

# Prevention Science: Achieving Lasting Systemic Change

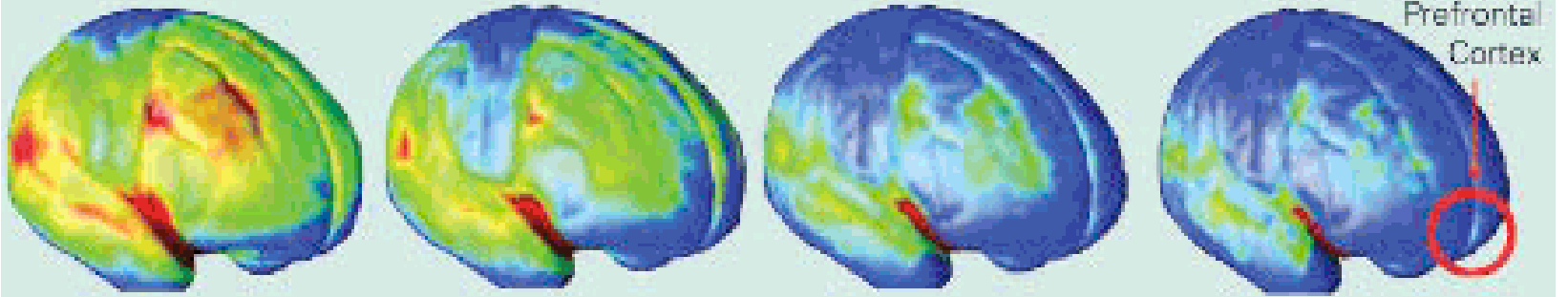
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The Council on Recovery



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5 ← AGES → 20



Blue represents maturing of brain areas.



# Patterns of High-Risk Behavior

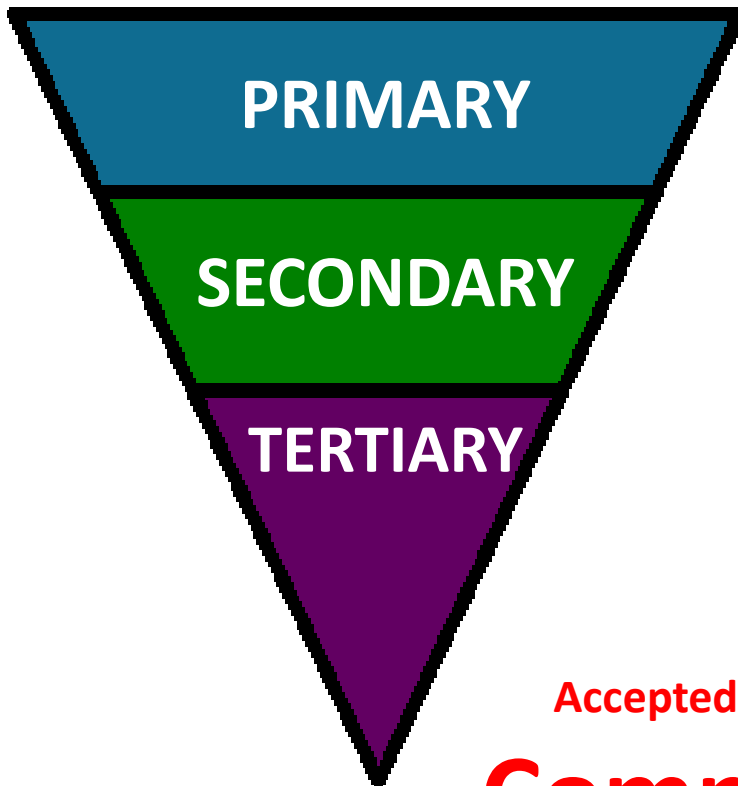
- Many adolescents engage in multiple high-risk behaviors simultaneously.
- One national study found over half of U.S. high school students were engaged in 2 or more significant risk behaviors, and 15% were involved in at least 5.
- Prevalence rates increase from freshman to senior year in high school.

# The Choices Story

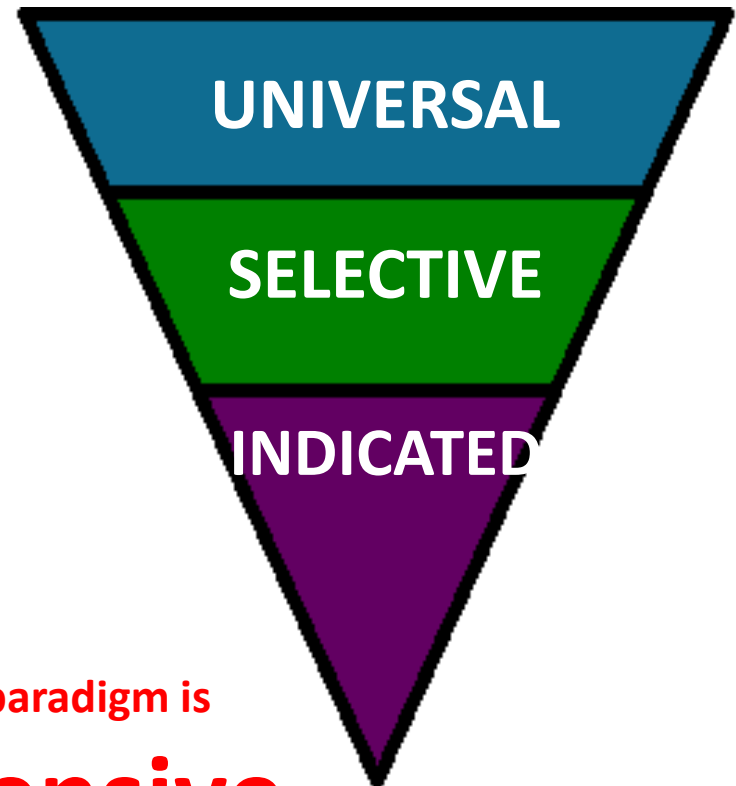
- 58 substance abuse prevention programs for adolescents age 13 to 17 exist
  - 44 are school-based, general population
- 7 target all three levels: universal, selective, and indicated
- Of these 7, only five programs target more than three other high-risk behaviors
- Of these 5, four are designed for high school students

# Types of Prevention

## Public Health Model of Prevention



## The Institute of Medicine (IOM)



Accepted modern paradigm is

**Comprehensive**

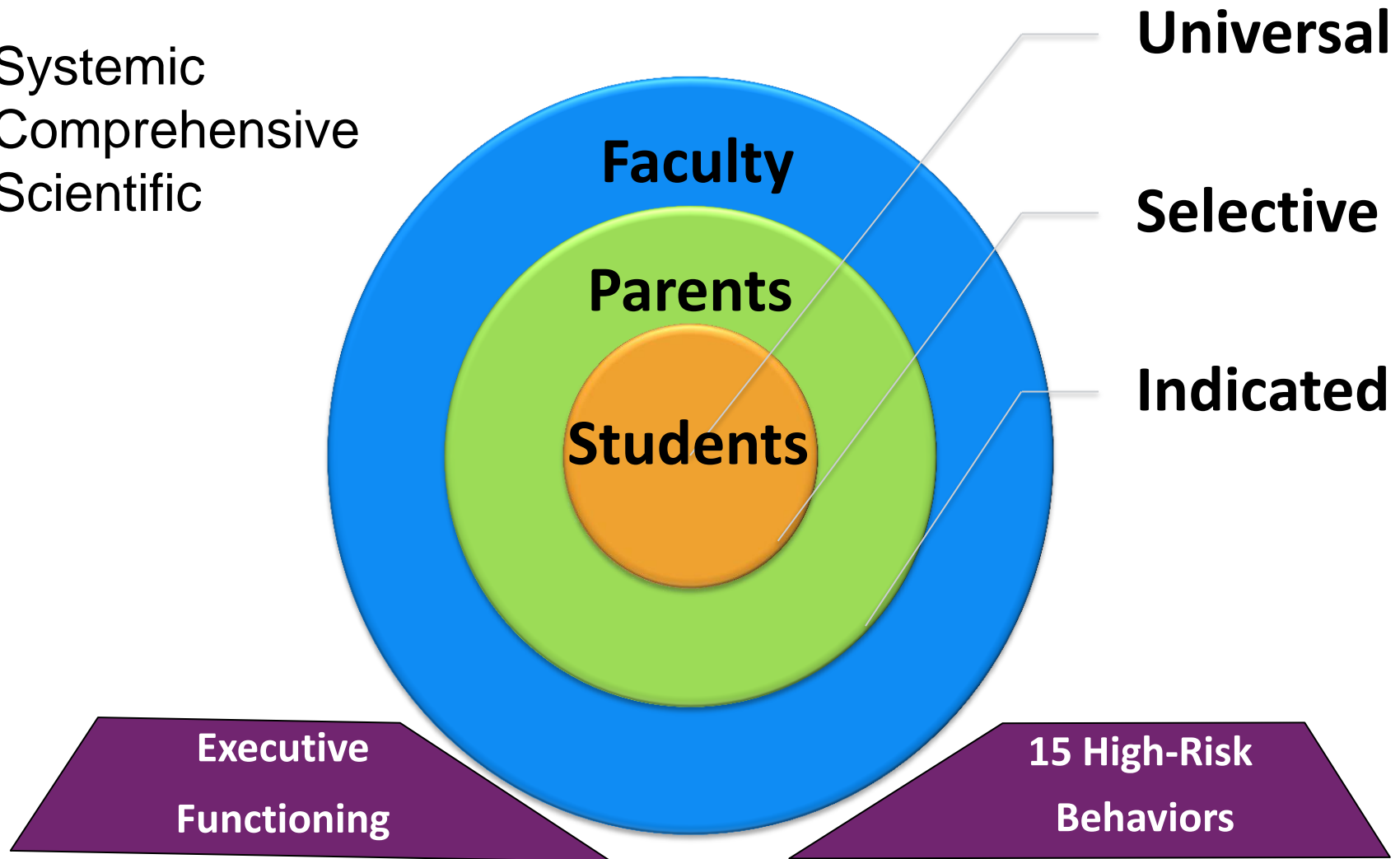
# Correcting the Norm

Normative education attempts to present factual information about students' social environments, creating a more realistic picture of social norms as they actually exist and reducing the

**“everybody does it” belief**  
**and the**  
**pro-drug attitude**

# The Choices Program

- Systemic
- Comprehensive
- Scientific



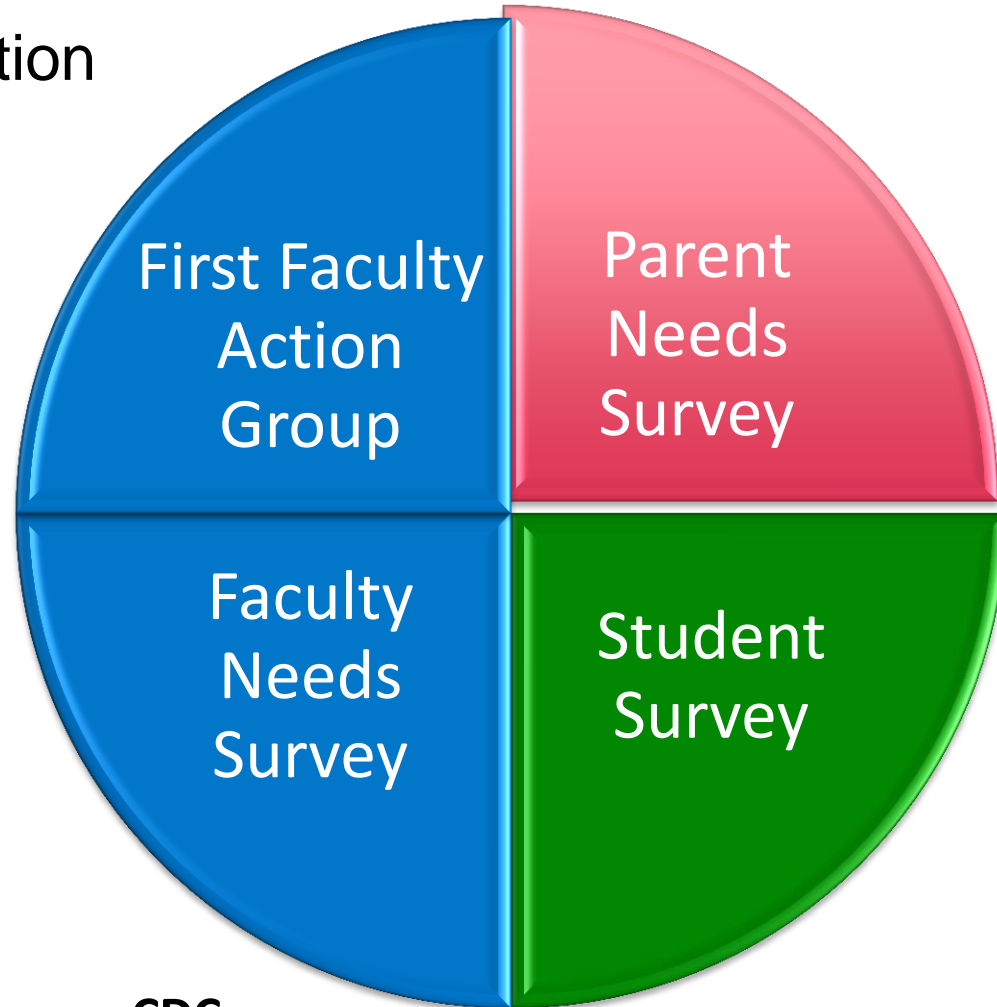
# Effective Prevention Program: Questions for the Planning Process

Procedures	Questions for Planning Process
Needs Clarification	What salient patterns of ATOD problems and co-occurring disorders appear in our community? What specific factors affect these patterns?
Assessment	Is more information needed?
Goals	What needs to be accomplished in the short term and long term?
Objectives	What can we measure and what can we expect?
Resources/Funding	What resources/funding do we have and what more do we need?
Leadership and Organization	Who are the key stakeholders?
Action	Are program elements evidence based, sustainable and progressive?
Monitoring and Evaluation	Are we staying on task?
Modification	Are there changes that need to be made and by whom?



# The Choices Program

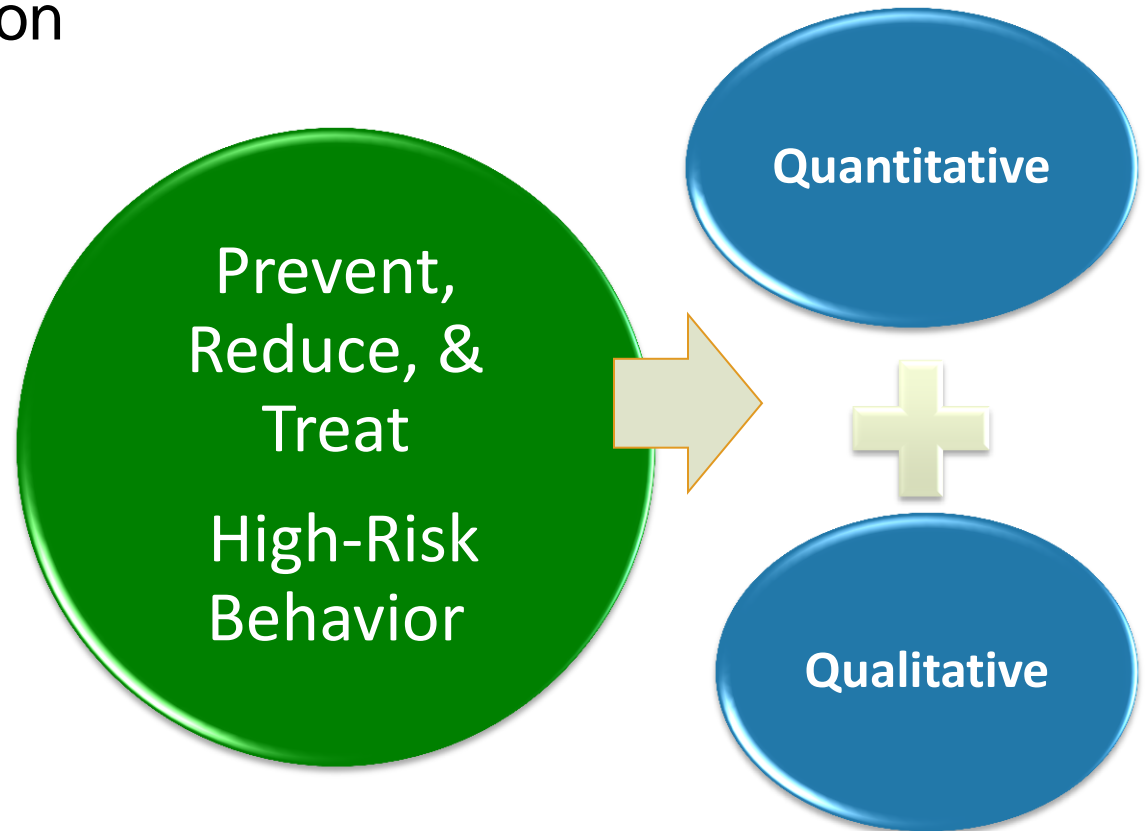
1. Needs Clarification
2. Assessment



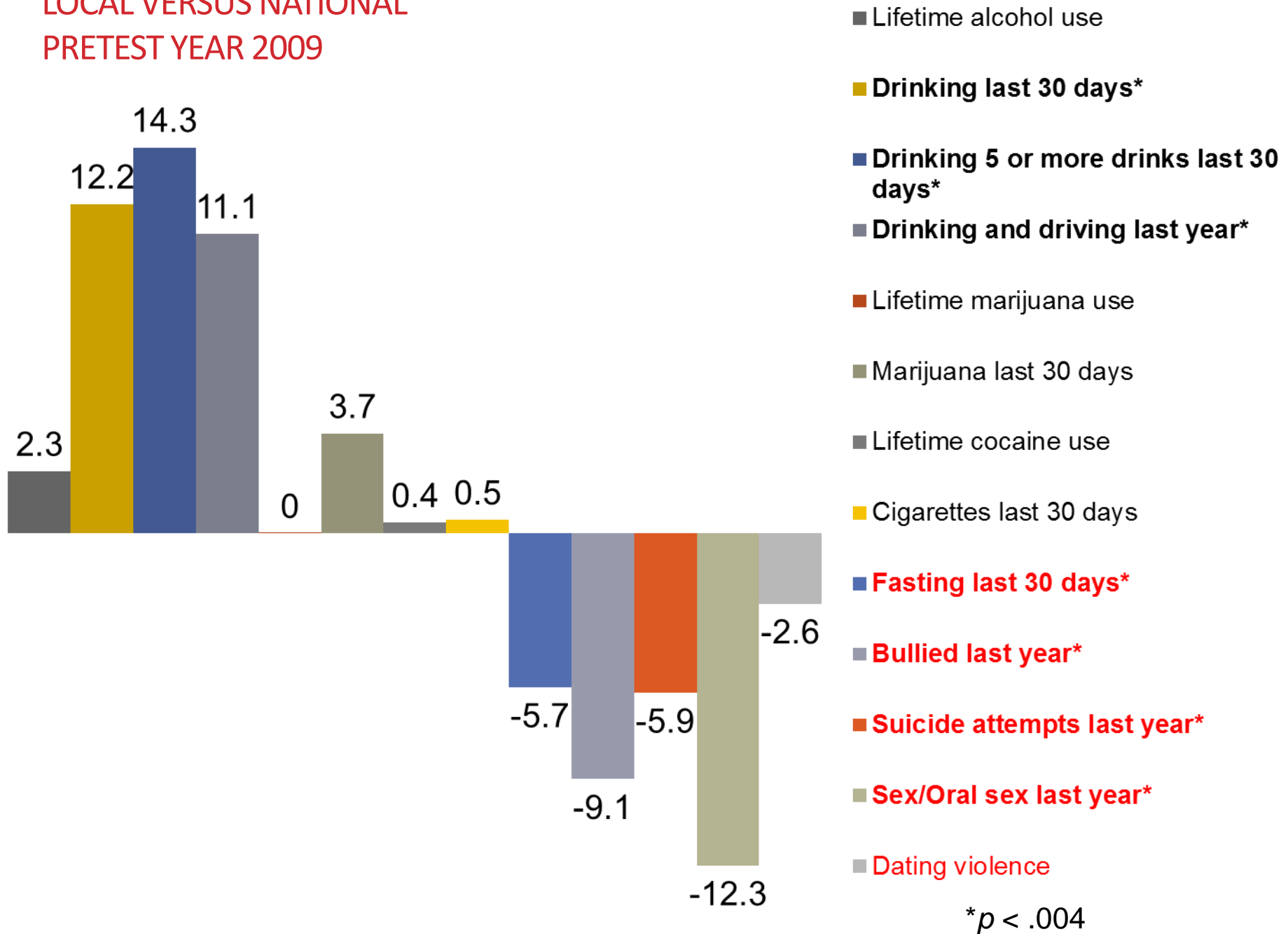
Youth Risk Behavior Survey, CDC

# The Choices Program

1. Needs Clarification
2. Assessment
3. Goals
4. Objectives

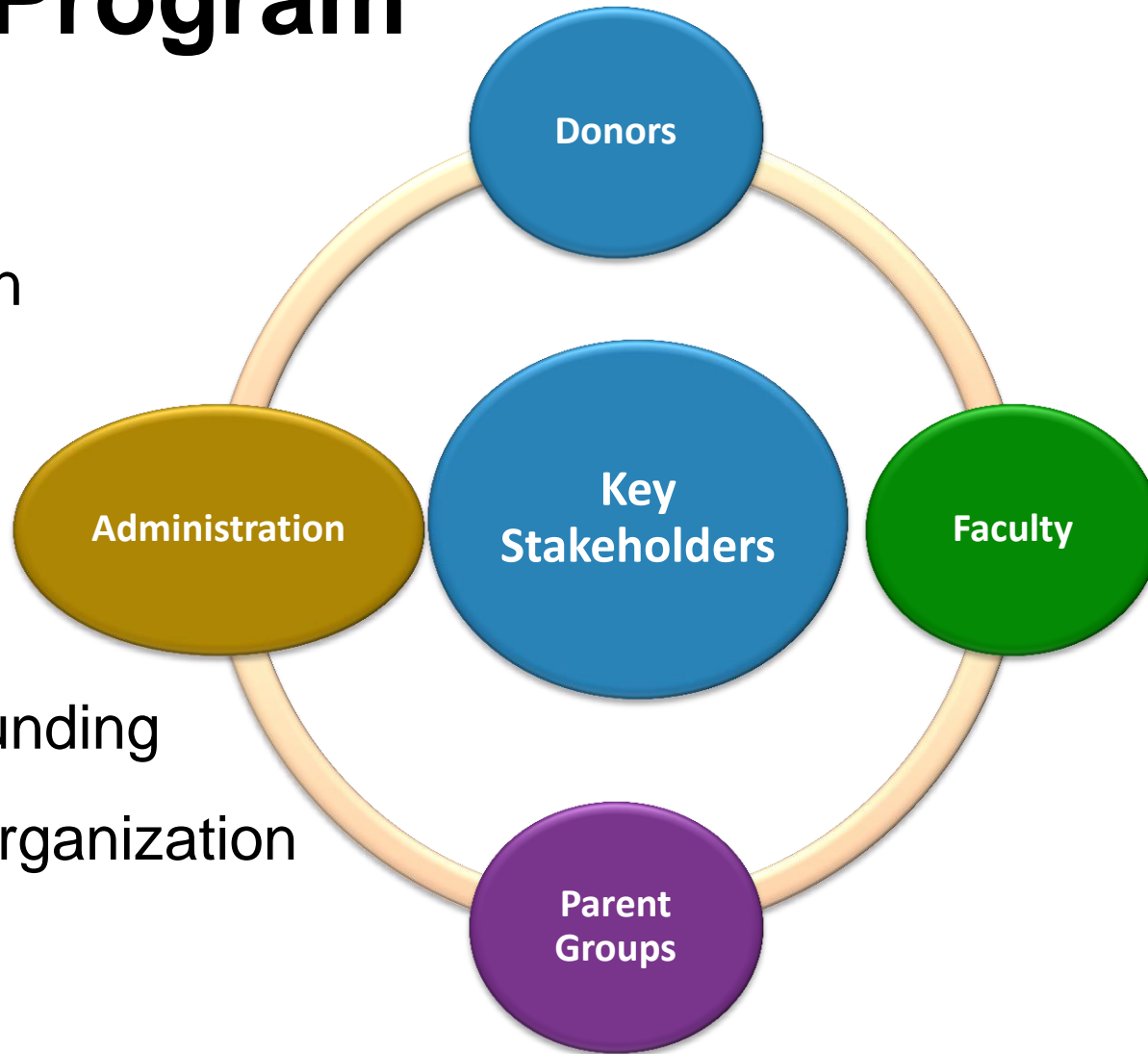


# LOCAL VERSUS NATIONAL PRETEST YEAR 2009



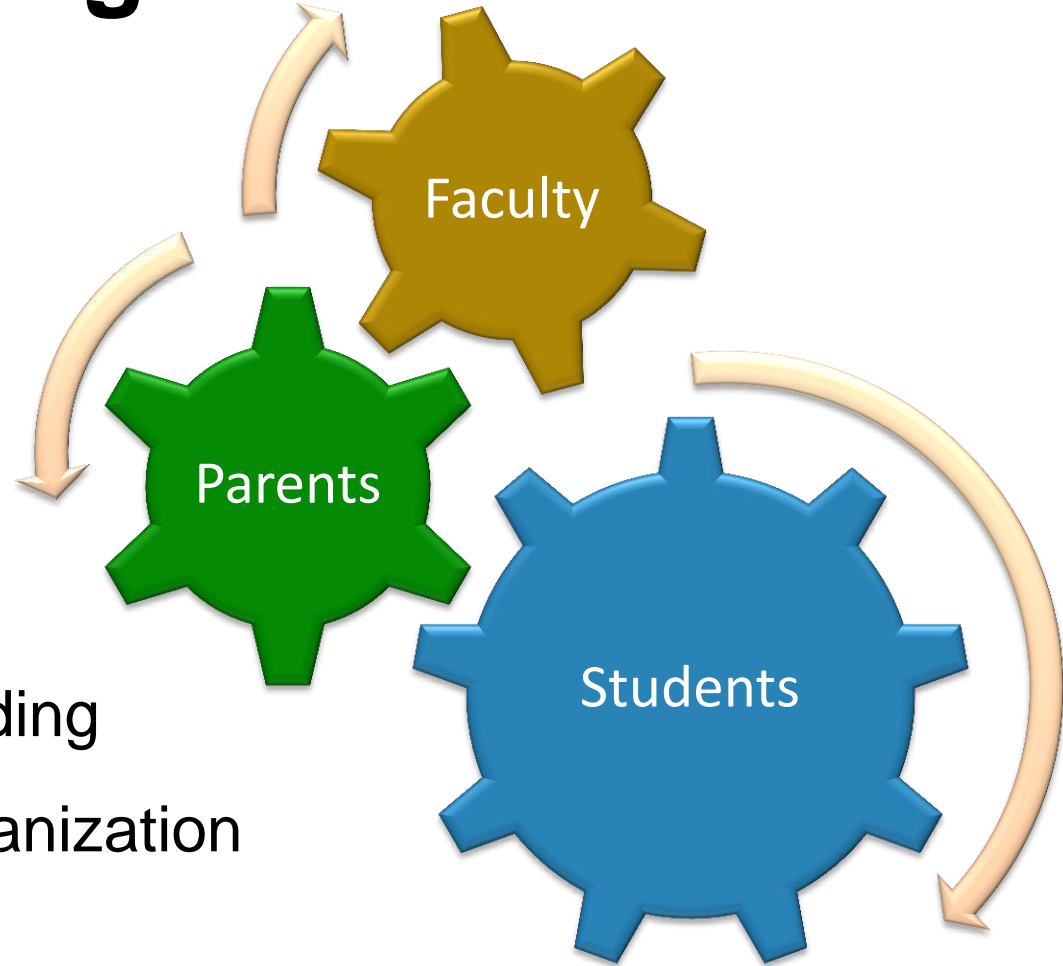
# The Choices Program

1. Needs Clarification
2. Assessment
3. Goals
4. Objectives
5. Resources and Funding
6. Leadership and Organization

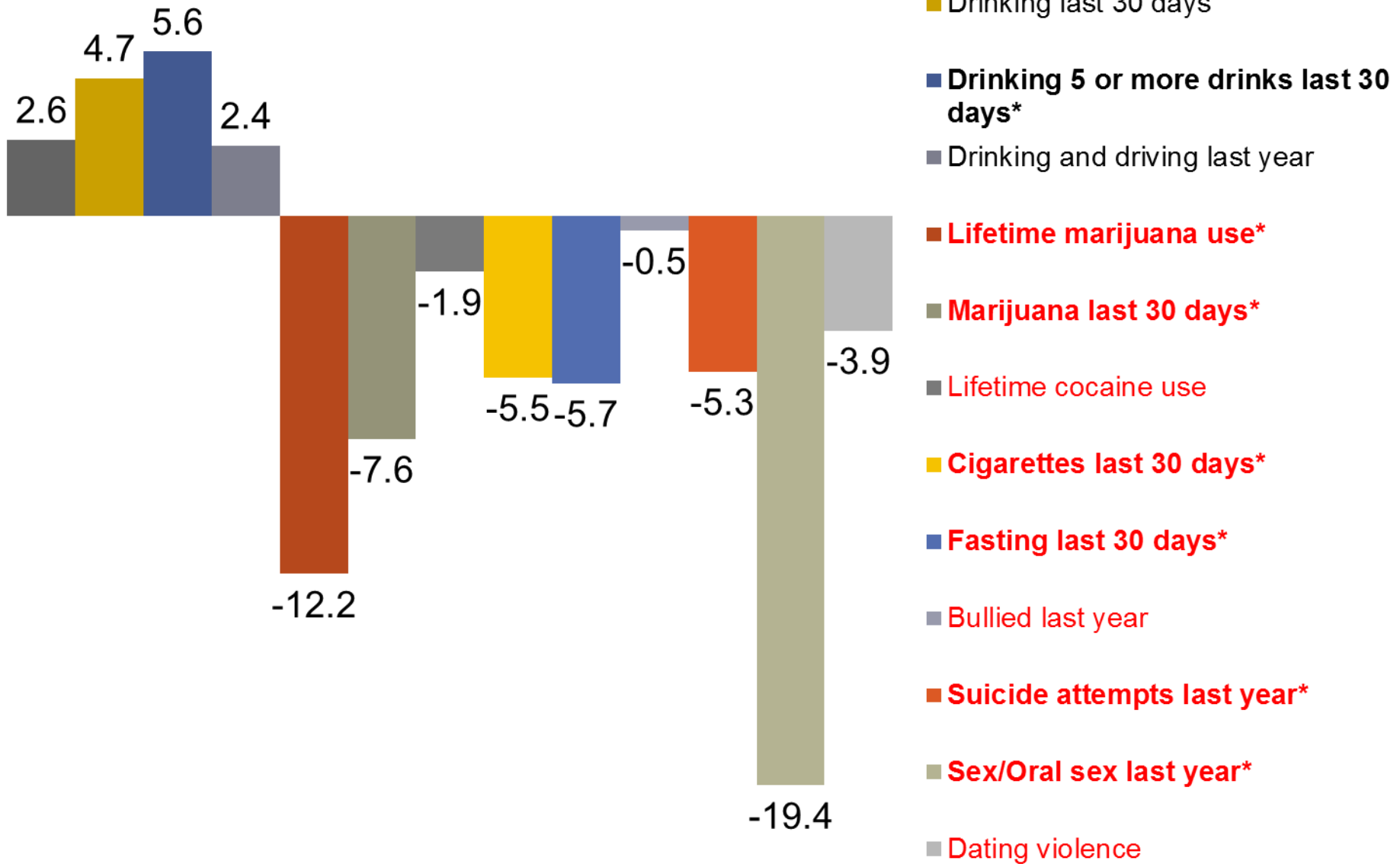


# The Choices Program

1. Needs Clarification
2. Assessment
3. Goals
4. Objectives
5. Resources and Funding
6. Leadership and Organization
7. Action
8. Monitoring and Evaluation
9. Modification

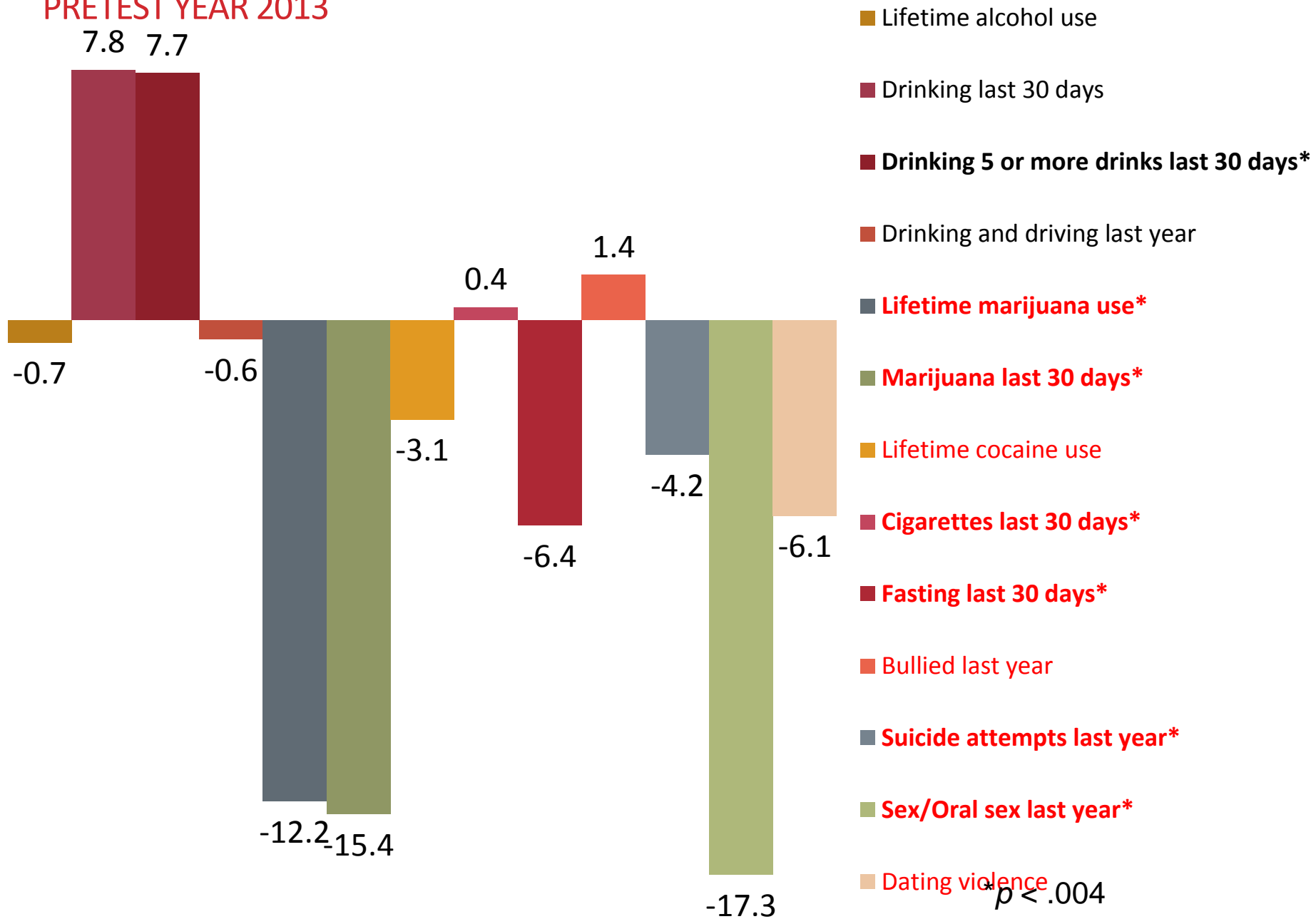


# LOCAL VERSUS NATIONAL PRETEST YEAR 2011



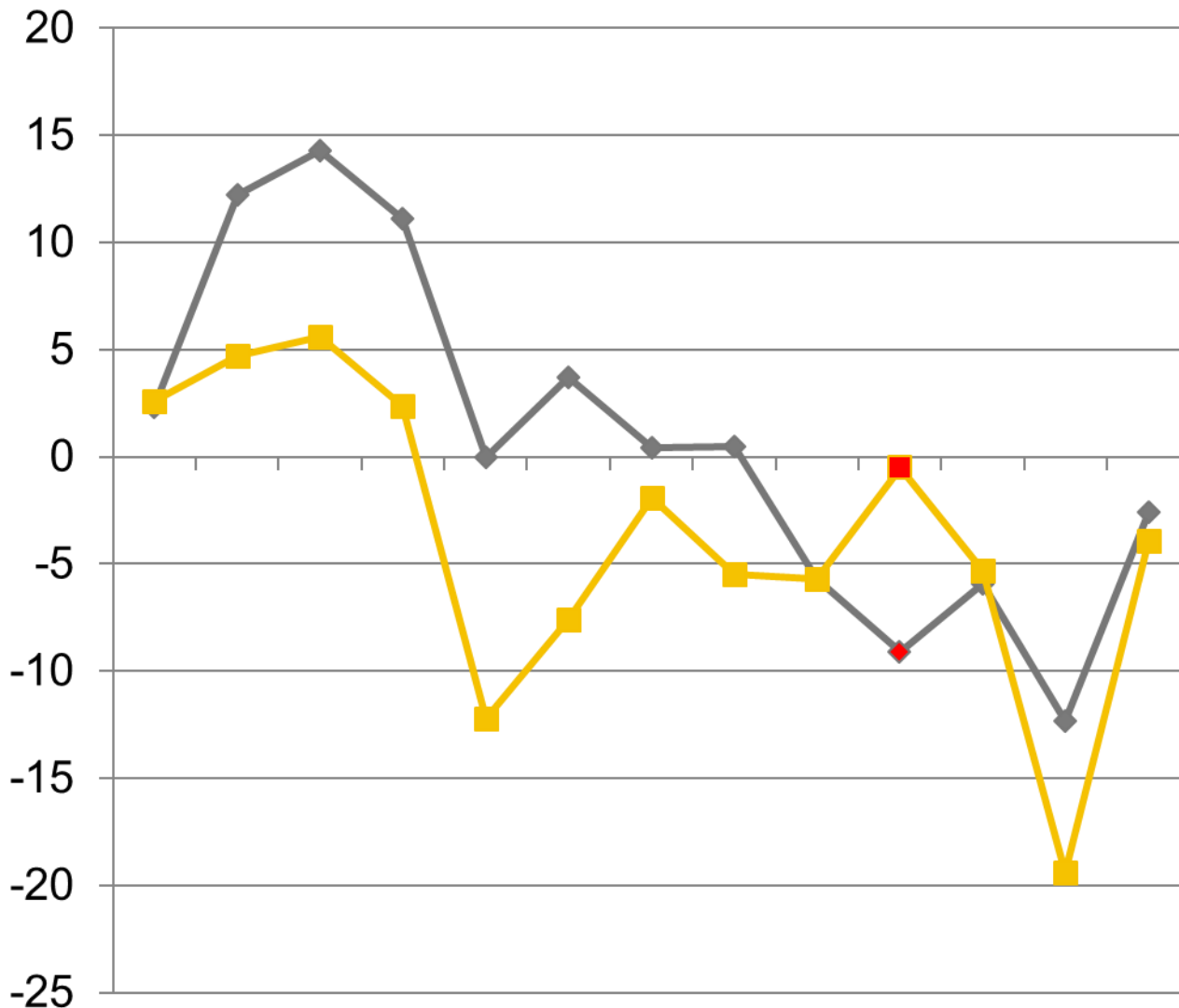
\* $p < .004$

# LOCAL VERSUS NATIONAL PRETEST YEAR 2013



# LOCAL VERSUS NATIONAL DIFFERENCE BETWEEN DIFFERENCES

◆ 2009 ■ 2011



- Lifetime alcohol use
- Drinking last 30 days\***
- Drinking 5 or more last 30\***
- Drinking and driving"**
- Lifetime marijuana use"
- Marijuana last 30 days"**
- Lifetime cocaine use"
- Cigarettes last 30 days"**
- Fasting last 30 days
- Bullied last year\***
- Suicide attempts last year
- Sex/Oral sex last year\***
- Dating Violence

$z = -2.20, *p < .028$



# References

- Brown, S.A., Tapert, S.F., Granholm, E., & Delis, D.C. (2000). Neurocognitive functioning of adolescents: Effects of protracted alcohol use. *Alcoholism: Clinical and Experimental Research*, 24(2), 164-171.
- Califano Jr., Joseph (2009), How to Raise a Drug-Free Kid, *The Straight Dope for Parents*.
- Dahl, R.E. & Spear, L.P. (Eds.) (2004). *Adolescent brain development: vulnerabilities and opportunities*. New York: Annals of the New York Academy of Sciences, Volume 1021.
- Drug Strategies (1999)
- Dubuc, B. (n.d.). The brain from top to bottom. McGill University web site: [http://www.thebrain.mcgill.ca/flash/index\\_d.html](http://www.thebrain.mcgill.ca/flash/index_d.html)
- Giedd, J. N. (2004). Structural magnetic resonance imaging of the adolescent brain. *Annals of the New York Academy of Sciences*, 1021, 77-85.
- Gogtay, N., Giedd, J.N., et al. (2004). Dynamic mapping of human cortical development during childhood through early adulthood. *Proceedings of the National Academy of Sciences*, 101 (21), 8174 – 8179.
- Grant, B.F., Dawson, D., et al. (2004). The 12-month prevalence and trends in DSM-IV alcohol abuse and dependence: United States, 1991-1992 and 2001-2002. *Drug and Alcohol Dependence*, 74, 223-234.
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2006). *Monitoring the Future national survey results on drug use, 1975-2005*. Bethesda, MD: National Institute on Drug Abuse.
- National Center on Addiction and Substance Abuse at Columbia University. (2012a). *National survey of American attitudes on substance abuse XVII: Teens*. National Center on Addiction and Substance Abuse at Columbia University: Author.
- National Institute of Health Website 2013
- Nestler, E. J., & Malenka, R. C. (2004, March). The addicted brain. *Scientific American*, 290 (3), 78-85.
- Robertson, E. B., David, S. L., Rao, S. A., & National Institute on Drug Abuse. (2003). *Preventing drug use among children and adolescents: A research-based guide for parents, educators, and community leaders*. Second edition (NIH 04-4212 (A)).
- Spear, L. P. (2002). Alcohol's effects on adolescents. *Alcohol Health and Research World*, 26 (4), 287-291.
- Schinke, S., Brounstein, P., & Gardner, S. (2003). *Science-based prevention programs and principles, 2002* (Substance Abuse and Mental Health Services Administration). Rockville, MD: Center for Substance Abuse Prevention.
- Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review*, 28, 78-106.
- Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V., & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *The Journal of Primary Prevention*, 20(4), 275-336.
- Tomkins, D. M., & Sellers, E. M. (2001). Addiction and the brain: the role of neurotransmitters in the cause and treatment of drug dependence. *Canadian Medical Association Journal*, 164 (6). p.817-821.
- Underwood, N. (2009). The teenage brain: Why adolescents sleep in, take risks, and won't listen to reason. *The Walrus Magazine*.
- Walsh, D. (2004). *Why do they act that way? A survival guide to the adolescent brain for you and your teen*. New York: Free Press.

# References

[www.ChildTraumaAcademy.org](http://www.ChildTraumaAcademy.org)

<http://www.nacoa.net/pdfs/addicted.pdf>

<http://austinalanon.org/ed6sml.htm>

<http://www.a4everfamily.org>

Stanford University Medical Center (2007, July 30). Severe Trauma Affects Kids' Brain Function, Say Researchers. *ScienceDaily*.

Stanford University Medical Center (2009, December 17). Brain imaging shows kids' PTSD symptoms linked to poor hippocampus function.

Journal of Loss and Trauma, 14:240-255, 2009, Bruce D. Perry. Examining Child Maltreatment Through a Neurodevelopmental Lens: Clinical Applications of the Neurosequential Model of Therapeutics

Oser, C. (2004) Zero to Three: Building State Early Childhood Comprehensive Systems Series, No 12 (presentation) from <http://www.zerotothree.org/policy>

Perry, B., Bonding and Attachment in Maltreated Children Consequences of Emotional Neglect in Childhood. <http://www.childtrauma.org/index.php/articles/attachment>

Perry, B. (2002) *Brain and Mind* 3:79-100, Childhood Experience and the Expression of Genetic Potential: What Childhood Neglect Tells Us About Nature and Nurture  
<http://www.childtrauma.org/index.php/articles/abuse-a-neglect>

Posttraumatic Stress Disorder (PTSD), "Facts for Families," No. 70 (10/99)  
[http://www.aacap.org/galleries/FactsForFamilies/70\\_posttraumatic\\_stress\\_disorder\\_ptsd.pdf](http://www.aacap.org/galleries/FactsForFamilies/70_posttraumatic_stress_disorder_ptsd.pdf)



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