

Generation Adderall?

Prescription Stimulant Use and Misuse in College Students

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Disclosures

- None of the presenters have anything to disclose
- Disclaimer: All of the presenters believe that ADHD is a real neuropsychiatric disorder that affects a small percentage of the population.



Objectives

- Discuss the current rates of stimulant use and misuse in college populations
- Define the concept of "neuroenhancement"
- Discuss the pitfalls in diagnosis of ADHD
- Describe ethical considerations and risks of the misuse of stimulant drugs



ADHD: Is there an “epidemic”?

- NYT Article: “The Selling of Attention Deficit Disorder” Dec 2013

- Discussed concern over rapid increase in ADHD diagnoses and stimulant prescriptions
- Focused particularly on the role of pharmaceutical advertising
- From Dr. Keith Conners (creator of the Conners ADHD rating scale):

“The numbers make it look like an epidemic. Well, it’s not. It’s preposterous. This is a concoction to justify the giving out of medication at unprecedented and unjustifiable levels.”



Epidemiology

- Estimated natural prevalence of ADHD:
 - 3-5% of children
 - 2.5-4.4% of adults
- But...
 - Surveys indicate 11% of 4-17 year olds had been diagnosed with ADHD as of 2011
 - Rates of diagnoses increased 5% per year between 2003-2011



There's a pill for that...

- Sales of prescription stimulants have increased from \$1.7 billion to \$9 billion in the past decade
- There were 16 million prescriptions written for adults ages 20-39 in 2012, triple the amount written in 2007



BROKEN PROMISES

Adults with ADHD
were nearly 2x
more likely to have
been divorced¹

The consequences can be serious.
Ask your doctor.

Adults with ADHD are more likely to:
• Be unemployed or underemployed
• Have difficulty managing money
• Experience marital problems
• Have difficulty meeting responsibilities
• Have legal problems
• Have difficulty getting along with others
• Have difficulty getting along with authority figures

Adults with ADHD are less likely to:
• Be employed
• Be married
• Be satisfied with their job
• Be satisfied with their family life
• Be satisfied with their social life
• Be satisfied with their overall life

Shire

ADHD
Treatment
Information
Center

"I'm Depressed..."

Could it be ADHD?
ADHD was found in
32% of adults without
depressive disorder²

Look for ADHD in
patients who present with
depression.

Visit www.depressionandadhd.com
for patient education kits
and adult screening tools.

1. Kraschke, C., et al. (2005). Adult outcomes of attention deficit hyperactivity disorder. Journal of Clinical Psychiatry, 66(1), 10-15. © 2005 Lippincott Williams & Wilkins, Inc.

2. Kraschke, C., et al. (2005). Adult outcomes of attention deficit hyperactivity disorder. Journal of Clinical Psychiatry, 66(1), 10-15. © 2005 Lippincott Williams & Wilkins, Inc.

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College students: the next generation?

- Rates of ADHD in college students estimated at 5% based on surveys of incoming freshmen
- Rates of diagnosis during college difficult to determine, but is not inconsequential
- Significant overlap between ADHD symptoms and normal traits
- In one study of students self-referred for ADHD evaluation, 25-48% exaggerated symptoms



A Dangerous Trend?

- NYT Article: Drowned in a Stream of Prescriptions (Feb 2013)
 - Story of 24-year old Richard Fee, a honors college graduate started on stimulants after a brief initial assessment and diagnosis of ADHD after having never had symptoms
 - Details his 2-year history of escalating use, functional decline, psychotic symptoms, and ultimate suicide
 - From on of Richard's prescribers: "He didn't seem like he was a drug person at all, but rather a person that was misunderstood, really desirous of becoming a physician. He was very slick and smooth. He convinced me there was a benefit."



Misuse, abuse, and diversion

- Review article by Wilens in 2008 found:

- 5-35% of college age students reported non-prescription use of prescription stimulants in the past year
- 29% of college students with valid prescriptions admitted to selling their medications
- 58% used for concentration, 43% for alertness, 45% to get high
- 22% of students with stimulant prescriptions took higher doses than prescribed; 10% of them to get high



Not Just College...

- A 2010 study of a large public medical school found that 10% of students reported non-prescription use of prescription stimulants
- 70% of these students reported obtaining medications from their peers
- Most common motivations for use were increased alertness for studying and improved academic performance



Who misuses stimulants?

- Hartung et al. 2013 study of students at 4 universities:
 - Misusers more likely to stay awake, to study, and for recreation
 - Higher rates of other substance use
 - Misusers endorsed more perfectionism, higher levels of parental expectation, higher sensation seeking
 - 81% of misusers without a prescription got meds from friends



Who provides them?

- Desantis et al. 2013 study of 2,139 undergraduates:
 - Of students with stimulant prescription, 52.5% had given pills away, 39.2% had sold them
 - Distribution was predicted by: gender (men>women), sorority/fraternity membership, overestimation of perceived stimulant use by others, use of ETOH, MJ, hallucinogens, painkillers
 - No significant differences across GPA or majors
- Students with stimulant prescriptions were more likely to be approached to sell/give/trade their meds than those with prescriptions for opiates, benzos, or sleeping pills



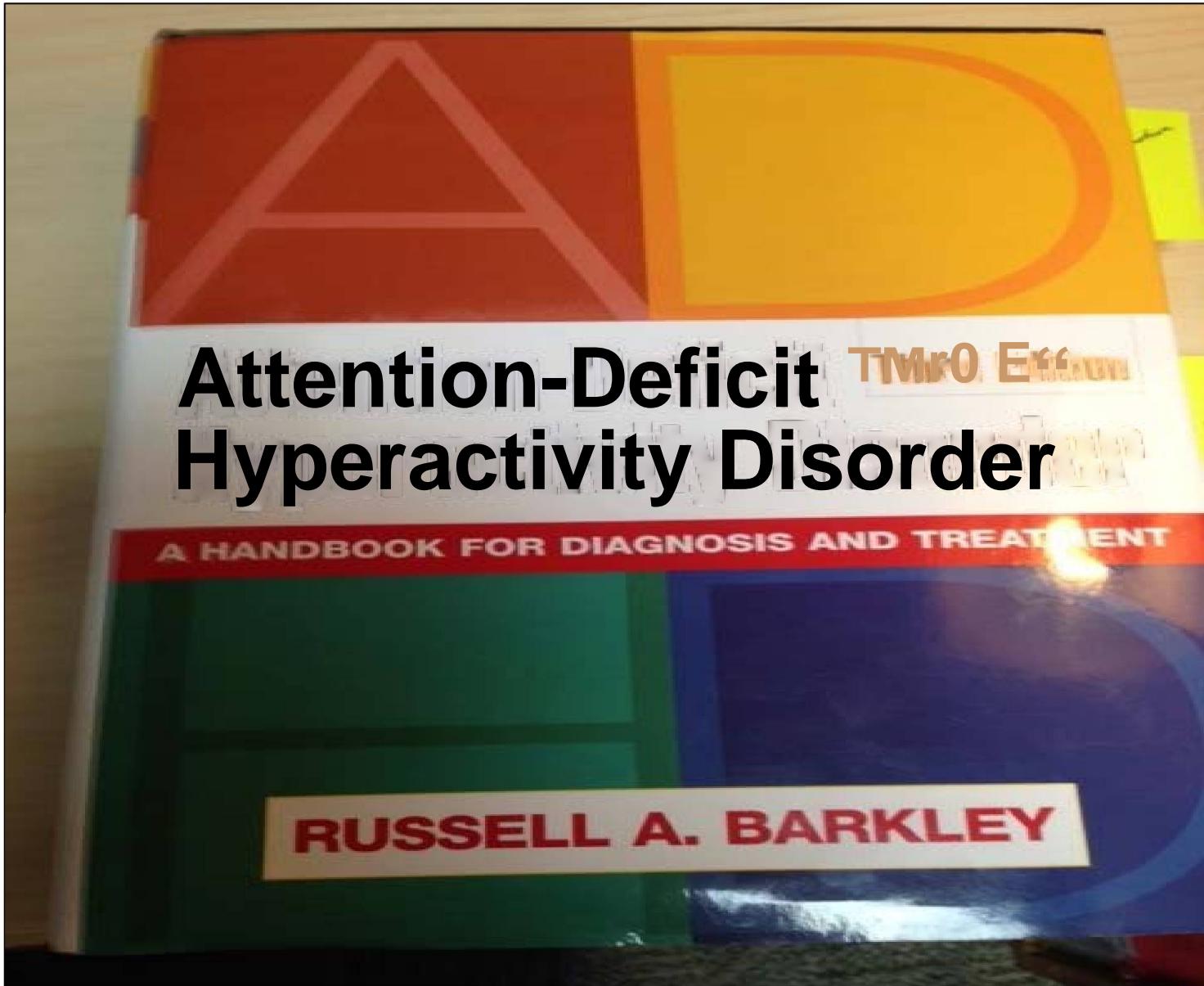
ADHD DIAGNOSIS ON COLLEGE CAMPUSES





"Don't worry, Mom and Dad. I promise to only make mistakes you never made."







"ATi/jr burn tftifrgx-----ij'yeu f/an't fibe it, d&n't-gp put."

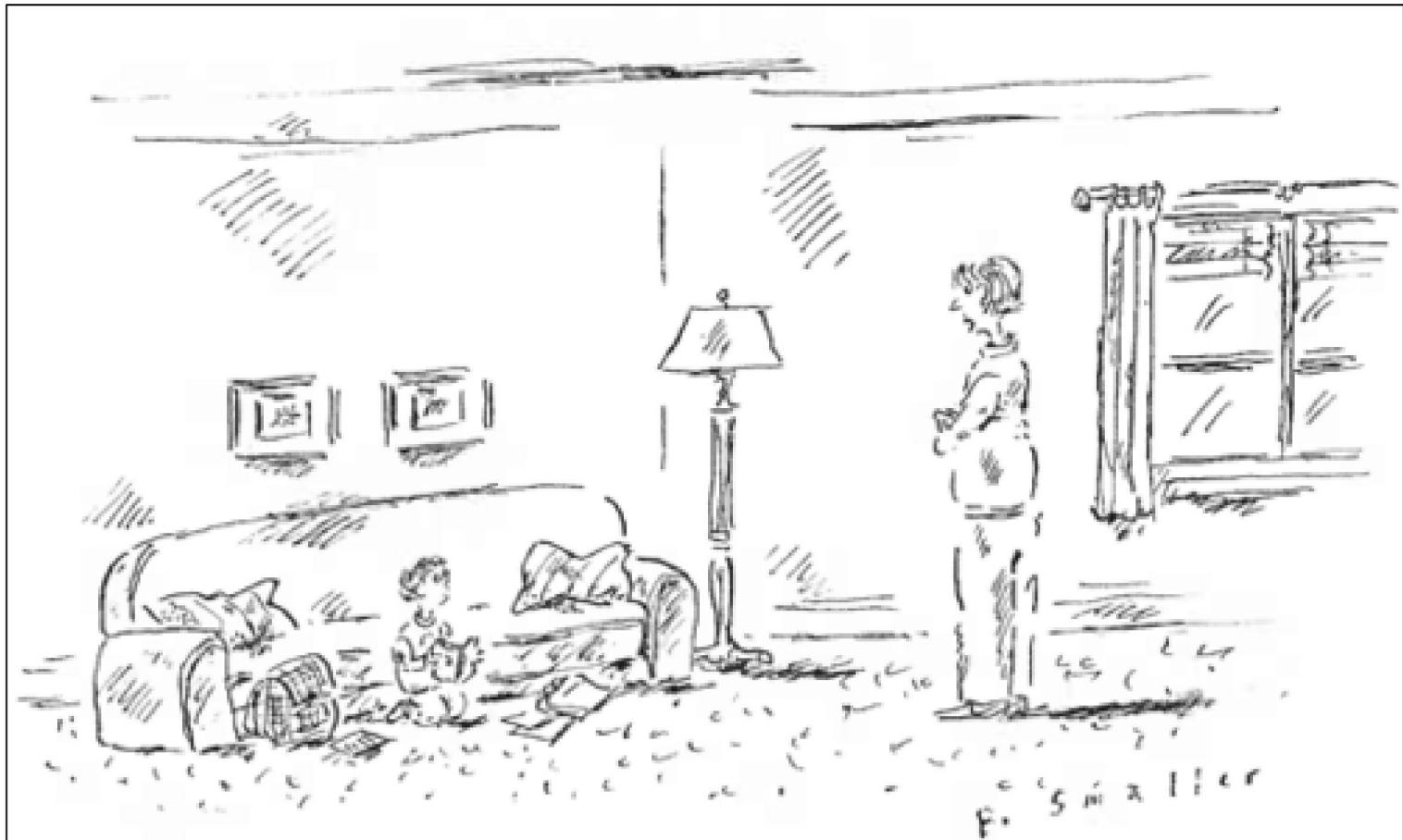
AllPosters





"It's always 'Sit,' 'Stay,' 'Heel'—
never 'Think,' 'Innovate,' 'Be yourself.' "





"There 'will be plenty of time fir playing after you get into college.*



*"Ask your doctor if taking a pill to solve all
your problems is right for you."*



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"Could we up the r/oj^r J stiff /ravefeelings.

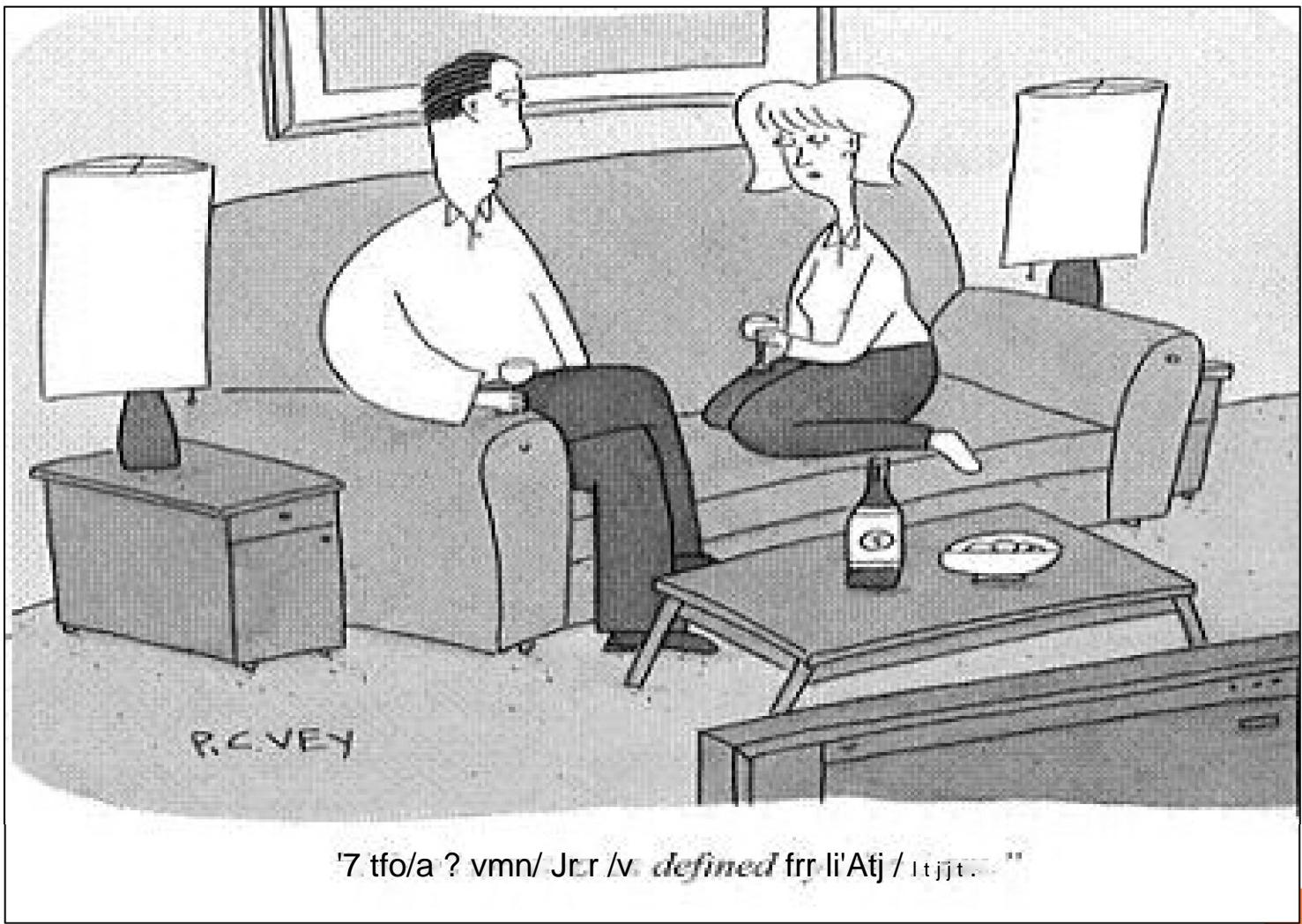




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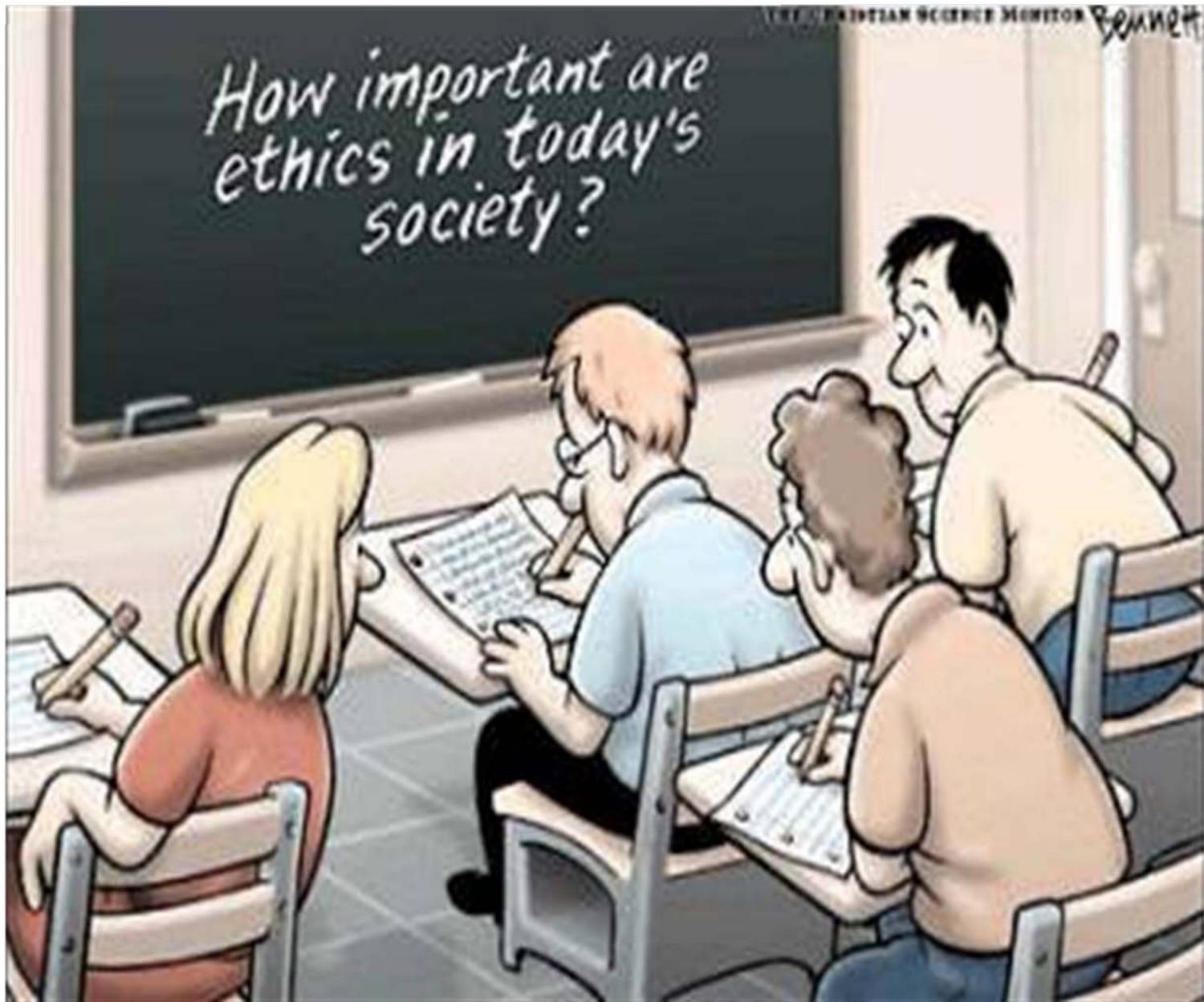
"i bad an epibb&ny."



'7 tfo/a ? vmn/ Jnr /v/ *defined* frr li'Atj / ltjjt. "



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CHRISTIAN SCIENCE MONITOR BENNETT

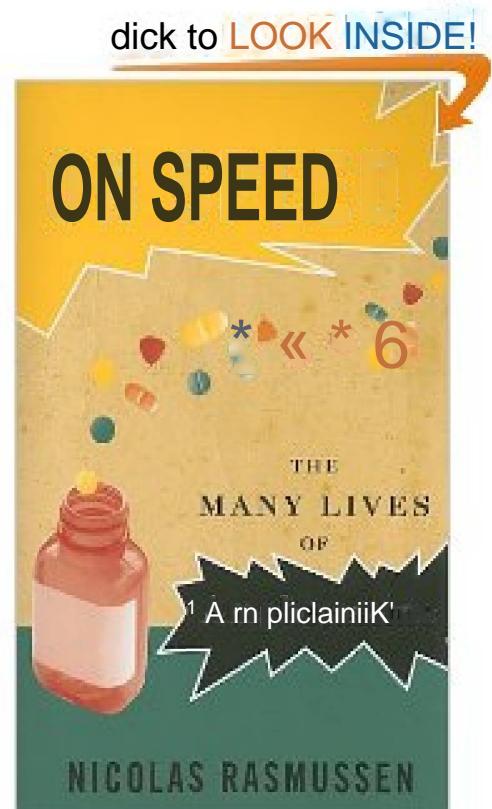
Different groups with overlap

- Those with clear ADHD.
- Those with some ADHD symptoms and disturbance in academic performance.
- Those who use stimulants as cognitive enhancers for studying/exams/writing papers/etc.
- Those who use stimulants recreationally.



History of same

- 1937 — NY Times article about “brain fuel.”
- 1939 death of Purdue University student on “brain drugs.”
- AMA approval of amphetamine medication in 1939 specifically excluded use of drug by healthy people.



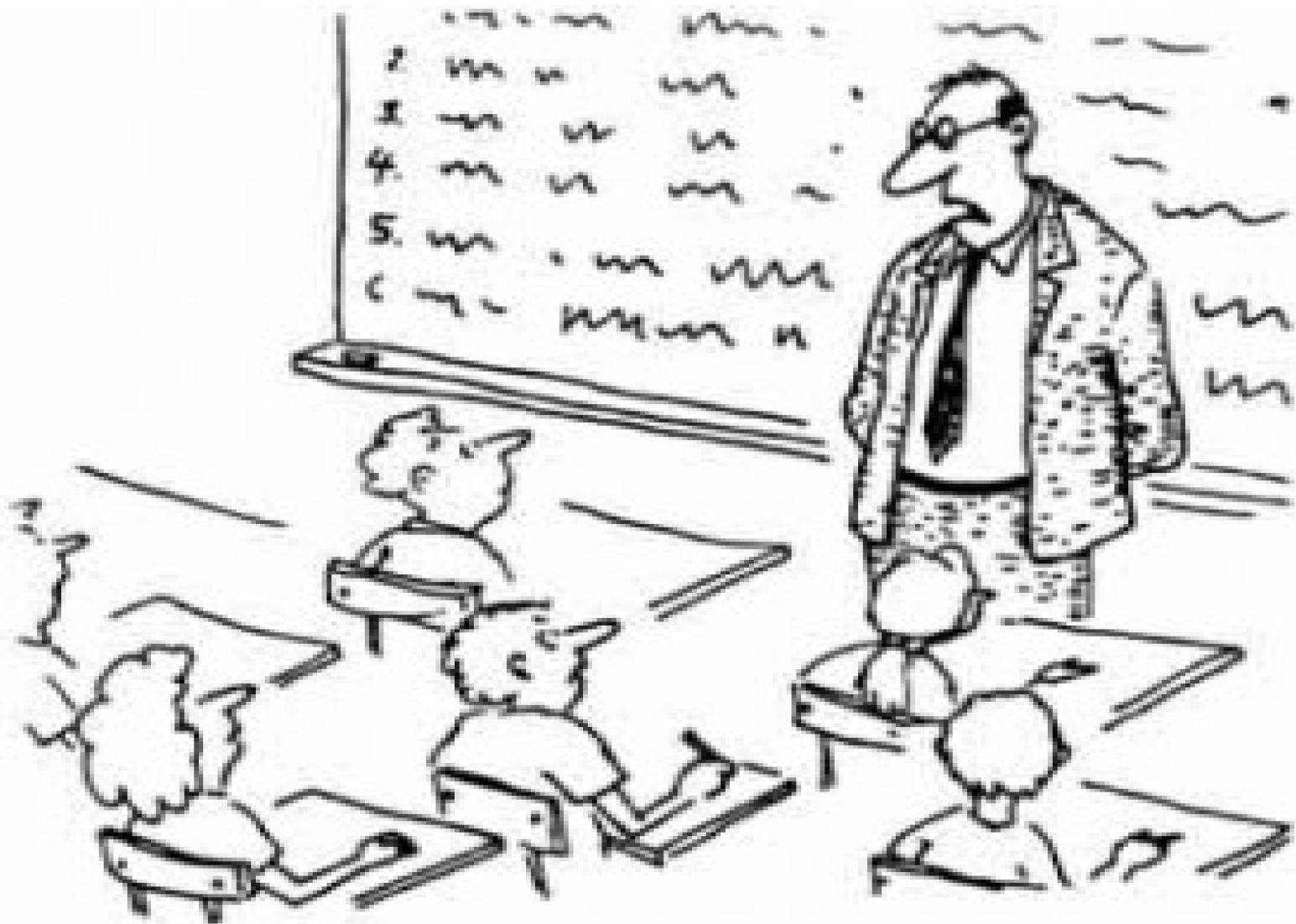
li STUDY BUDDY



Risk/benefit analysis of stimulant use

- Different for each of the four groups.
- Different for college students? Adults?
- Responsibility to other students not in our office.
- Short-term vs. long-term considerations.



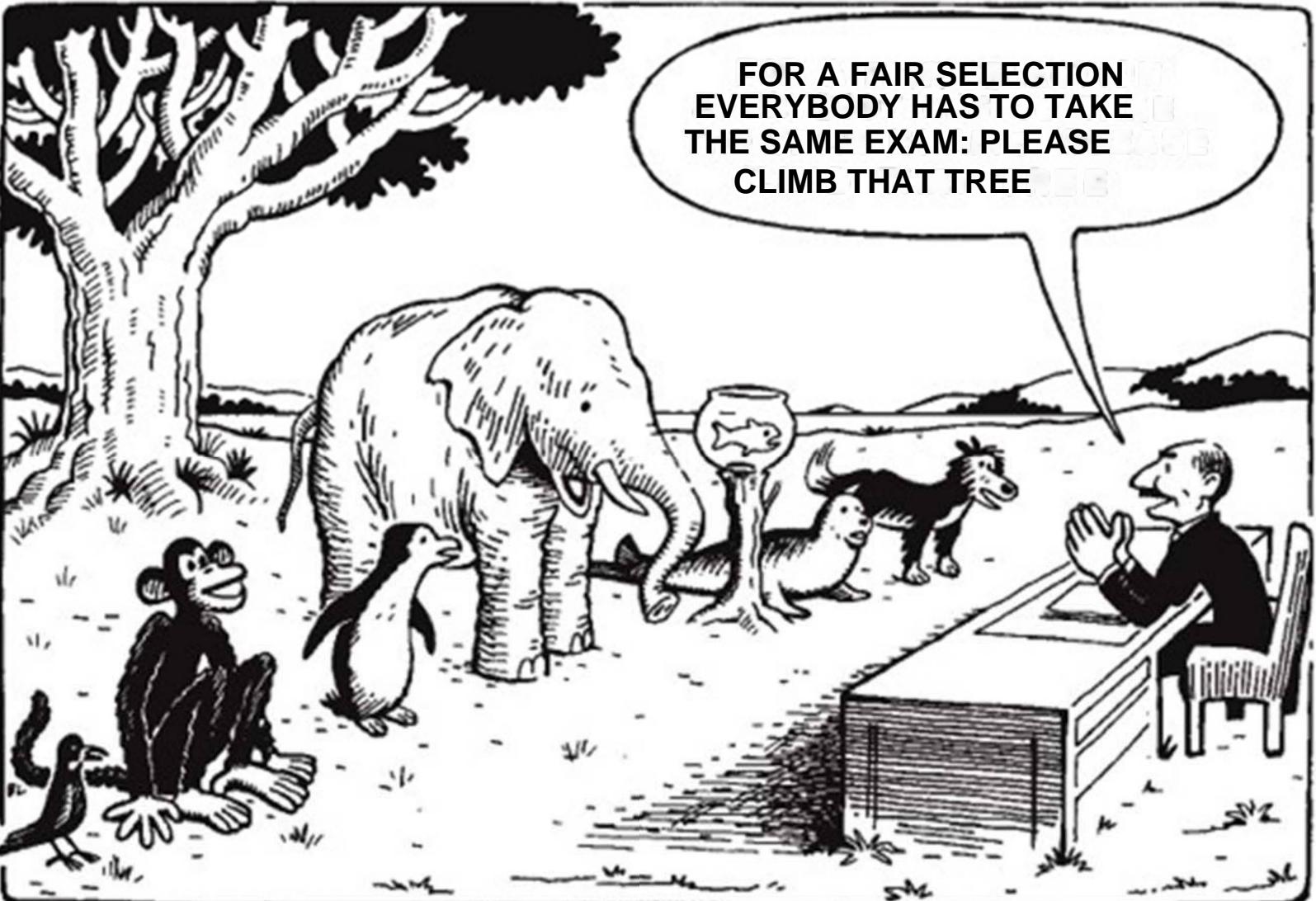


"I C'jrjj'CfV yon o/Z to be /jirfrpfjj'drjiA
mVrczjAZftfjjAv'j'-v h 7i-o w/H do fAdrtfv as / szTyZ"





"Me? I thought yo>u were raising them."



FOR A FAIR SELECTION
EVERYBODY HAS TO TAKE
THE SAME EXAM: PLEASE
CLIMB THAT TREE



MANKOFF

*"Excuse Aw?, Dpti ffijttention wam&raf, IKiwJ
rtptf of deficit disorder did you soy I badf"*

Arguments against cognitive enhancers

- It's cheating.
- They're illegal.
- Indirect coercion.
- They are dangerous.
- What does it mean regarding learning?
- What is the value we are seeking? Does product change after stimulant use in this way?



Arguments for...

- Could prevention of neuroenhancement be enforced?
Prohibition is likely to fail.
- Limiting autonomy?
- Should we limit people from working longer hours,
being more focused, etc?
- Inequalities already exist.
- People use caffeine, nicotine, etc, already.



Arguments for...

- Cosmetic neurology vs. cosmetic surgery vs. vs. shift work treatments vs. sleep aids vs. sexual dysfunction treatments vs. general medical treatments.
- Could they actually be used to decrease inequalities?
- At least a working relationship with them would exist if we gave stimulants to them.



What do we do?

- Systems-based interventions to optimize performance, attention, reduce perceived need for non-medical stimulant use, and value learning?
- Could these same interventions decrease mood and anxiety disorders and substance misuse as well?



General Resources

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