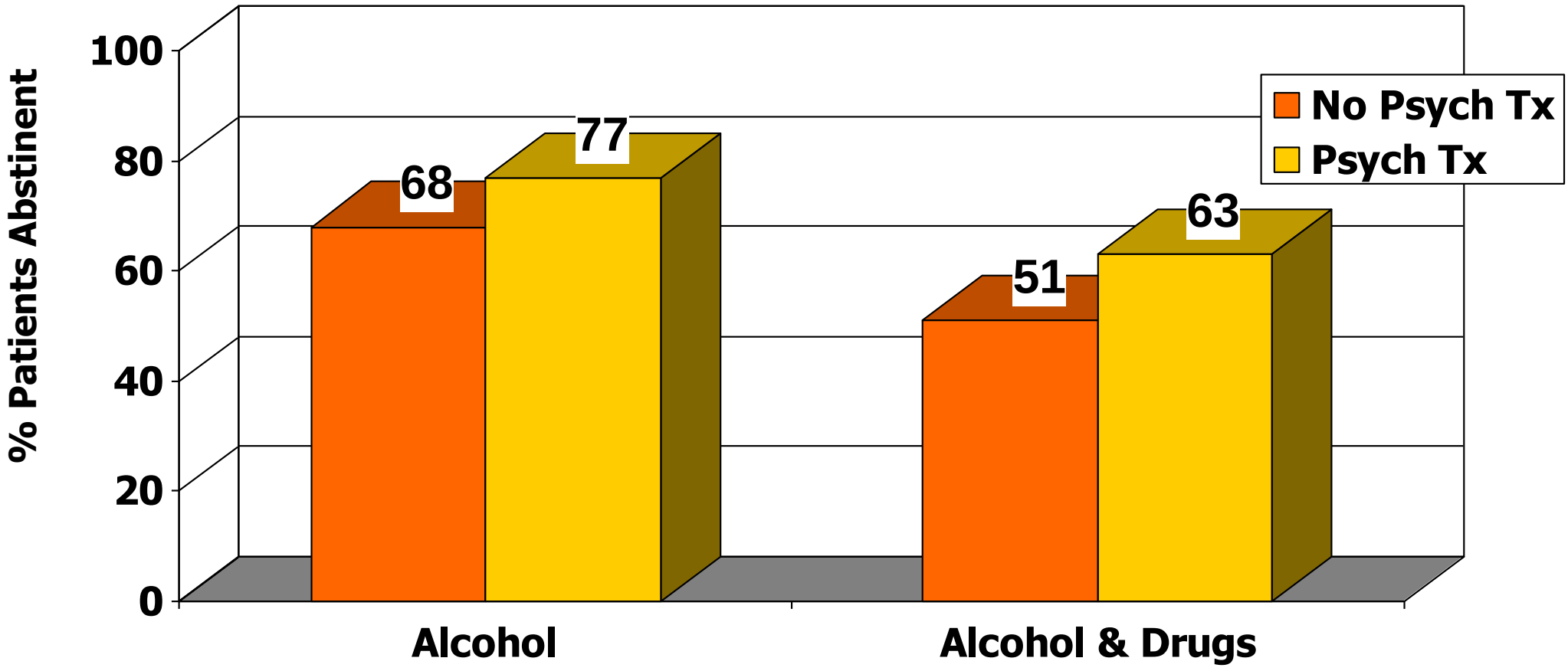
Survival Rates : Project Match and Treated Adolescents



Tomlinson, Brown, Abrantes (2004). PAB

Drug Abuse Outcomes
6 Months After Beginning Treatment

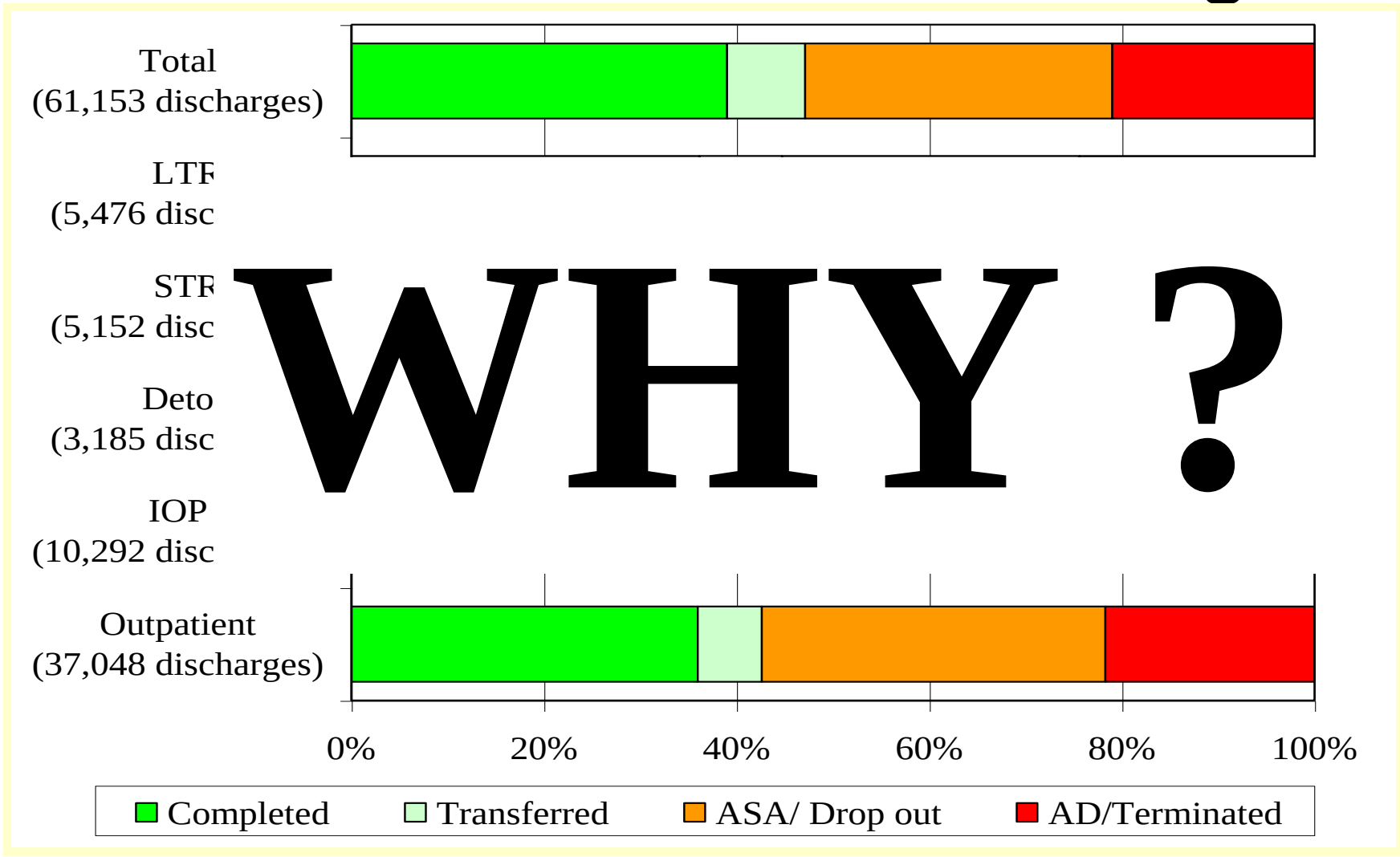
(Sterling & Weisner, 2005)



Other Issues
(Winters et al., 2009)

- **Retention a problem**

53% Have Unfavorable Discharges



Source: Data received through August 4, 2004 from 23 States (CA, CO, GA, HI, IA, IL, KS, MA, MD, ME, MI, MN, MO, MT, NE, NJ, OH, OK, RI, SC, TX, UT, WY) as reported in Office of Applied Studies (OAS; 2005). Treatment Episode Data Set (TEDS): 2002. Discharges from Substance Abuse Treatment Services, DASIS Series: S-25, DHHS Publication No. (SMA) 04-3967, Rockville, MD: Substance Abuse and Mental Health Services Administration. Retrieved from http://wwwdasis.samhsa.gov/teds02/2002_teds_rpt_d.pdf .

Other Issues
(Winters et al., 2009)

- **Unique challenges for adolescents in recovery**
  - **Typically return to pretreatment envir.**
    - **home occupied with parents and/or siblings who use.**
    - **home may be source of conflict.**
    - **school a source of drugs and drug-using friends**
    - **community a source of drugs and drug-using friends.**
  - **Youth-friendly self-help support groups are rare**

Sidebar: Long-Term Outcome

U. of Pittsburgh
U. of MN
UC at San Diego

1/3: continued dependence

1/3: users with variable problems

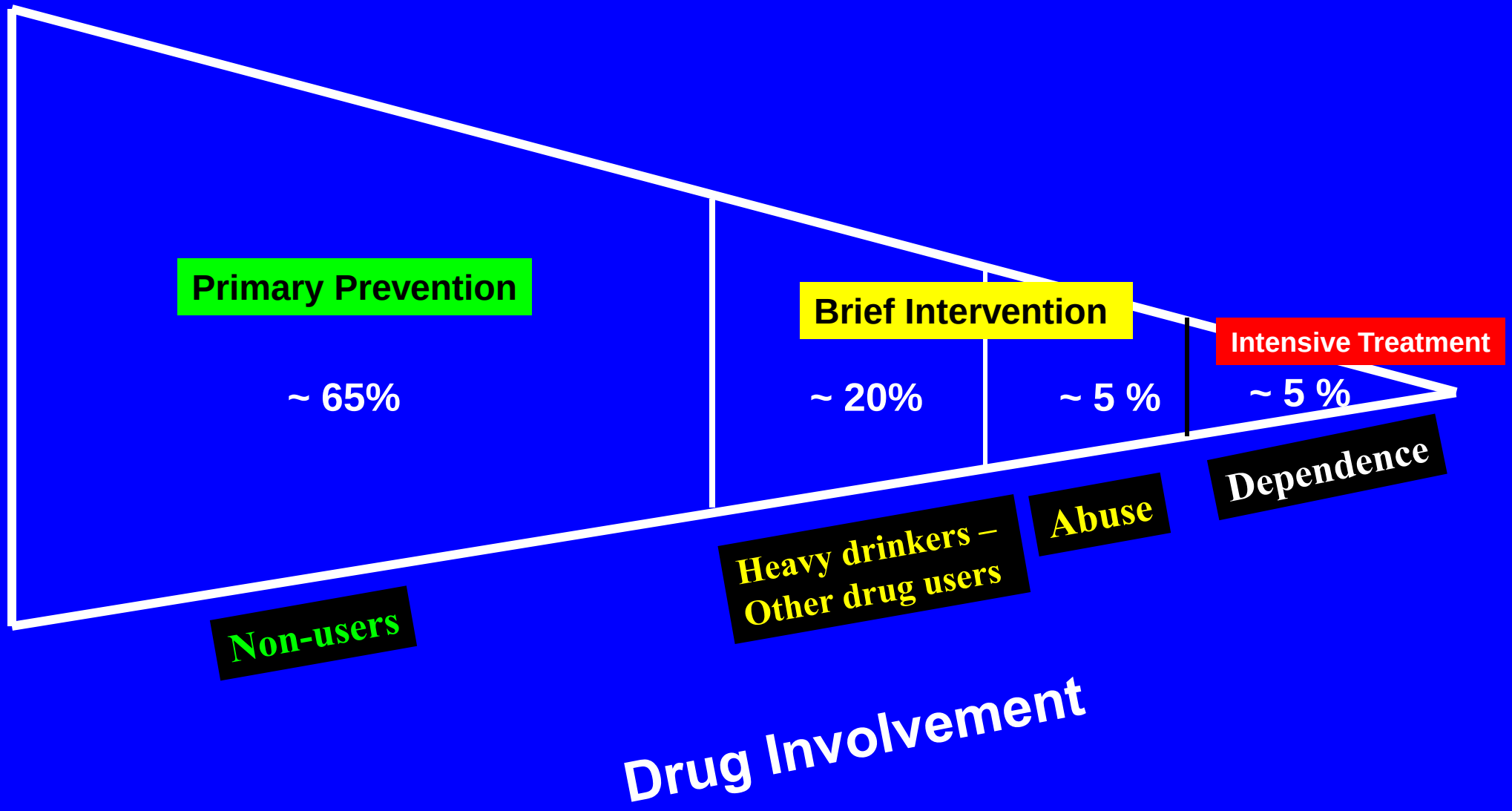
1/3: non users (rare); users with no/minimal problems

Habits of Highly Effective Counselors

3. Appreciate that the level of treatment should match the intensity of the problems.

Applications and Drug Use

Adapted from Broadening the Base of Alcohol Treatment (IOM)



Applications and Drug Use

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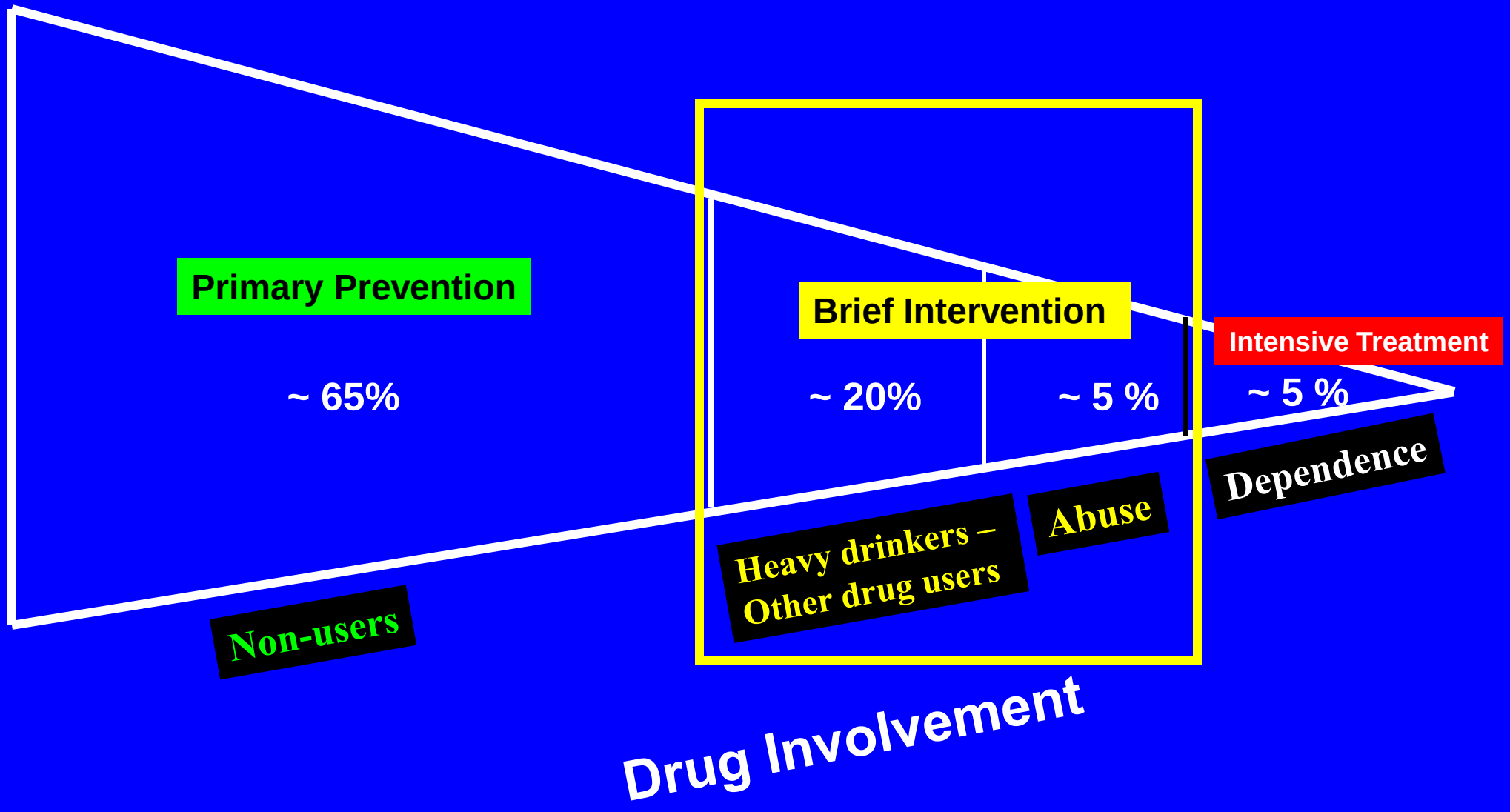


Common Elements of Brief Interventions

- 1 – 4 sessions
- Motivational interviewing and CBT
- Negotiated goals

DECISIONAL BALANCE EXERCISE

Pros

"What do you like about drug use?

What are the good things about using/drinking?

What else?" ***(Ask again until nothing else.)***

Cons

"What don't you like as much about using/drinking?

What are the not-so-good things about using/drinking?

What else?" (Ask again until nothing else.)

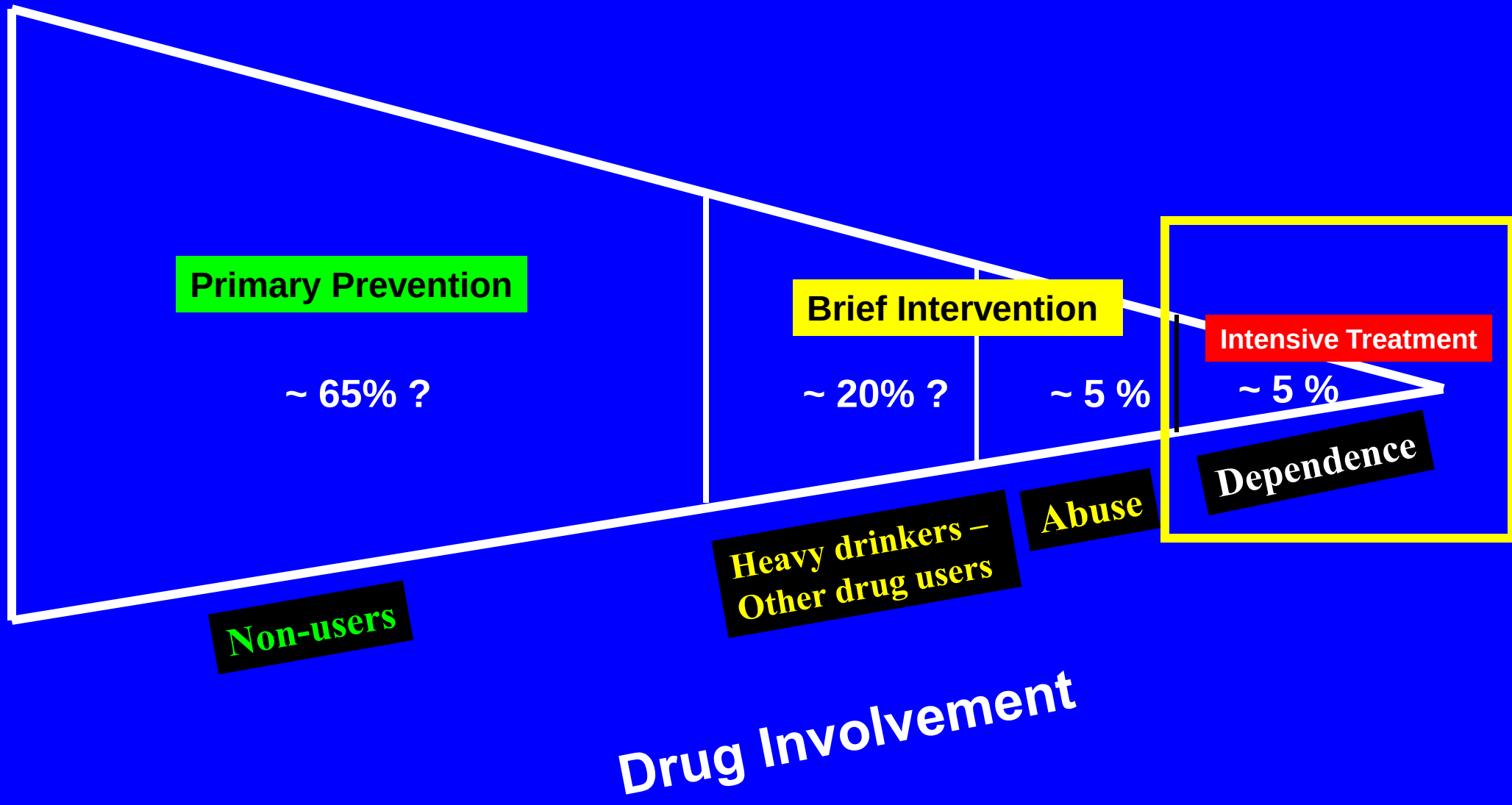
Evidence-based approaches in NREPP
Brief Therapies or Interventions

www.nrepp.samhsa.gov)

- Brief Strategic Family Therapy
- Teen Intervene

Applications and Drug Use

Adapted from Broadening the Base of Alcohol Treatment (IOM)



Evidence-based approaches in NREPP

Intensive Approaches

www.nrepp.samhsa.gov)

- Adolescent Community Reinforcement
- Contingency Management
- Dialectical Behavior Therapy
- Matrix Model
- Multidimensional Family Therapy
- Multisystemic Therapy
- Seven Challenges
- Twelve Step Facilitation Therapy

Core Ingredients

- **problem-solving skills** to cope with day-to-day stressors
- **communication skills**
- **lifestyle changes**
  - **> prosocial activities**
  - **peer changes**
- **step work**
- **mental health needs**
- **family issues**

Common Delivery Components

- individual counseling
- group therapy
- some delivered in the family's natural environment

Habits of Highly Effective Counselors

4. Use appropriate instruments for screening and assessment.

My Favorites

- Brief screening
  - CRAFFT
- Screening
  - ADI
  - DAST-Adolescent
  - GAIN – Short (interview)
  - PESQ
  - SASSI-adolescent
- Comprehensive qx
  - ASAP
  - PEI
- Interviews
  - ADI
  - CASI
  - GAIN

CRAFFT Questions

(Knight et al., 2002)

C Have you ever ridden in a **CAR** driven by someone (including yourself) who was "high" or had been using alcohol or drugs?"

R Do you ever use alcohol or drugs to **RELAX**, feel better about yourself, or fit in?

A Do you ever use alcohol/drugs while you are by yourself, **ALONE**?

F Do your **FAMILY** or **FRIENDS** ever tell you that you should cut down on your drinking or drug use?

F Do you ever **FORGET** things you did while using alcohol or drugs?

T Have you gotten into **TROUBLE** while you were using alcohol or drugs?

2+ endorsements = red flag

Free Resources

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Habits of Highly Effective Counselors

5. Prepared to deal with the comorbidity associated with adolescent substance use disorders.

Prevalence of Comorbidity:

Clinical Populations (Kaminer & Bukstein, 2008)

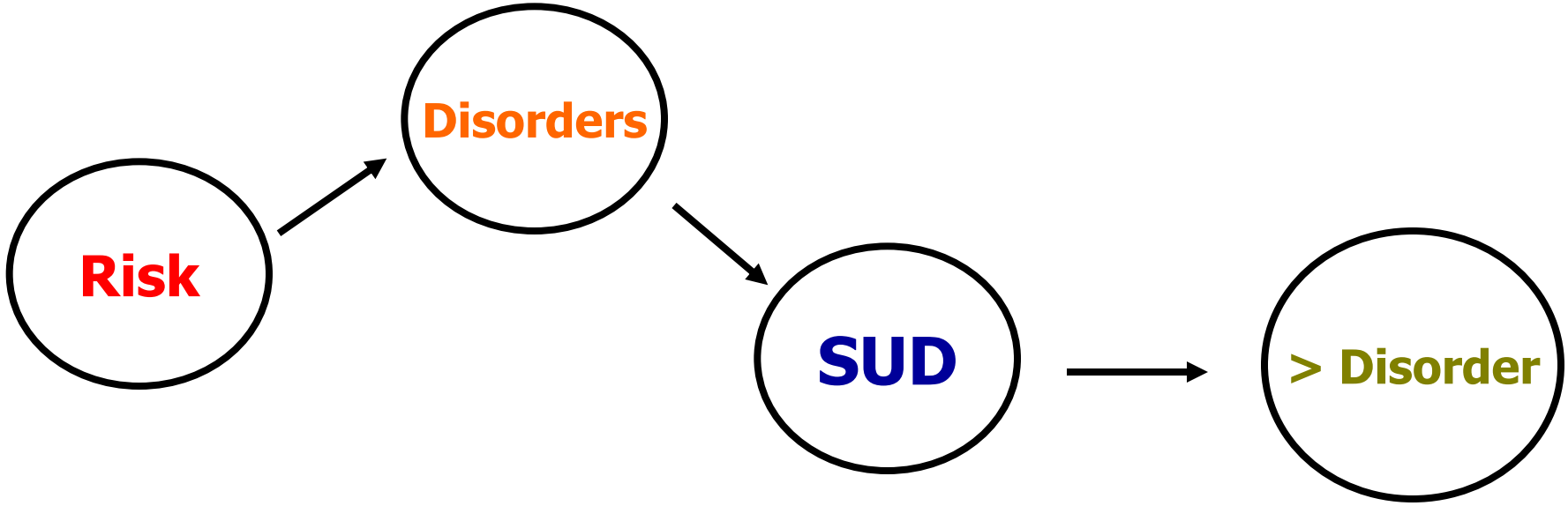
Common co-existing disorders

- Conduct/Oppositional Disorders… ~40-50%
- ADHD…… ~30-60%
- Depression…… ~25-60%
- Anxiety
- Bipolar
- PTSD, Trauma
- Learning Disorders
- Eating Disorders

Why?

- **3 Models discussed in the literature**
  - **Dysregulation**
  - **Self-medication**
  - **Vulnerability to stress**

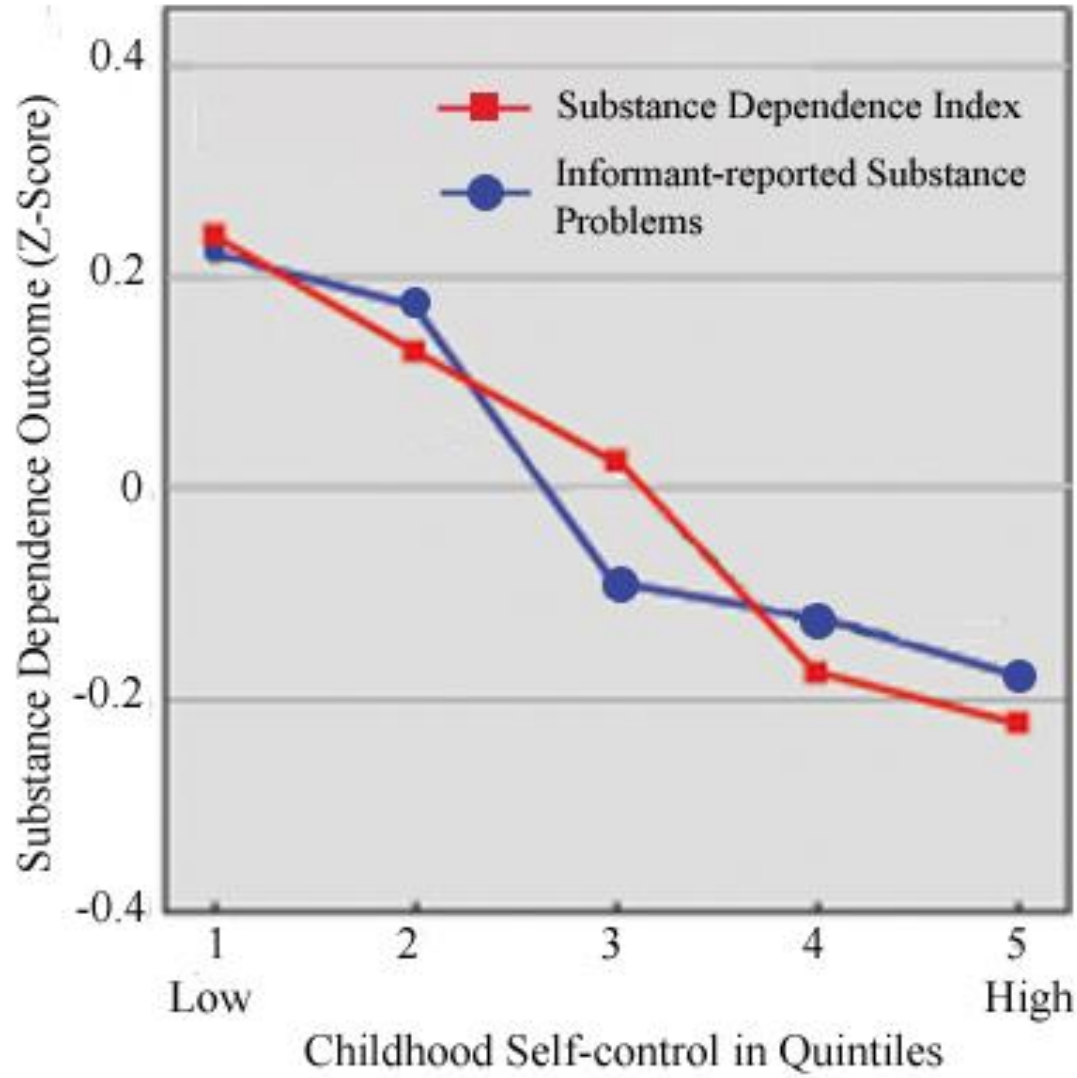
Several Longitudinal Studies Support this "Dysregulation" Pathway



early regulation prb. → ADHD → SUD → > Problems

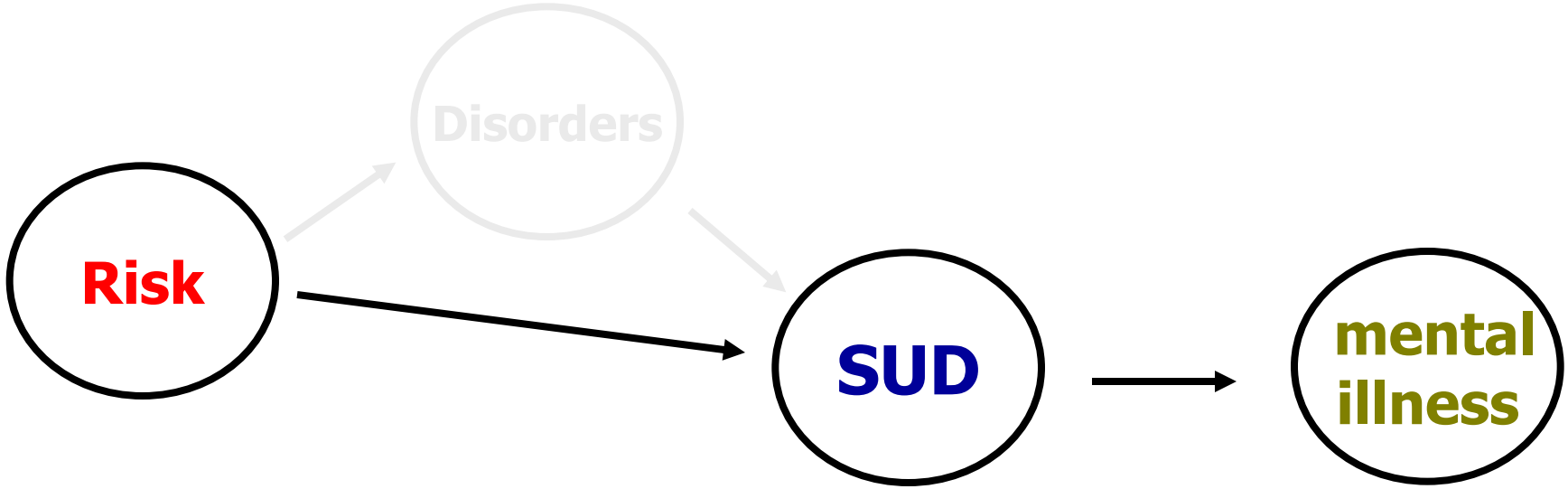
Conduct Disorder

Childhood Self-Control as a Predictor of Adult Substance Use Dependence (Moffitt et al., in press)



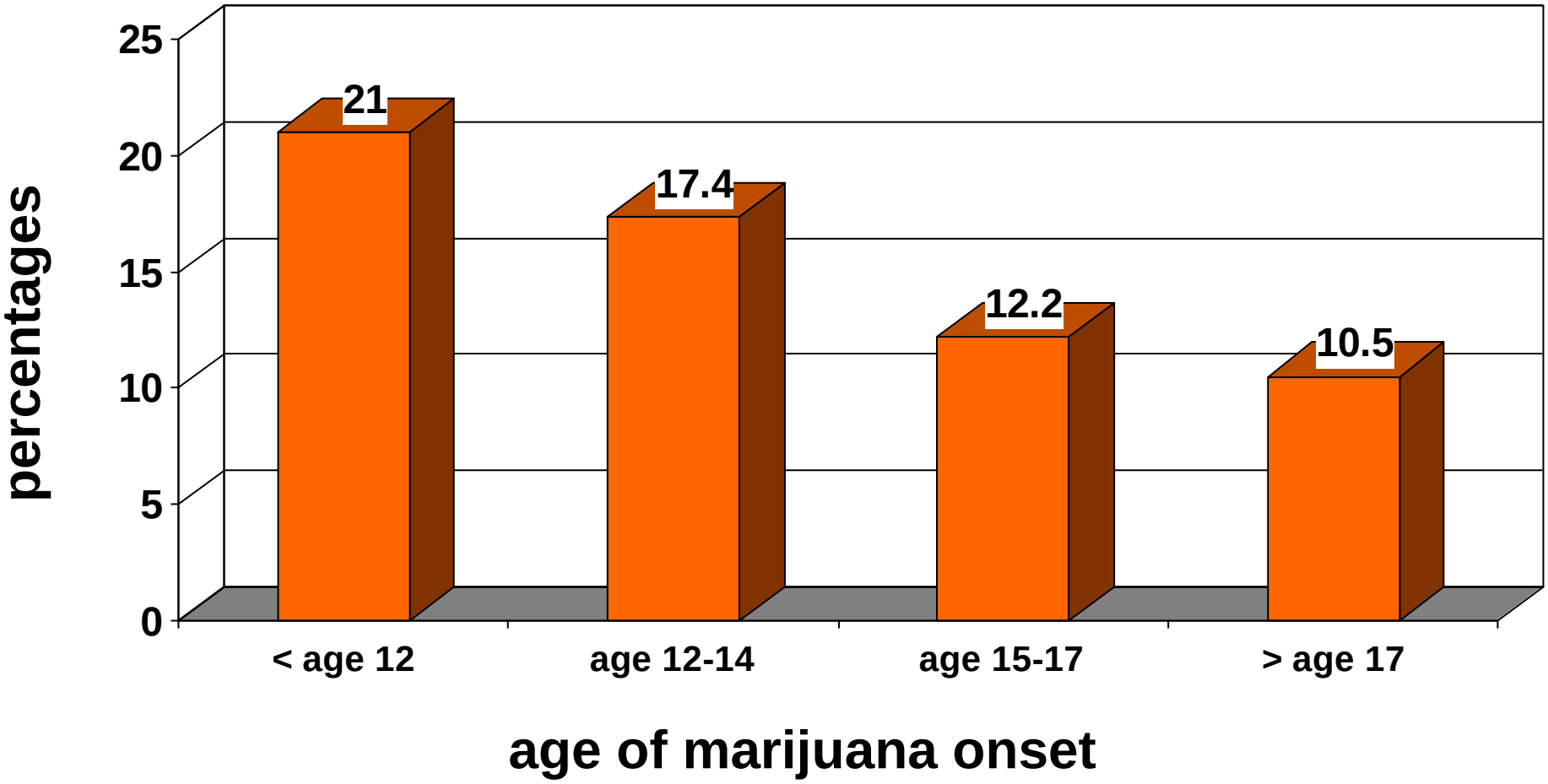
Outcomes were converted to Z-Scores and childhood self-control is represented in quintiles.

Do Longitudinal Studies Support this Pathway?

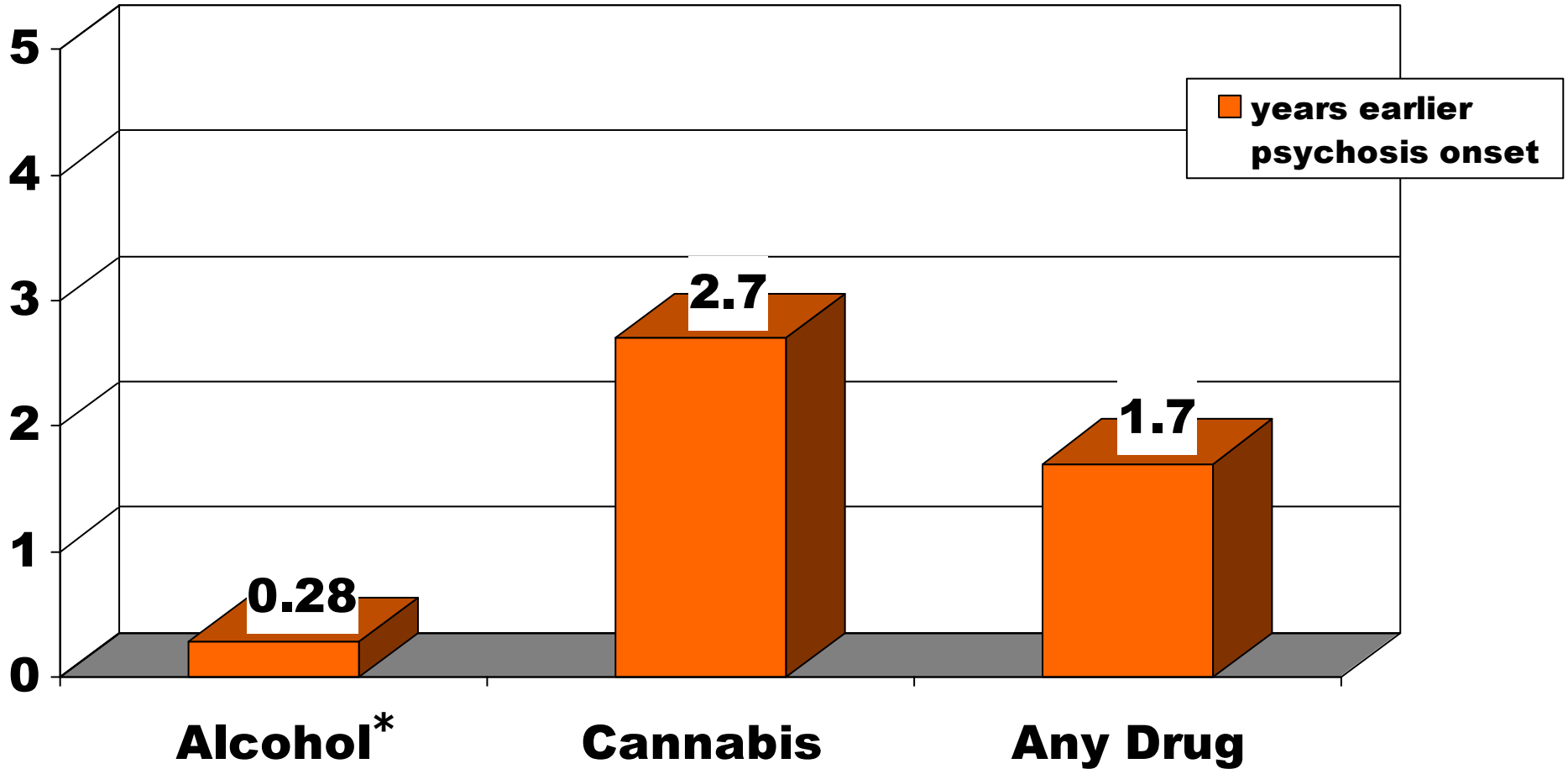


Prevalence of Past Year Serious Mental Illness Among Lifetime Marijuana Users Aged 18+

(SAMHSA, 2005; data collected 2002-2003)



Drug Use and Age at Onset of Psychosis Based on a Meta-Analysis (Large et al., 2011)



mean years earlier of age at onset of psychosis compared to non-drug using controls

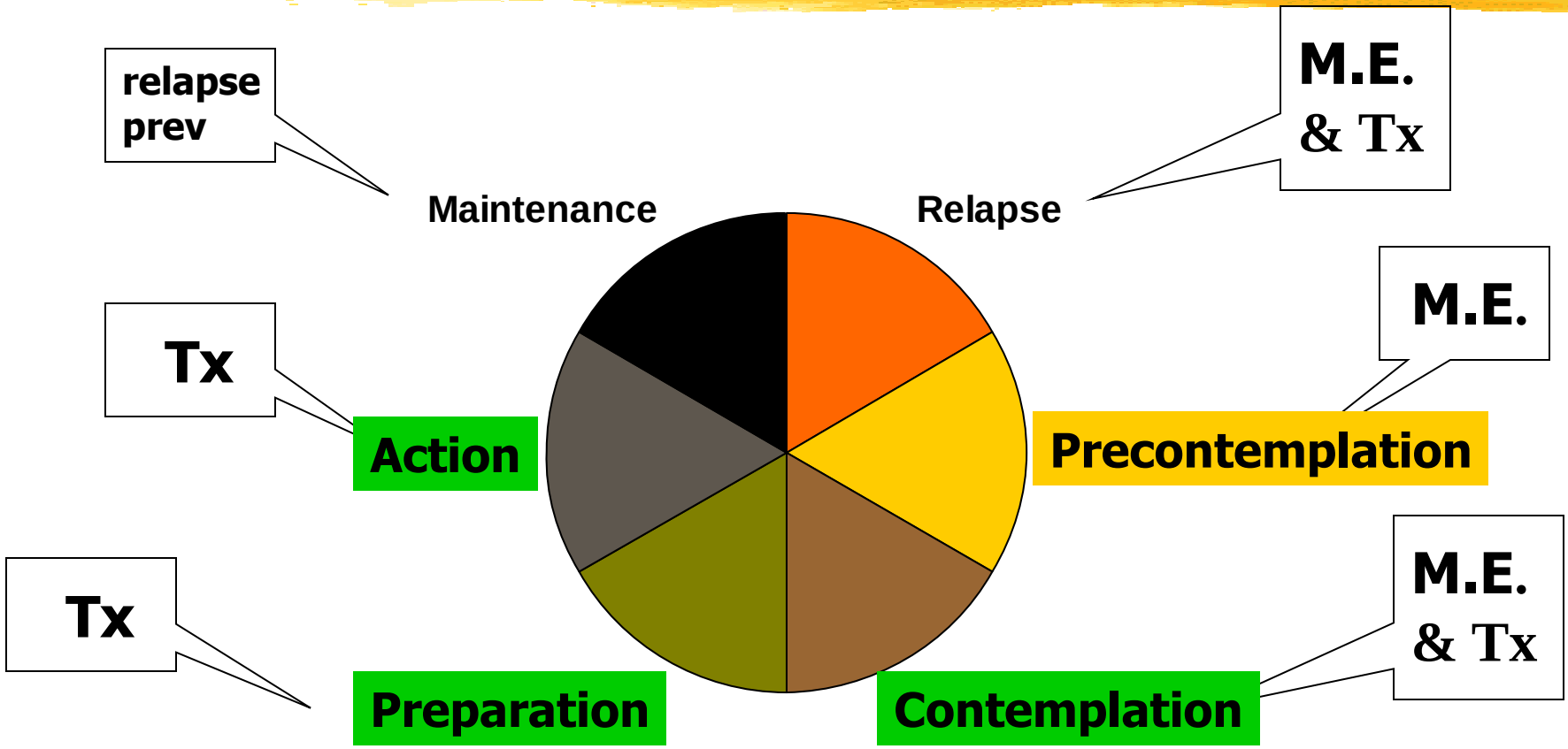
* = nonsig. with controls

Habits of Highly Effective Counselors

6. Shape treatment to maximize the engagement of the adolescent and family.

Stages of Change

Prochaska and DiClimente



Engaging Youth: MI

Express empathy

Avoid argumentation

Develop discrepancy

Roll with resistance

Support self-efficacy

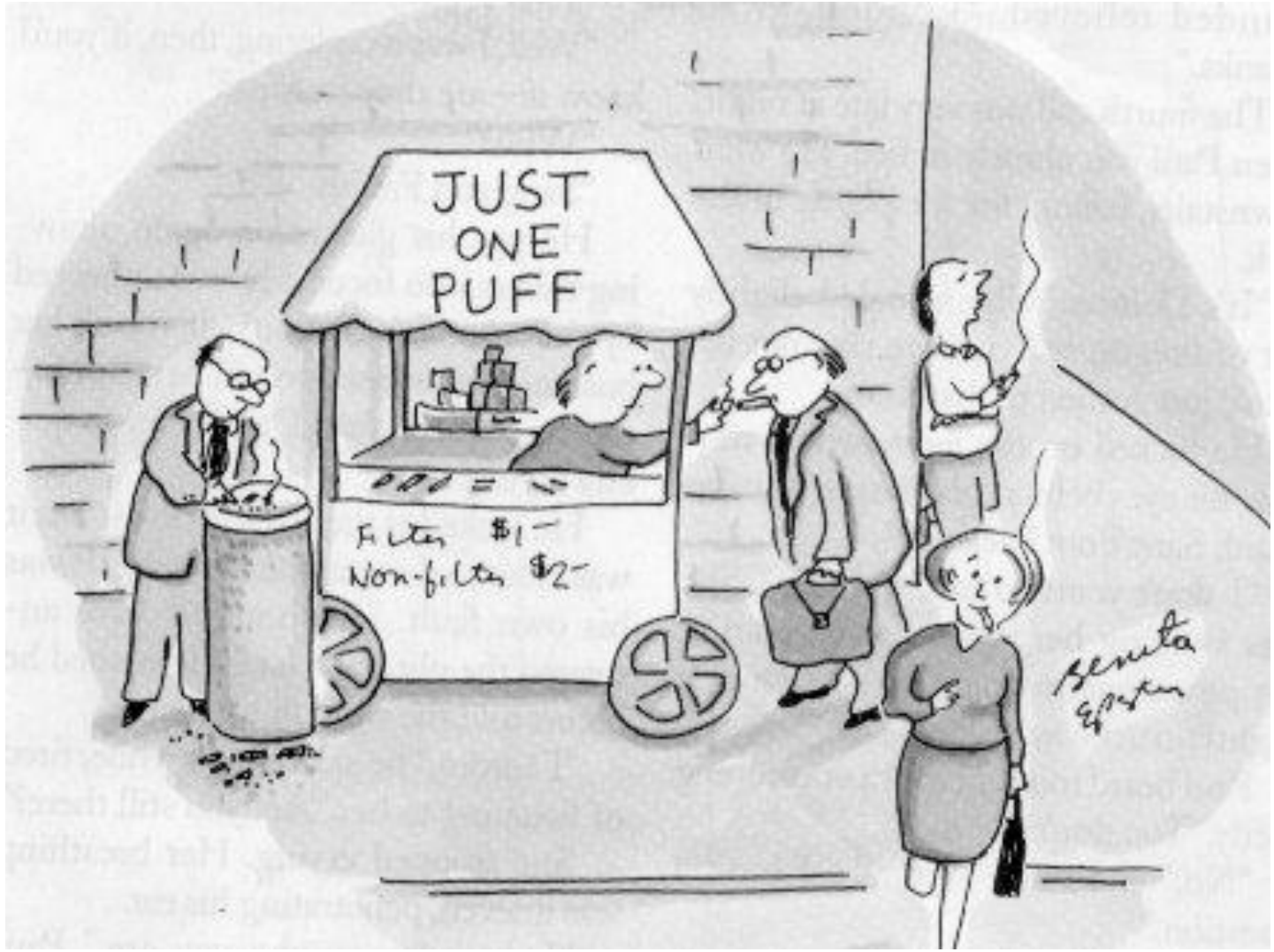
(Miller and Rollnik)

Engaging Parents

- **Include the parents with the major components of the treatment process.**
- **Emphasize to the parent that they are part of the solution.**
- **Regularly conduct family therapy sessions.**

Habits of Highly Effective Counselors

7. Appreciate that the road to abstinence is typically not a smooth path.



Abstinence a tough sell to youth.
Shape toward this goal.