

Supplementary Materials

1A: Letter to *The Denisonian*

A Call to Our Peers

Irritability. Fatigue. Depression. Panic attacks. Dependence. These are likely the last things that college students would want to be facing during an important month of exams and papers, yet many Denisonians are putting themselves at a higher risk for all of these conditions right in the midst of their busiest weeks. These are all side effects of stimulant drugs, such as Ritalin and Adderall. Surprised? You're probably not alone - according to a 2015 survey given to Denison students, about 14% of students on our campus have taken stimulants that were not prescribed to them, an act that constitutes stimulant abuse and is a felony. That means that somewhere in the ballpark of 300 of your peers are self-medicating in an attempt to gain an edge of productivity and focus that they don't believe they can achieve on their own. What they don't realize is just how much these short bursts of hyper-focus can cost them. Colleges today certainly expect a high output of quality work from students, and academic pressure can seem overwhelming.

When asked about stimulant use, college students often downplay the harm of using stimulants by referring to them as study tools. By alluding to these stimulants as such, college students feel more at ease to administer higher doses of them since it is purely for academic purposes (Business Insider). Students claim they use stimulants to improve grades, studying focus, reduce anxiety and stress, and increase confidence (Sober Nation), but stimulants have been shown to only increase focus. In some cases, academic performance can be harmed through stimulant use since they can be fixated on one thing for much longer than needed (Science Daily). Research has also shown that when given a placebo, a physiologically inactive substance, in place of Ritalin, college students were more engaged and paid more attention in class than students who did not receive a pill (Business Insider).

Studies indicate that on college campuses, the students most at risk are white males in fraternities (Business Insider). White females in sororities are also at risk due to social pressures and modeling practices within organizations such as sororities and fraternities. Other students at risk include students with below average grades and high levels of stress, anxiety and depression. Through lack of knowledge on stimulants, they are falsely led to believe that ADHD stimulants will improve their academic performance, which would decrease their academic-related stress (Science Daily). Students often receive access to these stimulants through friends and peers with ADHD prescriptions. College students with stimulant prescriptions often feel strong types of peer pressure to sell their pills to fellow students. This not only makes the student responsible if the stimulant harms their fellow students, but it also harms the student's daily life as well since they are not taking their prescribed medication (Sober Nation). In addition, sharing prescription medicine is a felony.

When faced with stressful situations, college students have different ways of coping with their stress/anxiety. Some turn to social support, others decide to isolate themselves in hope to get through it, while some turn to specific drugs to make them feel better. Recent studies have shown that more and more college students rely on drugs like Adderall or Ritalin to help them have the energy to get through an exam, all-nighters, or even stay socially active. However, as good as they might feel in the moment when consuming these drugs, there come negative outcomes afterwards. For some, dependence on prescription stimulus can lead to an addiction, or in some cases be fatal to the individual. Abuse/addiction can lead to long or short term effects to an individual's physical health, mental health, and/or negative effects to the way their body functions. Here are some of the long term and short term effects these drugs can have on an individual when abusing the drug(s): depression, low blood pressure, cardiovascular disease, paranoia, tiredness, nausea, weight loss, aggression, tremors, and/or anxiety.

There are a few good strategies that will eliminate the need to use either Adderall or Ritalin. Stop putting your work off until the last minute. In college, you need to learn to manage your time effectively to be successful. One excellent way to manage your time effectively is to create a daily or weekly schedule of the work you must get done. Take mental breaks while you do your work. This will help you recharge and refocus so you can get your work done without the aid of medication. Some examples of a mental break could be a coffee break, a trip to the gym or taking a short nap. Additionally, you should avoid multitasking. Multitasking creates more stress and makes you less efficient. You need undivided attention and focus for each individual thing that you work on so that you process information the correct way. Lastly, you should live a healthier lifestyle. This includes getting enough sleep each night and eating a low sugar diet. Without enough sleep, cognitive processes are hurt, specifically concentration, alertness, attention, learning, reasoning, and problem solving are impaired. A high sugar diet will make have a lot of energy for short periods of time, but in the long run you will crash and burn. With the use of strategies like these, you will no longer need to use Adderall and Ritalin.

When the idea of stimulant drug use such as Adderall or Ritalin is brought up, more often than not many people are not aware of the potential dangers associated with these substances. However, the bottom line is that Adderall and Ritalin are serious stimulant drugs that need to be treated as such. If you are prescribed one of these drugs, do not share it with those who are not. If you are not prescribed these drugs, do not partake in the use of them, as the consequences can be deleterious to your health. Refer to some alternatives to help get yourself back on track.

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Students in Dr. Kennedy's Health Psychology class

1B: Posters and trifold for first-year dormitories and dining halls

WARNING

**Side effects of study drugs
like Ritalin & Adderall
ahead!**

Physical
Short Term

- Increased blood pressure
- Serious cardiovascular effects
- Stroke
- Lack of Appetite
- Restlessness
- Seizures
- Increased heart rate
- Twitching

Long Term

- Sexual Disfunctions
- Sleep Disruption
- Hair loss
- Weight loss
- Serious Cardiovascular issues

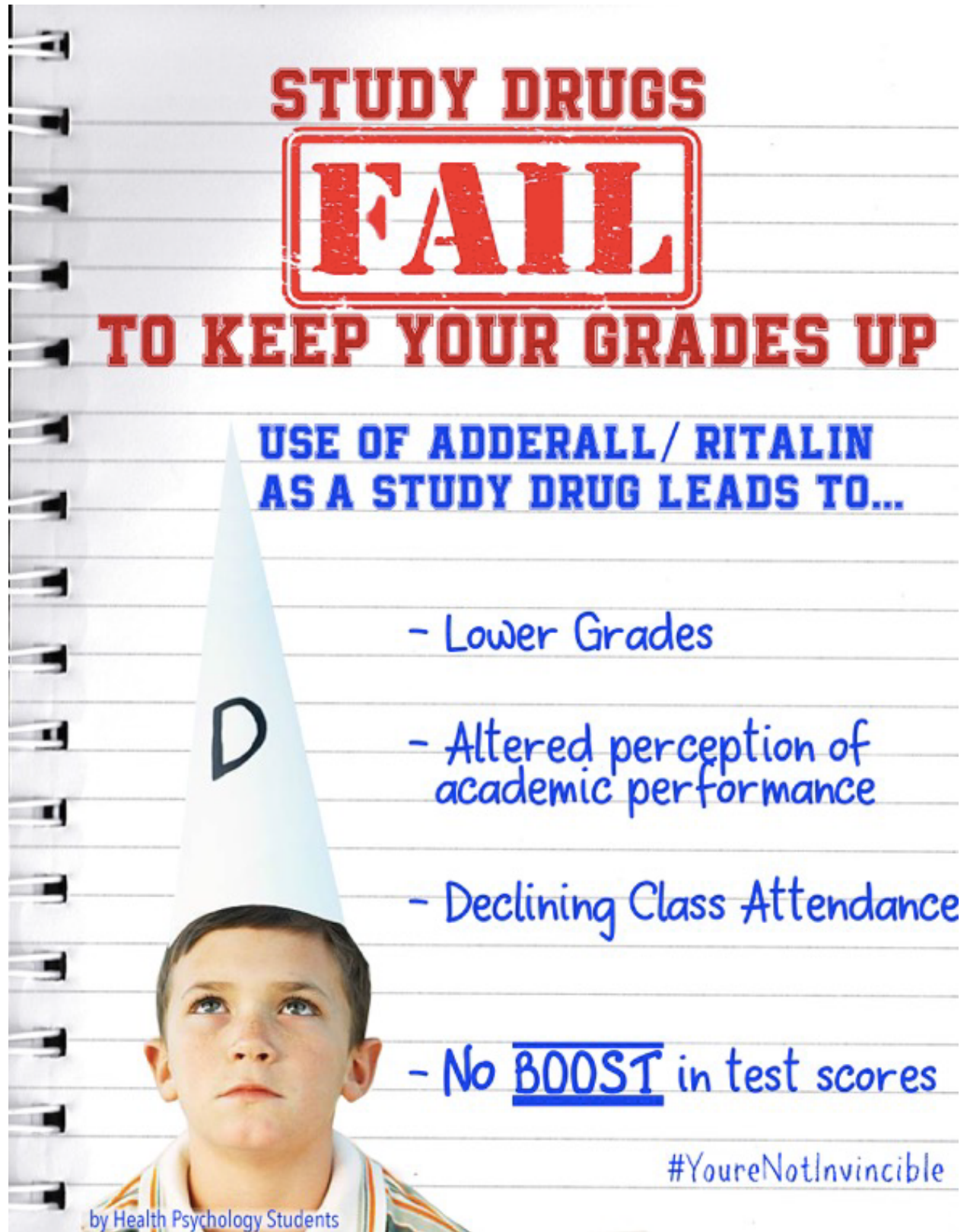
Psychological

- Increased Anxiety
- Depression
- Bipolar Disorder
- Paranoia
- Hallucinations
- Psychosis
- Hostility

#YoureNotInvincible

<https://www.therecoveryvillage.com/adderall-addiction/side-effects/#gref>
<https://drugabuse.com/library/adderall-abuse/>

by Health Psychology Students



STUDY DRUGS

FAIL

TO KEEP YOUR GRADES UP

**USE OF ADDERALL / RITALIN
AS A STUDY DRUG LEADS TO...**

- Lower Grades
- Altered perception of academic performance
- Declining Class Attendance
- No BOOST in test scores

#YoureNotInvincible

by Health Psychology Students



Ritalin and Adderall are Stimulants

Mixing them with other drugs can have
negative consequences

Alcohol

Slowed respiration, coma, cardiac arrest,
and overdose

LSD

Longer lasting effects, increased
hallucination intensity

Energy Drink

Increased blood pressure, insomnia,
headache, and tremors

Antidepressant

Hallucinations, seizures, and increased
heart rate

Produced by Health Psychology
Students

Those who misuse
Ritalin and
Adderall do poorly
academically

*Lowered Grades

*Declining Class
Attendance

Think of all the
money wasted



<https://www.healthline.com/health/adhd/adderall-and-alcohol#adderall-and-alcohol>

<https://www.healthcentral.com/article/combining-stimulant-medication-and-antidepressants-possible-interactions>

<http://webadmin.greenivymedia.com/uploads/qnada/Resources/Health%20Professional%20Resources/Hallucinogens%20and%20ADHD.pdf>

<https://www.rxlist.com/adderall/side-effects/drug-center.htm>

<https://www.therecoveryvillage.com/adderall-addiction/side-effects/#ref>

<https://drugabuse.com/library/adderall-abuse/>

Wilems, T. E., Carrellas, N. W., Marielon, M., Yule, A. M., Fried, R., Amelmo, R., & McCabe, S. E. (2017). Neuropsychological functioning in college students who misuse prescription stimulants. *American Journal on Addictions*, 26, 379-387.

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Students



Psychological

Increased risk of depression and anxiety

Physical

There are short and long term effects
of using study aids

Short Term

Increased heart rate
Increased blood pressure
Cardiac issues



Long Term

Sleep disruption
Hair loss
Weight loss

#YouAreNotInvincible

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Students

1C: Trifold for end-of-semester “de stress fest”

Stimulants: The Basics	General Information	Supporting a Friend or Family Member
<p>Medical Use: prescribed to patients to help control their ADHD</p> <p>How it Works: Impacts both dopamine and norepinephrine neurotransmitters</p> <ul style="list-style-type: none"> ◆ Dopamine: impacts behavior and cognition, attention, mood, sleep, learning, and memory formation ◆ Norepinephrine: “fight or flight” response, alerts body when something is important <p>Additional Possible Effects: Sleep problems, mood swings, anxiety, loss of appetite</p> <ul style="list-style-type: none"> ◆ Can also elevate blood pressure, heart rate, and breathing <p>**With doctor diagnosis and management these are typically avoided</p> <p>If Too Much is Taken at Once and/or Mixed:</p> <ul style="list-style-type: none"> ◆ Higher dose can lead to dangerously high body temperature and an irregular heartbeat → can lead to cardiovascular failure, seizures, or even stroke ◆ Repeated overuse → negative psychological effects, life feelings of hostility or paranoia ◆ Mixing with over-the-counter cold medicine → rise in blood pressure and/or cause irregular heart rhythms <p>Potential for Dependence and Addiction: not likely if regulated by doctor, but Adderall has a high potential for misuse</p> <p>Drugs and Brand Names: Dextroamphetamine (Adderall and Dexedrine), Methylphenidate (Ritalin and Concerta)</p> <p>Slang/Street Terms: Addy, Skippy, The Smart Drug, Vitamin R, Bennies, Black Beauties, Roses, Hearts, Speed, Uppers</p>	<p>Misuse: When a person takes a prescription drug in any way other than the way it was prescribed</p> <p>Abuse: When a person takes a prescription drug recreationally</p> <ul style="list-style-type: none"> ◆ 1 in 4 people between the ages of 18-20 report using medication, non-medically at least once in their life ◆ Initial misuse of prescription drugs falls within the traditional years of college ◆ Drug overdose is currently the leading cause of accidental deaths in the US ◆ Common misused stimulants among college students are Adderall and Ritalin ◆ Drugs are usually available through friends and or family members <p>(Source: http://hecaod.osu.edu/campus-professionals/prevention/rx-medications/)</p>  <p>(Photo Source: https://financialtribune.com/articles/people/60094/school-program-takes-on-student-drug-abuse)</p>	<p>Supporting a Friend or Family Member</p>  <p>(Photo Source: https://www.theodysseyonline.com/four-ways-support-friend-through-grief)</p> <p>Notice a Problem</p> <ul style="list-style-type: none"> ◆ Change in attitude/mood, behavior, missing classes, not wanting to hang out, etc. <p>Decide to Act</p> <ul style="list-style-type: none"> ◆ Decide that you are going to be the one to figure out what is wrong <p>Determine What to Do</p> <ul style="list-style-type: none"> ◆ Reach out ◆ Let them know you are there for them ◆ Offer to help them find help from professionals <p>Support and Recovery</p> <ul style="list-style-type: none"> ◆ Encourage them to get back to school and reconnect with friends when they are ready <p>(Source: EverFi Prescription Drug Abuse Online Course)</p>

(Source: EverFi Prescription Drug Abuse Online Course)

(Photo Source: <https://financialtribune.com/articles/people/60094/school-program-takes-on-student-drug-abuse>)

(Source: EverFi Prescription Drug Abuse Online Course)

Student Resources

On Denison's Campus:

- ❖ Whisler: 740-587-6200

National Resources:

- ❖ NATIONAL DRUG TREATMENT REFERRAL ROUTING SERVICE: 1-800-662-HELP
- ❖ NARCOTICS ANONYMOUS
- ❖ NATIONAL RESOURCE CENTER ON ADHD

***There are plenty more resources out there, but here are just a few for starters. If you feel you or someone you know may need help or would like to learn more, we encourage you to check these out!

Brought to you by students in Health Psychology, Fall 2017

It's Stimulant Season!



Learn about why
prescription stimulants
aren't the best way to get
through exams

1D: Advising Circle handout and script

**Prescription Drug
Abuse and Misuse**

Mixing prescription
stimulants with
alcohol can cause
alcohol poisoning
because stimulants
suppress feelings of
intoxication.

Taking prescription stimulants
not as directed **DOES NOT** boost
your academic performance!

Selling
prescription
drugs to others
without a valid
license is
ILLEGAL!

Visit or contact the

**Whisler Center
for Student
Wellness**

if you have any
further questions or
concerns about
improper use of
prescription drugs
on this campus

Prolonged stimulant abuse can
result in depression, paranoia, and
persistent anxiety ...

Courtesy of the Advising Circle Presentation group in
Dr. Kennedy's Health Psychology Class

In these cases, stimulants can provide students with attention disorders the ability to complete academic tasks

BUT... “nearly 10% of students who misused or abused stimulant drugs held a prescription for the drug and were being treated for ADHD”

2. Those who have no identified attention disorder -

Overall, students are exhausted and overwhelmed by their school assignments

- Financial/time constraints
 - Instead of using healthy, stress reducing outlets (exercise, tutoring, etc)

3.

Consequences of Stimulant Misuse:

1. Short-term effects

- increased heart rate and blood pressure
- high body temperature
- muscle shakes or tremors
- agitation

2. Psychological effects

- hallucinations and delusions
- persistent anxiety
- paranoia
- depression*

3. Mixing stimulants (particularly adderall) with alcohol

- when drinking alcohol and using adderall, the stimulating effects of adderall subdue feelings of intoxication
- this causes an individual to drink more than he/she should, leading to alcohol poisoning or overdose on alcohol
- the negative effects of both drugs are magnified when used together

4.

How to Avoid Stimulant Drug Misuse:

Why do people misuse stimulant drugs?

- a. Perception that they increase academic success
- b. Enhance partying experience
- c. Self-medicate for anxiety issues

How to avoid misuse:

- Changing the way we view these drugs and the myths surrounding them
 - People use them not to get high but for academic function, trivializes the problem.
- Develop and practice good time management skills to avoid feeling the pressure to need these drugs for their perceived academic benefits
- There can be pressure for students who do have prescriptions for these stimulants to sell to other students
 - Legal ramifications of sharing and selling prescription drugs
- Dispel the myths

- Possibility of unknown interactions with other drugs. If a drug requires a prescription the FDA has determined that it is not safe or appropriate to use without the supervision of a health care professional
- Lower GPAs

5.

Stimulant Abuse on College Campuses:

- Relieve stress, relax, have fun, forget their problems and to fit in among their friends, stay up late, homework
- College is the first time that you are living alone, without parental supervision, students are exploring new aspects of their lives
- Peer pressure - most common at this age of our lives. Common among fraternities and greek organizations
- Complicating the issue further - many students believe that prescription medications are safer alternatives to illicit street drugs like cocaine and heroin
- Two areas where stimulants are abused: for academic purposes or in the party culture
 - Academically: abused for their side effects and ability to keep a person alert and focused in order to stay awake for long periods of time (which we now know does not actually work for those who are not prescribed)
 - Party culture: used to party, get a “high”, sometimes mixed with alcohol due to thinking it will increase “buzz”

What about Denison?

- Like every college campus, at denison there is a lot of pressure academically to do well.
- Could the fact that we are a small campus have an impact on the abuse of prescription drugs? A small campus, gossip is spread easily and often, if someone knows someone else who has prescription drugs, then someone will tell someone else and so on