

Youths in Trouble: Co-Morbidity - Types and Treatment

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Defining the Population & the Problem

- There is no set correspondence between chronological age and biological or behavioral indicators, in part due to sociocultural perspectives and contexts, but also related to individual differences
- One of the most significant threats to a successful developmental progression from adolescence to adulthood is drug use.

numbers tell a story

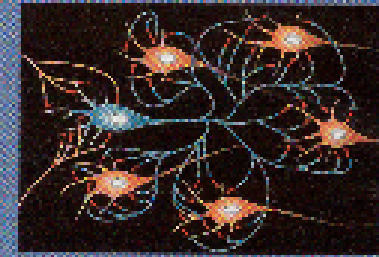
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- Adolescence is a period of profound brain maturation.
- We **thought** brain development was complete by adolescence.
- We now know that maturation continues until about about **age 25!!!**

INSIDE THE ADOLESCENT BRAIN

The brain undergoes two major developmental spurts, one in the womb and the second from childhood through the teen years, when the organ matures by fits and starts in a sequence that moves from the back of the brain to the front.

Nerve Proliferation ...



By age 13 for girls and 15 for boys, the neurons in the front of the brain have formed the complex circuitry of adolescence. Over the next five years, most of these cells will be pruned.

Corpus Callosum

Though it is an embryonic structure, the corpus callosum, the bundle of nerve fibers that connects the left and right hemispheres of the brain, starts to mature in the late fetal period and continues to mature and increase in size through adolescence.

Prefrontal Cortex

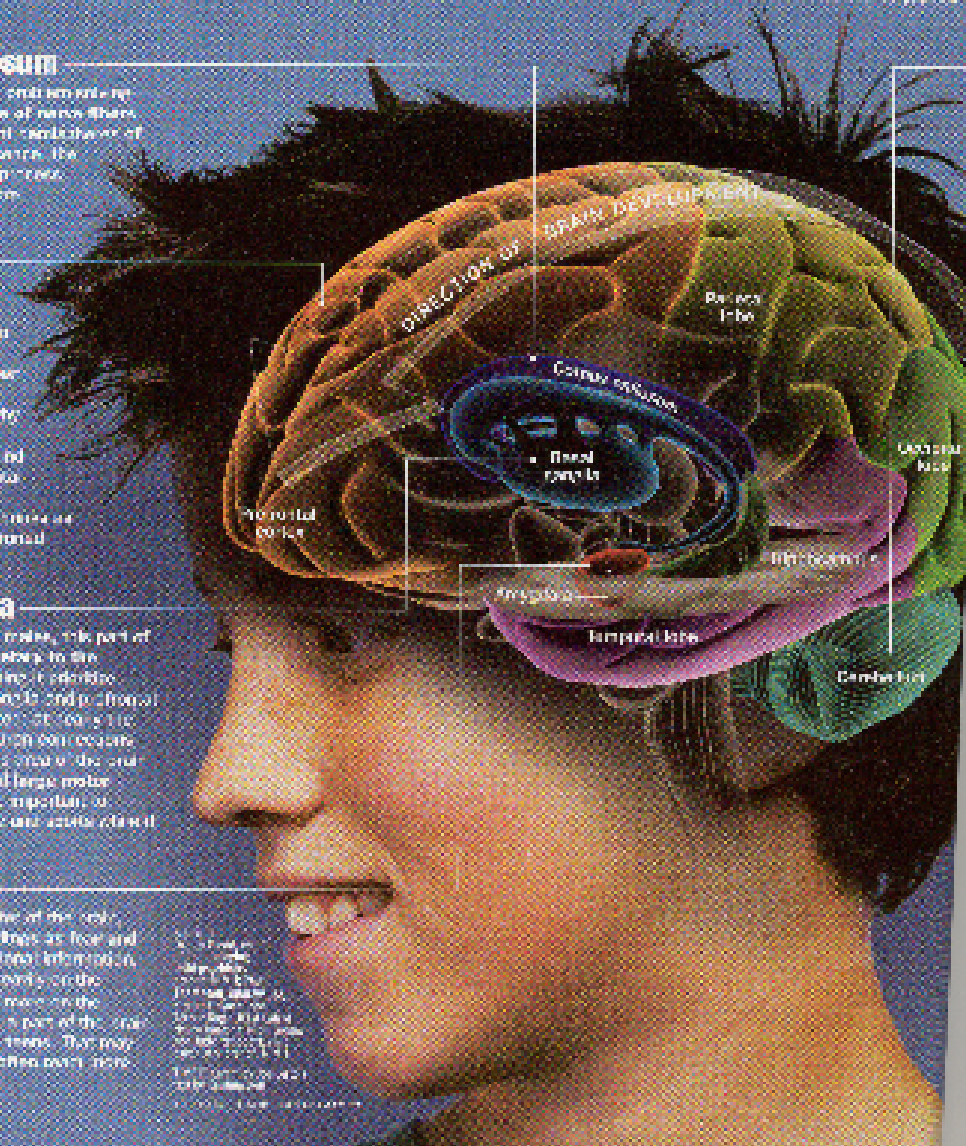
The development of the prefrontal cortex, the area of the brain that is responsible for higher-level thinking, is the last part of the brain to mature. It is the area that is most affected by the use of alcohol and drugs during adolescence. The prefrontal cortex is the area of the brain that is most affected by the use of alcohol and drugs during adolescence.

Basal Ganglia

Large structures that control movement, the basal ganglia are located in the center of the brain. They are involved in the control of voluntary movements, posture, and balance. The basal ganglia are also involved in the control of the autonomic nervous system, which controls the internal organs.

Amygdala

The amygdala is a small, almond-shaped structure in the brain that is involved in the processing of emotions. It is the part of the brain that is most affected by the use of alcohol and drugs during adolescence.



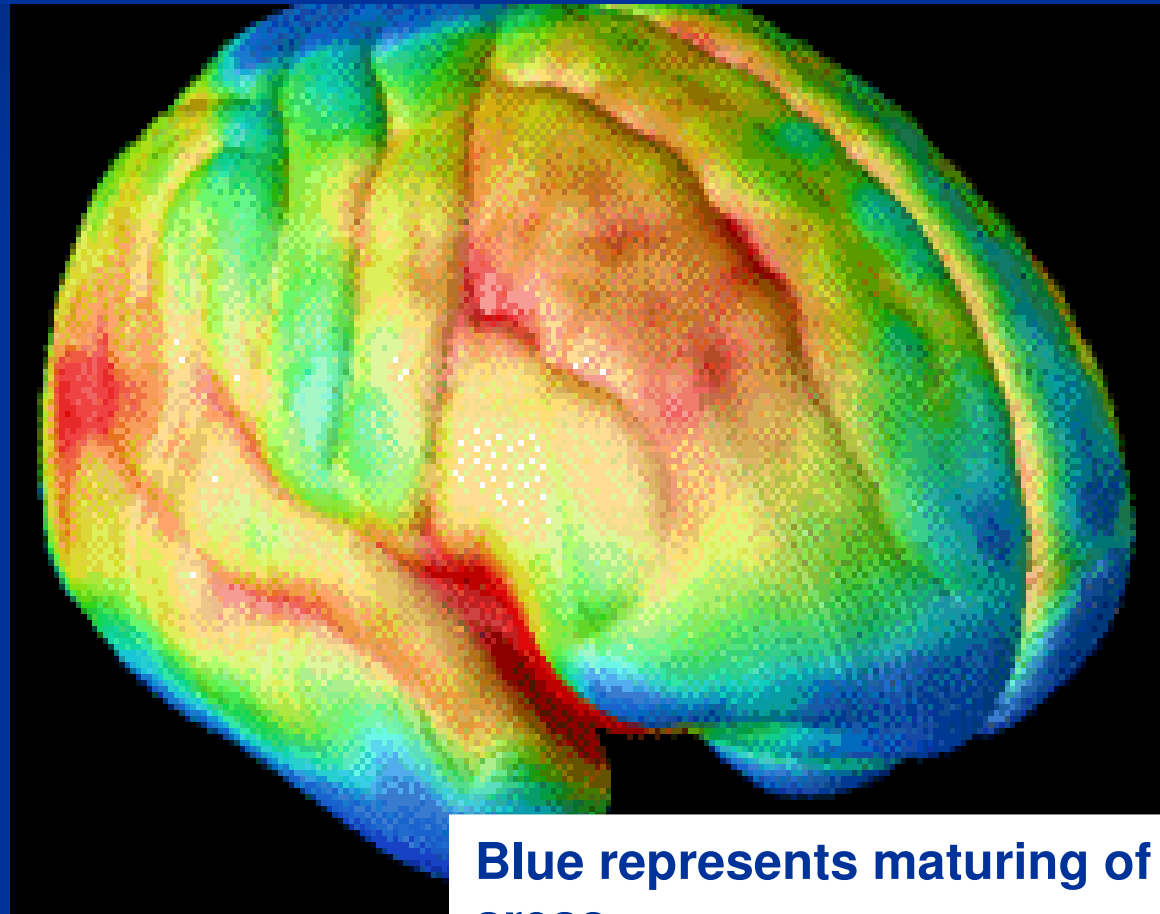
Source: National Institute of Mental Health, 2010. <http://www.nimh.nih.gov/health/publications/adolescent-brain-development/index.shtml>

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

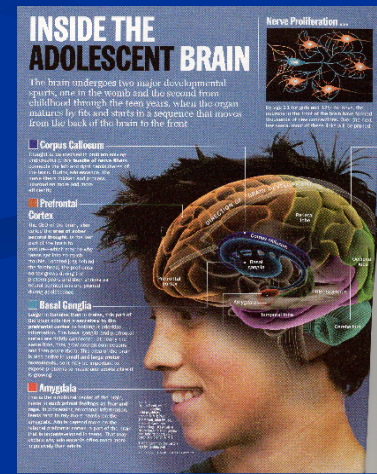


Blue represents maturing of brain areas

Source: PHAS USA 2004 May 25; 101(21): 8174-8179. Epub 2004 May 17.

Seven Implications of Arrested Development for Adolescent Behavior

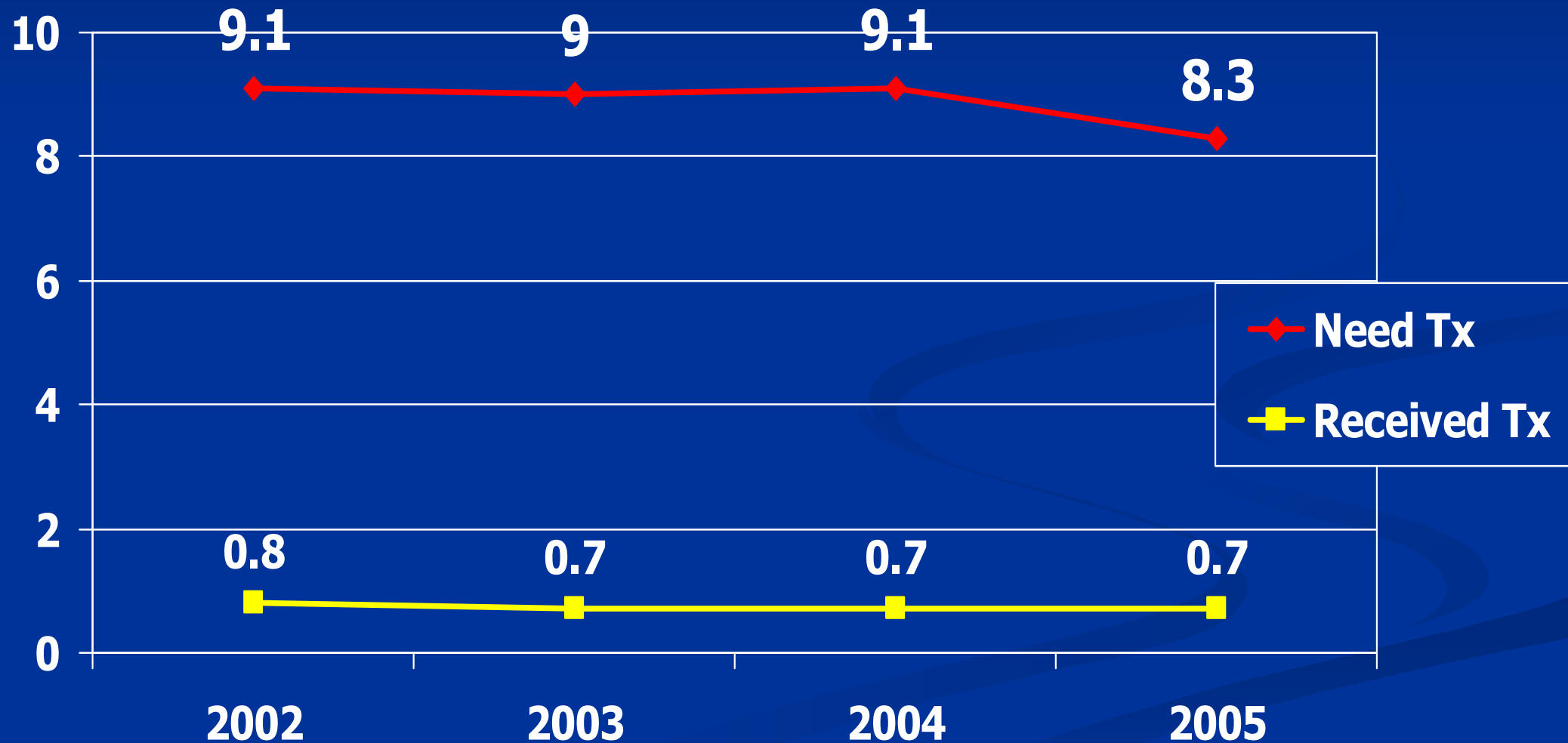
- **Preference for**
 1. **physical activity**
 2. **high excitement and low effort activities**
 3. **activities with peers that trigger high intensity/arousal**
 4. **novelty**
- **Less than optimal..**
 5. **balance of emotion and logic when making decisions**
 6. **consideration of negative conseq.**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



numbers tell a story

9 & < 1

Needing Treatment and Receiving Treatment for Substance Use Disorders, Ages 12 – 17 (SAMHSA, 2006)



Co-Morbidity

- **Across alcohol and drug, juvenile justice, and mental health services, youth with substance use disorders (SUD) are most often diagnosed with disruptive behavior disorders (i.e., conduct disorder (CD), oppositional defiant disorder (ODD), attention deficit-hyperactivity), followed by the affective (dysthymia and major depression) and anxiety disorders.**
- **Assessment is critical - having one disorder is a risk factor for other disturbance.**
- **Integrated treatment of co-occurring problems results in increased engagement and retention, and improved outcomes utilizing such approaches. (e.g., Henggeler et al., 1996; Hser et al., 2001)**

- **The problem of youth substance abuse, its complexity and its impact, has brought a response from both treatment research and clinical practice**

Psychopharmacological Interventions

**May be necessary but not
sufficient in treating
co-occurring
disorders in adolescents**

**(Psychostimulants – Antidepressants – Mood
Stabilizers – Anti-anxiety agents – Anti-
psychotics – Opiate antagonists)**

Integrated Treatment Paradigm

(Riggs & Davies, 2002)

■ Comprehensive Diagnostic Evaluation

(lifetime timeline ->family disruptions, parent/sibling substance abuse, school performance, etc.)

■ Substance Use History

(onset, triggers, context of use, motivations & reasons, perceived consequences, previous tx., etc.)

-> Assess: Medical status/history, drug use/treatment & history, mental status, psychosocial factors, family history

Purposes of Assessment

- **Create working, engaged relationship with child/caregivers**
- **Assess competencies, capacities, and level of need**
- **Establish focus of interventions – treatment & supports**

Sub-Types of Co-Morbidity

High/High

Serious mental disorders (affecting cognition, affect & behavior) with substance dependence

Low/High

Mild to moderate mental disorder(s) and substance dependence

High/Low

Serious mental disorders with substance use/abuse

Low/Low

Mild mental disorders with substance abuse (youths often present in outpatient settings with "malaise")

The Therapeutic Community

Adolescent TCs typically modify the adult TC model to accommodate the developmental needs of adolescents, facilitate maturation, and address lifestyle differences that result from the early onset of drug use and related behaviors (Jainchill, Bhattacharya & Yagelka, 1995).

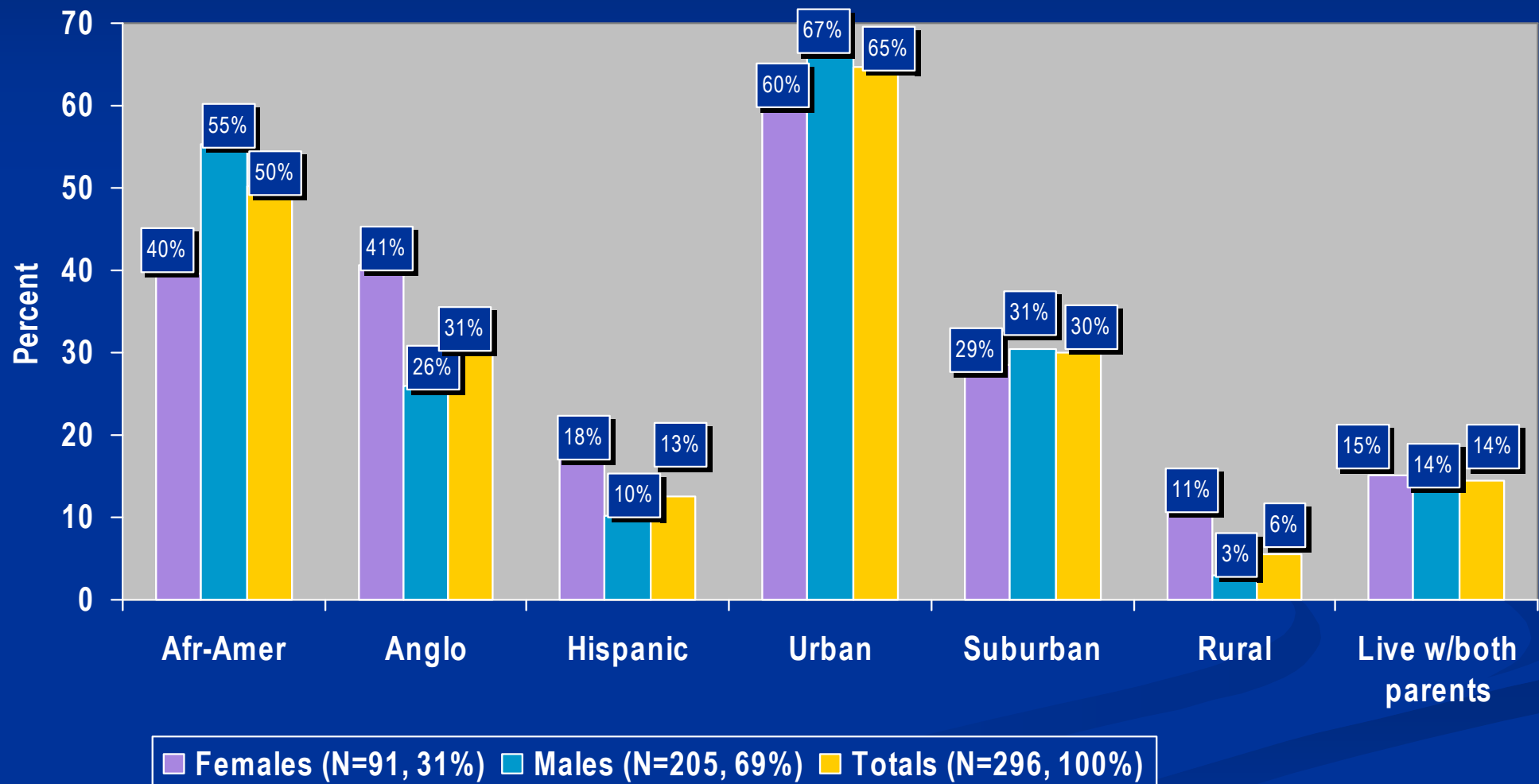
- **Modifications include:**
 - **Shorter recommended lengths of stay.**
 - **Greater family participation.**
 - **Increased staff supervision.**
 - **Less emphasis on participation in a hierarchical authority structure.**

***Who is the adolescent
entering the treatment
system today?***

Co-Morbidity Among Youths in Community-Based Treatment: Recent Findings

- **The overall objective of the project: to address the problem of relapse among adolescents who have been in modified residential TCs**
- **The project conceptualizes the TC not as a “stand alone” intervention, but as part of a more holistic, integrated treatment that models a continuity of care approach, which extends and enhances the therapeutic process beyond the residential context**

Profile of Admissions: Males, Females & Totals



Note: $p < .03$ for Rural Females

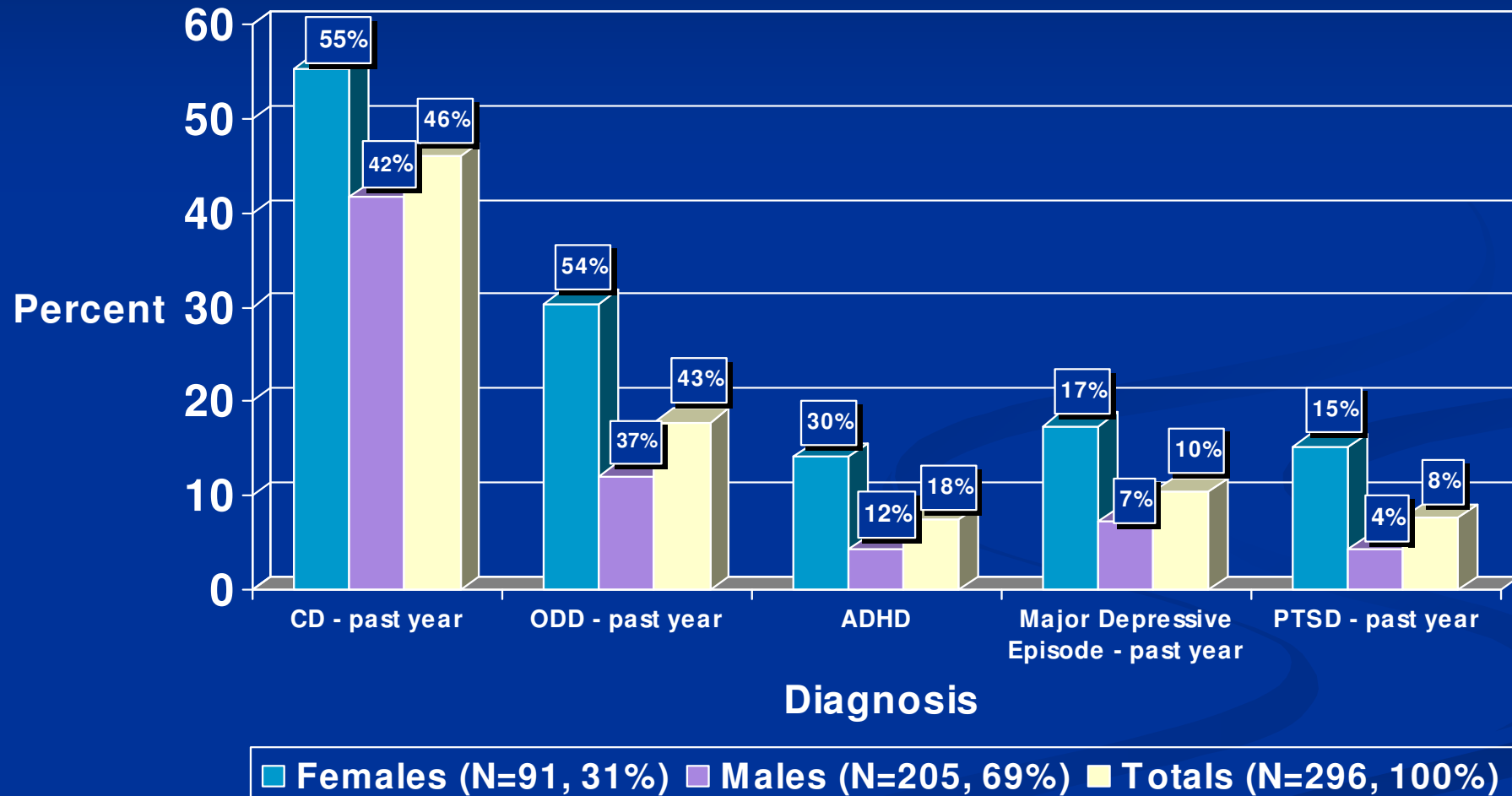
Drug Use - Lifetime

- **97% smoke marijuana**
- **86% drink alcoholic beverages**
- **Age 1st drank – 13.2 yrs.**
(girls, 12.7 vs. boys, 13.4; $p < .02$)
- **82% smoke cigarettes**
(girls, 91% vs. boys, 78%; $p < .004$)
- **~ 25% use crack/cocaine**
(girls, 41% vs. boys, 18%; $p < .001$)
- **~20% use heroin/opiates**
(girls, 28% vs. boys, 17%; $p < .04$)

Criminal Activity - Lifetime

- **Age first arrested – 14 years**
- **92% committed a crime during the year prior to treatment admission**
- ***83% committed a crime in the 90 days prior to treatment admission***
- **92% reported their peers had committed crimes in the last 90 days**

Psychiatric Diagnoses: Males, Females & Totals



Note: Females > Males: CD $p < .03$; ODD $p < .001$; ADHD $p < .004$; Major Depressive episode $p < .01$; PTSD $p < .002$

**Another Study:
5-YEAR POST-TREATMENT
OUTCOMES**

*Findings based on ~450 youths, from
six TCs in the U.S. and Canada*

Drug Use

Criminal Activity

Prosocial Behaviors

Cluster analysis (N=446)¹ revealed four lifestyle categories based on behavioral profiles during the 5 years following separation from TC treatment:

- **21% = Chronic Marijuana Users**
- **10% = Drug Dependent Criminals**
- **41% = Occasional Users**
- **29% = Serious Criminals**

GENDER DIFFERENCES IN KEY OUTCOME MEASURES

- Females were more likely to exhibit pro-social outcomes and less likely to report engaging in drug use and criminal activities.
- Separate cluster analysis by gender revealed similar groups for males and females.
- However, cocaine use more common among criminally involved, *female* drug users; and opiate use was more prevalent among criminally involved, *male* drug users.

Co-Morbidity & Corrections

Study Sample

N ~ 200

Adolescents returning to their homes/communities of origin from selected corrections-based residential settings

Sample Characteristics

- The sample is 26% female (N ~ 54).
- The mean age is 16.8 years (sd=1.34)
- 38% are African American; 47% are Caucasian; 9% are Hispanic; 6% are “Other”
- 80% were in a detention center prior to their incarceration; almost 10% were in a prison or juvenile facility; 2% were home

Sample Characteristics, cont.

- Ever repeated a grade: 56%
- Prior substance abuse treatment: 45%
- **Family environment:**
 - Lived with biological mother: 62%
 - Lived with biological father: 21%

Used drugs/alcohol regularly:

Mother: 31%
Father : 29%
Sibling (s): 35%

Criminal Activity

- **95% had committed a delinquent act in the last year and in the past 90 days prior to commitment**
- **Average number of delinquent acts in the year prior to incarceration: 442**
- **Total number of drug sales in the year prior to incarceration: 67**

Substance Abuse/Dependence Diagnoses

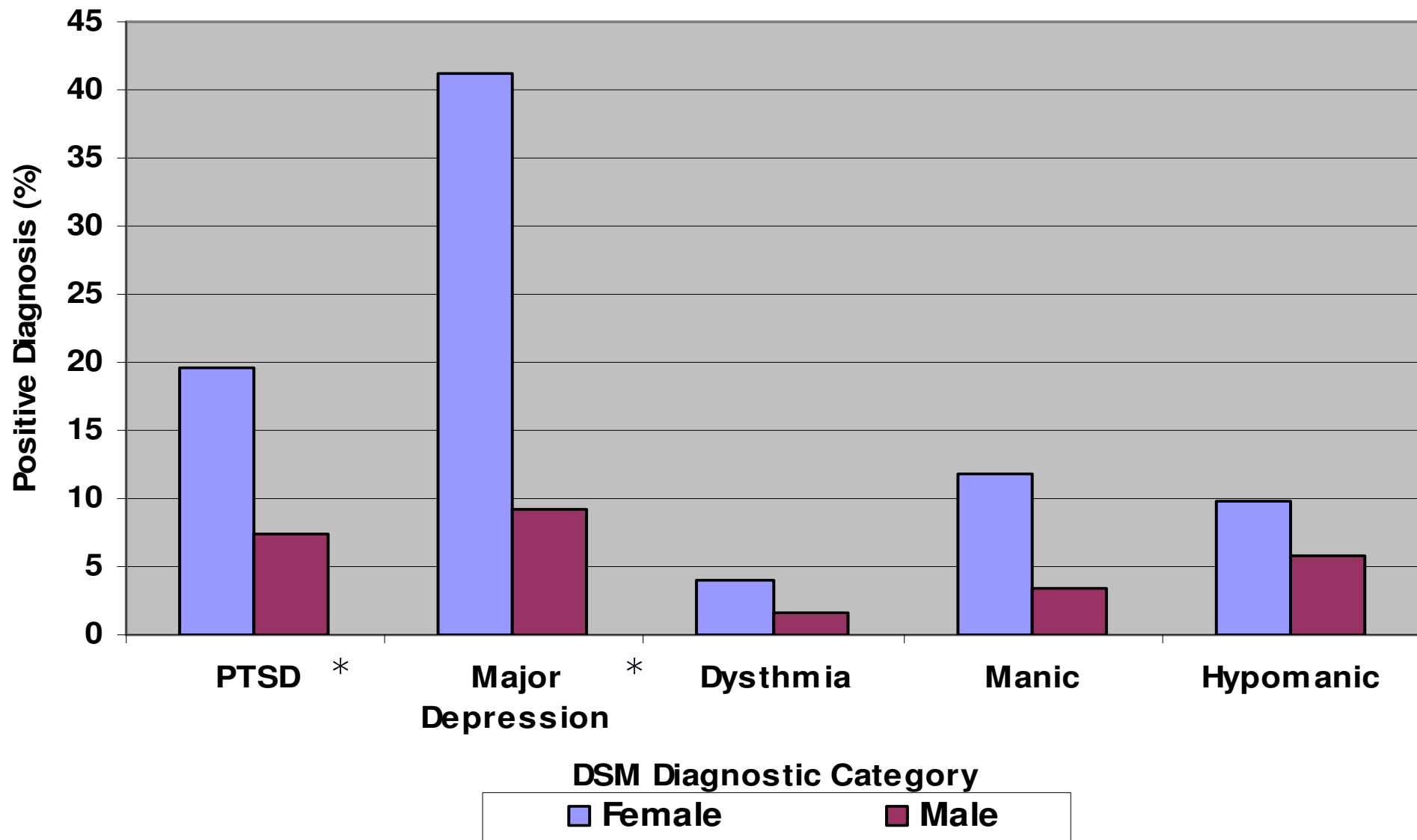
	<u>%</u>
Alcohol Abuse	17
Alcohol Dependence	16
Marijuana Abuse	14
Marijuana Dependence	25
Substance Abuse (Other)	6
Substance Dependence (Other)	11

Prevalence of Non-Substance Psychiatric Disorders*

	<u>%*</u>
Conduct Dis. – last year:	58.3
Conduct Dis. – past 30 days:	29.8
Oppositional Defiant Dis.:	18.5
Major Depressive Episode:	18.7
Hypomanic/Manic Episode:	7.0
Post Traumatic Stress (PTSD):	11.1

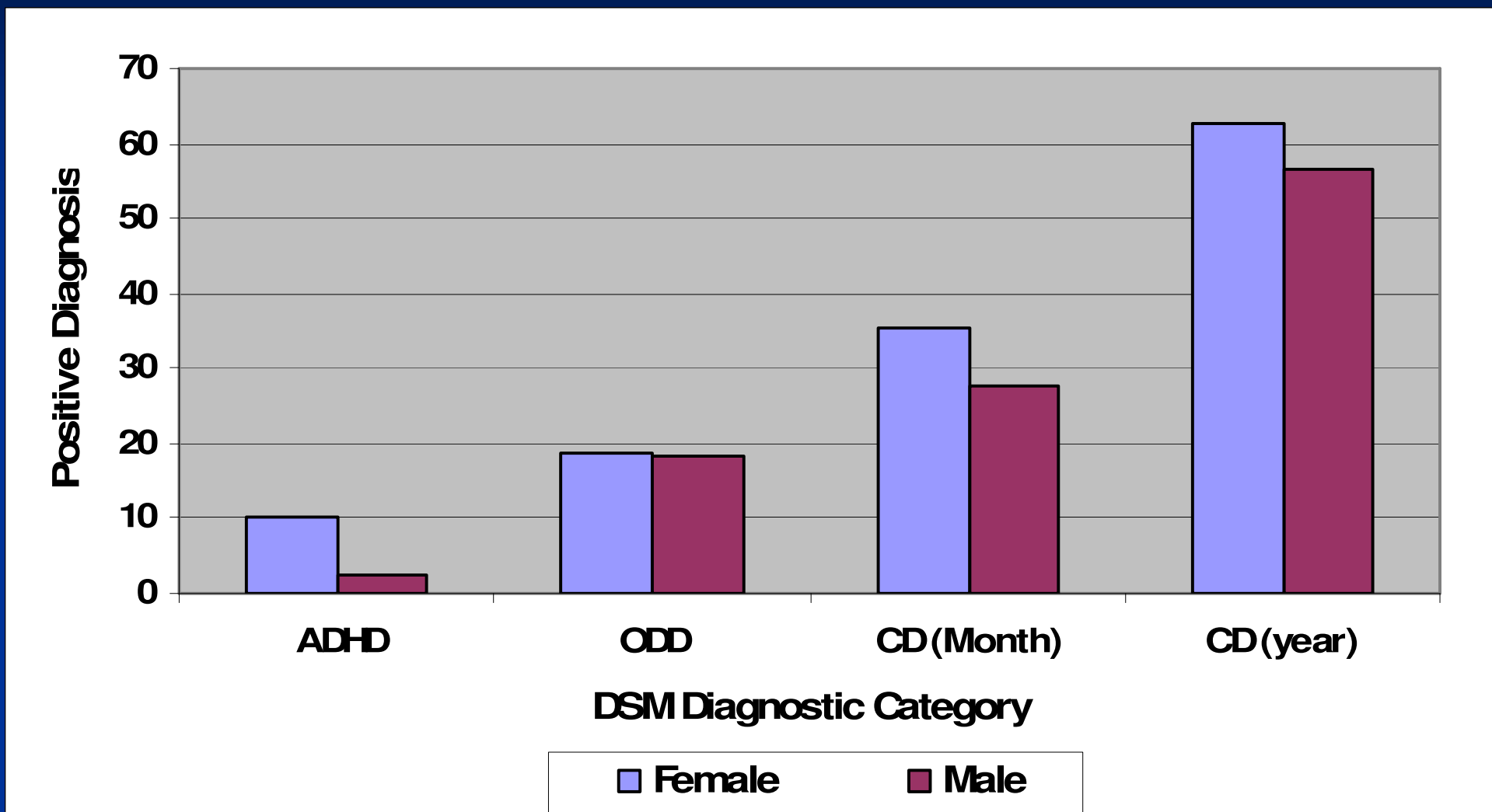
* All Dx. Except for CD-last year, refer to past 30 days. Less than 5% yielded positive diagnoses on other disorders

Gender Differences on the DSM Affect Diagnoses



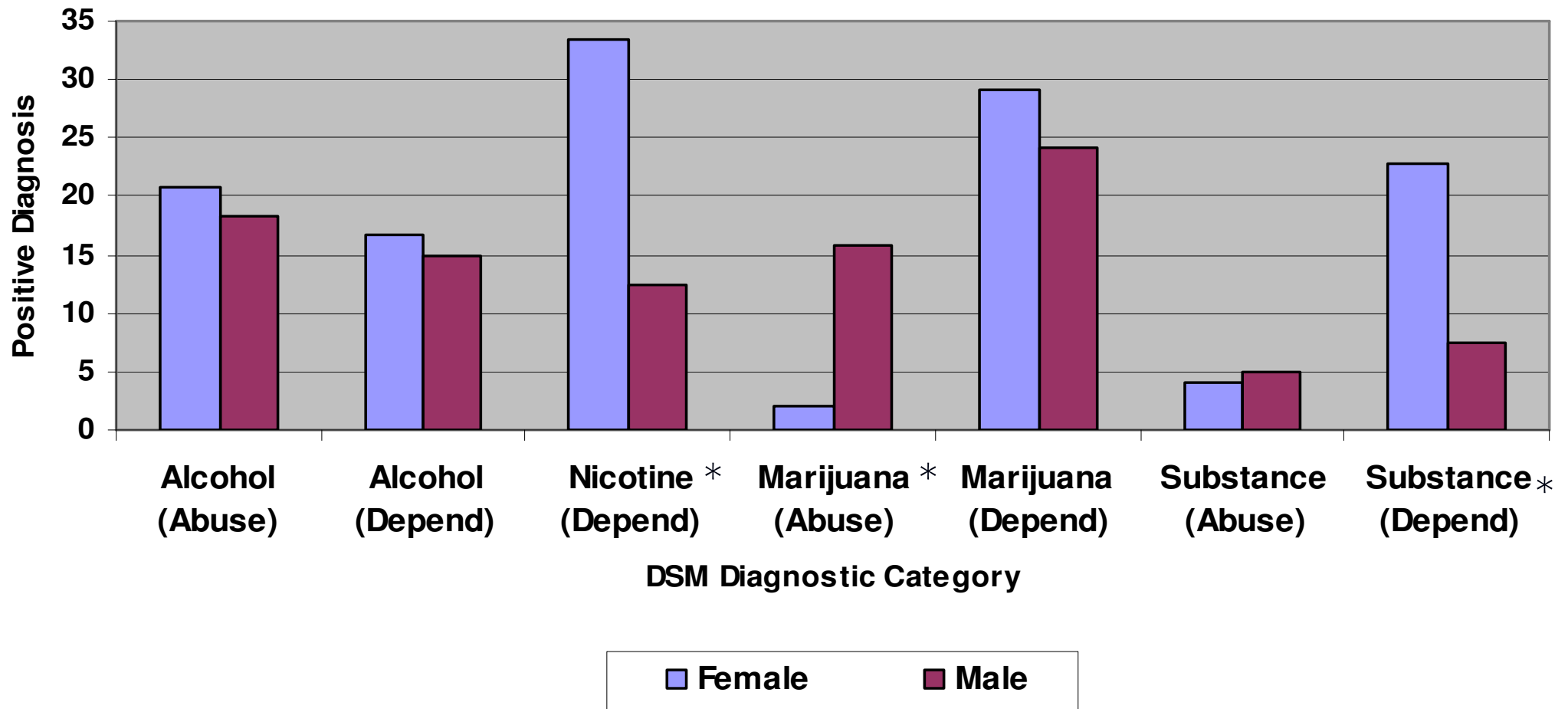
Note: The scores are the percent of individuals who have a positive diagnosis within each DSM category for each gender. Males and females differed significantly on PTSD and Major Depression.

Gender Differences on the DSM Conduct Problems Dimensions



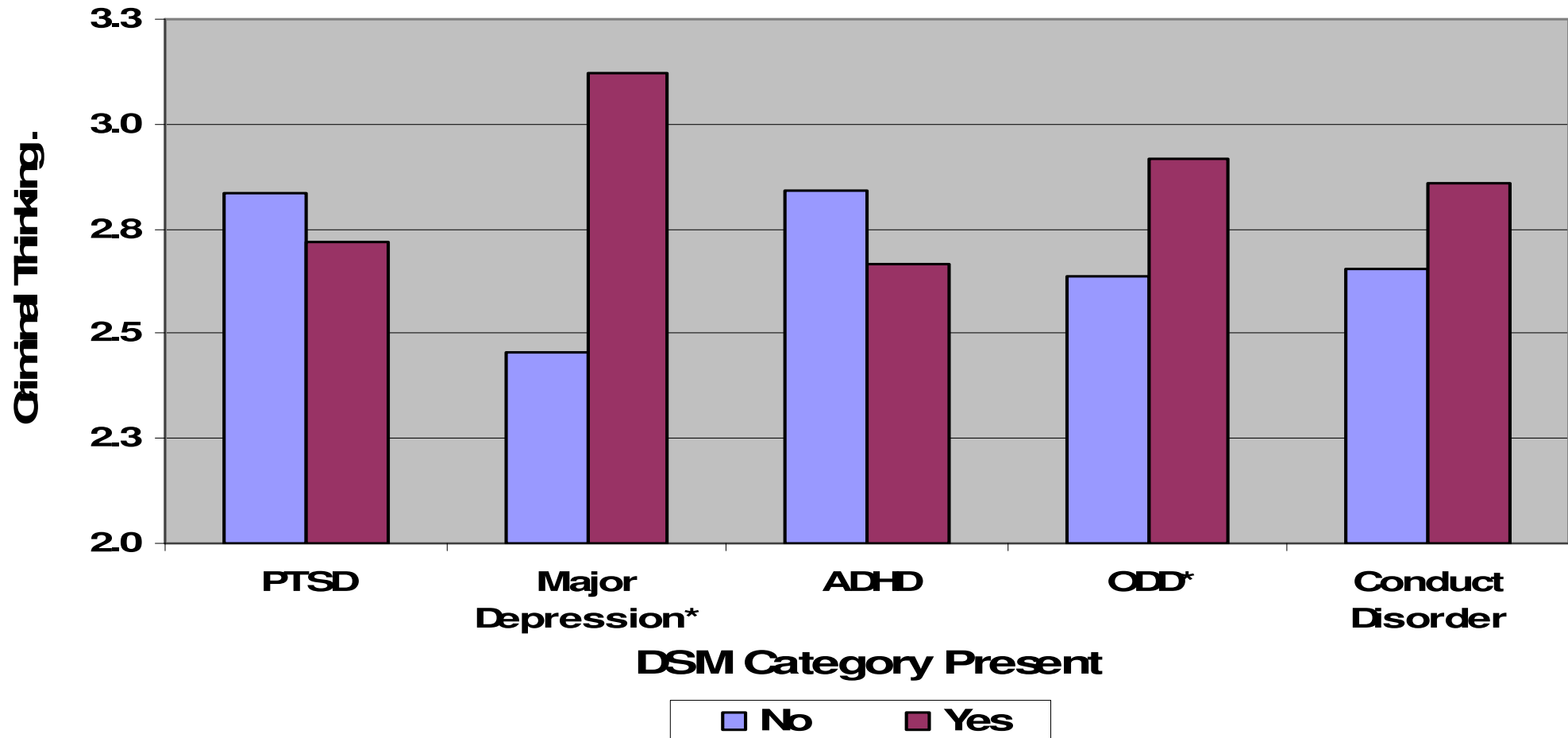
Note: The scores are the percent of individuals who have a positive diagnosis within each DSM category for each gender. Males and females did not differ significantly on any conduct problem diagnosis.

Gender Differences on the DSM Substance Use Dimensions



Note: The scores are the percent of individuals who have a positive diagnosis within each DSM category for each gender. Males and females differed significantly on nicotine dependence, marijuana abuse, and the global substance dependence measure (Females > Males).

Means Criminal Thinking Composite Scores of Respondents With or Without DSM Diagnoses



Note: The mean level of Criminal Thinking was significantly different for respondents on the Major Depression and the Oppositional Defiant Disorder diagnoses (Females > Males).

The Relationship between Criminal Thinking Scores, Gender, Substance Use and Mental Health

- **Gender.** There are no gender differences on the Criminal Thinking scales.
- **Substance Use.** Greater marijuana use and sedative use is associated with a higher Criminal Thinking score (composite).
- **DSM Diagnoses.** Major Depression and Oppositional Defiant Disorder are correlated with a higher Criminal Thinking score.

What's Next?

Clinical Issues

- **Process studies need to address what works, for whom (e.g., individual counseling)**

Client Issues

- **The multivariate profile of substance abuse, juvenile justice involvement, poor school performance, risky sexual behaviors, and psychiatric problems require**
 - **different clinical protocols needed for different "types" of clients (e.g., psychiatric vs. antisocial)**

Treatment Issues

- **Are significant reductions in drug use and criminal activity among treatment completers and improvements among those who don't complete treatment; however, gains are often not sustained.**
 - ✓ **Therapeutic goals may not have been attained because of insufficient time in program**
 - ✓ **The program may not address all issues**
 - ✓ **The post-residential environment may be embedded with risk factors requiring further intervention**

Policy Issues

The parameters of treatment, both in terms of the structure and kinds of services, need to be reconsidered.

- ✓ TCs need to be conceptualized not as a “stand alone” intervention, but as a part of a more holistic and integrated treatment recovery process.
- ✓ Requiring a continuity of care approach that extends and enhances the therapeutic process beyond the residential context, redefines the role of the residential experience, and integrates residential and nonresidential therapeutic interventions to address individual differences.