Spectrum of Risk

While prescription drug abuse affects individuals of every age and background, there are certain groups for whom the risk of abuse and dependence is especially high. Researchers studying the problem have found patterns of risk related to an individual's gender, ethnicity, age, socioeconomic status, and mental health status, in addition to other factors. In attempting to combat the problem, it is important for researchers to understand why some groups are at higher risk and, when possible, to create treatment and prevention strategies tailored to each at-risk group.

Teens and Young Adults

According to the National Institute on Drug Abuse (NIDA), prescription drug abuse is highest among teens (ages 12 to 17) and young adults (ages 18 to 25), with 5.9 percent of the young adult population and 3 percent of the teen population reporting nonmedical use of prescription drugs in a 2010 survey. Teens and young adults are also more likely to mix prescription drugs with other intoxicants and so are more likely to have problems with drug interactions that can increase the likelihood of an overdose.[1]

There are many reasons why teens and young adults gravitate towards drug use, and numerous studies have found a correlation between drug abuse and self-esteem or self-image and individuals who suffer from self-esteem issues are more likely to abuse both illicit and prescription drugs. According to a 2012 article in *LiveScience*, studies indicate that many children and teenagers begin using drugs to cope with the social and emotional turbulence of adolescence and that many view prescription drugs as a safer alternative to illicit substances because the drugs are used in legitimate therapy and because teens and young adults can identify with many of the issues treated with prescription drugs, like depression and anxiety.[2]

In addition, teens and young adults in different social groups or youth cultures display a marked tendency towards certain types of drugs. A 2008 study found that stimulants were the most popular prescription drug abused by college students, who typically reported using stimulants to enhance their ability to work and study.[3] A 2013 report in *Drug Alcohol Review* found that prescription drug abuse was highest in the electronic dance music and alt rock/indie rock music subcultures, with more than half of all participants in these subcultures reporting some degree of prescription drug use. By contrast, prescription drugs are far less popular within the hip hop subculture, where 25 percent reported abuse. The authors found that the prevalence of prescription drugs within the various subcultures also reflected ethnic, racial, and age preferences within each subculture.[4] Youth subculture overlaps with other cultural divisions in drug use and studies have found, for instance, that

African Americans are far less likely to use prescription drugs than individuals in any other racial group.[5]

A recent trend in the prescription drug crisis involves the use of social media and web markets. In some cases, investigations have found teens and young adults advertising their need for depressants, stimulants, or pain medication to friends on Facebook or other social media channels and these avenues of communication have thus fostered a dangerous exchange of drugs in some social circles. In addition, there are websites, some forming part of what criminal justice specialists call the "dark web," on which users can seek out and purchase a wide variety of illegal goods, from firearms, to pirated media, to prescription drugs. While any individual might be able to access online drug markets, younger individuals are typically more aware of, familiar with, and better able to use emerging digital resources and so are more likely to use online markets to locate and purchase prescription drugs. Online markets pose an additional danger because the buyer cannot be certain if the substances purchased are legitimate and because it is difficult to determine the strength and/or purity of pills purchased from anonymous users.

According to NIDA, in 2014 more than 1,700 young adults, ages 18 to 24, died from a prescription drug overdose, equaling nearly 5 overdoses per day. Reviewing annual statistics, the Centers for Disease Control and Prevention (CDC) found that four times as many young people overdosed on prescription drugs in 2014 than in 1999. Furthermore, for every one of the 1700 young adults who died from an overdose in 2014, 119 young adults were admitted to an emergency room for prescription drug complications and 22 young adults were admitted into a treatment program for drug abuse.[6]

Drug Abuse among the Elderly

Older adults are also at increased risk of abusing and misusing prescription drugs, though often for different reasons than children, teens, and young adults. One of the primary reasons that older adults are at increased risk, is because older individuals more often suffer from physical disabilities that warrant the medical use of prescription pain relievers, stimulants, and depressants. Chronic pain, sleeplessness, insomnia, depression, and anxiety are more common among older individuals and this increases the likelihood of physicians prescribing potentially dangerous medication that can lead to dependency and abuse.

In the United States, individuals age 65 or older account for around 13 percent of the population, but receive more than 33 percent of all prescriptions written by physicians. Moreover, the percentage of older adults taking medication over long periods has increased and overreliance on prescription medication, especially when physicians are working with older patients, is a significant problem that contributes to the high levels of prescription drug misuse among the elderly. A study in 2000, for instance, indicated that approximately half of US older adults were taking three or more medications per day, an increase from only about one-third in 1988.[7] Studies also indicate that elderly individuals are misusing prescription drugs more frequently than in the past. A 2012 study by the Office of Applied Studies found that

442,000 adults over 65 reported using prescription drugs in a way other than was recommended by their physicians.[8]

Surveys of the elderly indicate that intentional misuse and abuse of drugs is relatively rare, compared to other subsets of the population. However, unintentional misuse is especially high among the elderly and this is partially due to cognitive difficulties leading to poor medical management. In addition, because elderly individuals are more likely to be taking two or more medications simultaneously, older individuals are at an increased risk for unintentional side effects due to drug interactions. The risk of interactions is also higher due to the fact that a person's metabolism slows with age, making it more difficult to process and eliminate drugs and alcohol from the body. Elderly individuals who consume alcohol, therefore, run a higher risk of experiencing side effects due to alcohol and drug interactions due to the fact that older bodies process both substances more slowly. Alcohol intensifies the effects of opioids and central nervous system (CNS) depressants, depressing cognitive abilities and causing drowsiness and a loss of coordination. This can be especially dangerous in older individuals, leading to accidental injury, while the depression of the nervous system caused by both alcohol and some prescription drugs can prove fatal when substances are mixed. Research indicates that the combination of alcohol and medication misuse is a problem affecting as many as 19 percent of older Americans.[9]

The Narrowing Gender Gap

The hit Rolling Stones song, "Mother's Little Helper," pays homage to the popularity of the depressant Valium among women, especially mothers, in the 1960s and '70s, to cope with the challenges of motherhood. Despite this pop-culture association, until the 2010s, studies regularly found that women were far less likely to suffer from drug abuse and addiction than men. However, recent research suggests that prescription drug abuse among women is increasing. While men are still more likely to die from overdose or other complications of prescription drug abuse, the gap has begun to close and researchers from the CDC found that the rate of fatal overdoses (of opioids) among women quintupled in the first decade of the twenty-first century, with 6,600 women dying from painkiller overdoses in 2010, compared to 1,300 in 1999.[10]

In some ways, drug addiction and abuse are more dangerous for women than men. For instance, in a 2010 review of research published in the *Psychiatric Clinical North American Journal*, the authors cite a variety of research suggesting that while women abuse drugs less often than men, a variety of psychosocial and hormonal factors suggest that women are more likely to develop addiction once they begin abusing drugs.[11]

In addition, studies indicate that drug abuse affects women more rapidly than men such that a short time abusing alcohol or drugs might have the same negative effects on a woman's body as a much longer period of abuse for a male. This is partially due to the fact that women, on average, have slower metabolisms and so process drugs and alcohol more slowly. In addition, the ratio of fat/water in a

woman's body, compared to a man's, means that women tend to retain alcohol and drugs in their tissues for longer and so run a higher risk of drug interactions and other complications.

Furthermore, research has shown that women are more likely than men to suffer from conditions that involve chronic pain and so are more likely to be exposed to opioid pain relievers through a prescription.[12] For instance, due to hormonal differences, women are much more likely to develop the muscular-skeletal disorder fibromyalgia, with women accounting for as much as 90 percent of diagnosed cases, which causes debilitating, long-term pain and is often treated with powerful opioid pain relievers. Studies also indicate that women are more than twice as likely than men to suffer from serious anxiety, thus making women more likely to seek out prescription depressants, like Valium and Xanax. Researchers are investigating the possibility that differences in the production of neurotransmitters, like serotonin, may be the causal factor behind the increased tendency towards anxiety and depression in women. Some studies have also suggested that women are more likely than men to *admit* having pain, anxiety, or depression to their physician and so more likely to receive pharmacological treatment. The most dangerous situations occur when CNS depressants are mixed with alcohol or with opioid painkillers, producing a potentially fatal effect on the nervous system.[13]

Risks and Strategies

While prescription drug abuse affects individuals in many different groups and subsets of society, there are commonalities between at-risk groups that might help explain why some individuals are more prone to abuse than others. Overall, women, the elderly, and younger individuals are more likely to suffer from depression and anxiety, and studies have shown that mental health plays a major role in the potential for drug abuse and addiction. Those at risk are therefore also those with the most pressing need for help coping with mental and physical difficulties that limit quality of life and motivate the desire to alleviate suffering through substance use.

In many cases, individuals who become dependent on prescription drugs deepen their use of drugs in part because they trust that medications prescribed by physicians are less dangerous or carry less stigma than illegal drugs. Therefore, individuals who might not use heroin, because of the social cultural stigma surrounding the drug or the impression that heroin use is dangerous and potentially life-threatening, might be comfortable taking prescription opioids that contain the same chemical ingredients. Drug industry manipulation and misinformation is partially to blame for this mistaken impression of prescription drugs and education is therefore one of the most important keys to the problem. Moving forward, individuals in at-risk groups must be made aware of the dangers of prescription drug abuse and, when such medications are needed, should be provided with ways to mitigate risk and avoid dangerous complications.

Micah L. Issitt

Fatal Friendships: What Happens When Women Share Drugs on Facebook

By Jill DiDonato
September 1, 2017

In a bungalow apartment overlooking the ocean in Venice Beach, California, a woman sits on her bed counting bars of Xanax.

How had my prescription dwindled without realizing it?

Her stomach gnarled, face flushed, and beginning to lose her breath, she posts to a Facebook group, "Need Xanax. Klonopin also fine. Who can help me out? PM please." Within days, she receives a package from a woman she's never met, nor even talked to on the phone. She's a woman from Brooklyn, who, in the same Facebook group, had on many occasions been desperate for benzos herself. *Got to pay it forward.*

These types of messages, transmitted on secret Facebook groups, reminiscent of early AOL chat rooms, exist in nearly every sector imaginable. Such groups are an effective way to rally and organize, to foster community and help connect people who feel marginalized in some way. Social media helps you find your people.

*"Can't afford to see my shrink to refill my prescription and he won't renew without an office visit. Who has benzo$? Will pay."—post from Secret Facebook Group.**

Sharing prescription medication, a term those in the medical profession call *diversion*, is a not only a rising phenomenon, it's a felony. So, essentially, by sharing pills, you become a drug dealer. And though benzo diversion is not likely to turn you into a hardened criminal, addictions worsen and women turn on each other after these exchanges. Anxiety professional women encounter in staggering numbers throughout the country has left many dependent on white bars and round blue dolls that offer instant relief. And in a ménage of millennial feminism, surveillance culture, and addiction, what happens when women share drugs over social media is not good.

Five years ago, the White House's Office of National Drug Policy reported that over 54 percent of people who use pain meds obtained them from for free a friend, not a doctor. Today, people in the United States consume 75 percent of the world's prescription drugs.

Abuse of benzodiazepines is largely overshadowed by the opioid epidemic, which according to the Centers for Disease Control and Prevention, resulted in 28,648 deaths in the United States in 2014. Yet, Dr. Karen Miotto, a psychiatrist

Reprinted by permission of Jill DiDonato.

**Secret Facebook group remains anonymous throughout this essay to protect the identity of those involved.*

and professor at UCLA who specializes in addiction psychiatry notes, "The epidemic of opioid overdose deaths is in large part due to the combination of opioids, like Vicodin, and benzodiazepines." The CDC reported that benzodiazepines like Xanax, Klonopin, and Valium—a class of medications commonly prescribed for anxiety, insomnia, and other conditions—were involved in 31 percent in those deaths. A 2014 report from the National Institute of Drug Abuse reports a five-fold increase in deaths from benzodiazepine overdose over the previous 13 years.

Further, the CDC's data has severe limitations, meaning that there's a pretty big chance that deaths resulting from benzo abuse are being underreported. Or so says, Marcus Bachhuber, an assistant professor of medicine at Albert Einstein College of Medicine, whose concerns over casual benzodiazepine diversion prompted him to conduct a 2015 study indicating how deadly sharing benzos can be. He counts over-prescription of benzodiazepines the culprit. "It's unclear why doctors are still prescribing benzodiazepines at such a high rate," he says. "We have more effective options, like new SSRI antidepressants with no risk of overdose to treat anxiety, and yet use of benzos is going up," he says.

"I sent this woman something like 20 or 30 2 milligram Klonopins. For years I'd been following her on Facebook and Instagram and we have several mutual friends; we run in the same circle. But I've never met her," says a thirty-four-year-old graphic animator who prefers to remain anonymous. "I have a fixation with her—I can't explain it fully. Part of it is admiration and part of it is envy. I find myself going to her page in a way that strikes me as unhealthy, but I keep doing it. It's a compulsion. I definitely feel competitive with her, but I can't explain that either since we're so different. When I saw she posted about needing anxiety medication, I helped her out. I suppose that fed my ego, to help her. She posted about me being her guardian angel."

Women using each other as yardsticks of self-worth isn't a new phenomenon. Patriarchy benefits from pitting women against each other; this is old news. And having "cyber" relations with people you will never meet in real life also is no longer considered taboo. Why, then is the aforementioned encounter such a chilling indication of anxiety, addiction, and unhealthy bonds women are forging with each other?

Yamalis Diaz, clinical assistant professor in the department of child and adolescent psychiatry at NYU Langone Medical Center, notes, "There are some trends going on that set the stage to make anxiety worse for millennial women." The historical shifts she's referencing include the highest number of women enrolled in college, ever, outnumbering men currently enrolled in college. This is the first time in the history of the United States when this has been the case. "Masters is the new bachelors," she says, pointing out that with more and more highly educated women comes more competition for jobs where systemic inequalities against women are the norm. At the same time, "Women want to establish romantic relationships, and this is another arena millennial women might experience anxiety." Studies show that on average, women are delaying marriage and motherhood. "We're seeing women wait 10 years longer than previous generations to marry and have kids. By the time

"Can't afford to see my shrink to refill my prescription and he won't renew without an office visit. Who has benzo$? Will pay."
—post from Secret Facebook Group.*

they're ready, they have a number of anxieties. They're competing with younger women for men." In other words, there's a general panic about finding a man with whom to raise a family. Diaz calls the pressure to find a romantic partner and have kids before their most fertile years have passed is "tremendous."

But, Diaz notes, the greatest anxiety millennial women face stems from the place they turn to alleviate their worries: the internet community. "The way millennial women understand the self and their inner identity has completely shifted," explains Diaz, who blames the ever-present surveillance of social media. "Today's women have a sense of self that is being built by the outside in versus the inside out. This is the prevalent message. There's constant access to what people think about them." The minute you put up your selfie, you're soliciting external validation to feel good. "There's inherent anxiety in waiting for likes."

Stephanie Hartselle, an assistant professor of clinical psychiatry at Brown University adds that the prevalence of social media adds to a feeling that "we're never off. Women of all ages are attached to their phones. We don't take breaks."

When social media becomes a forum for pill sharing, a whole new set of female relationships emerges. "These Facebook groups you're talking about sets up the dynamic where female friendships are being determined by caring from afar," explains Hartselle. "This can easily turn personal relationships into policing relationships."

And it's quite plausible that women are sharing benzos to justify their own use of them, and using digital media to do so only highlights the ways people can internalize social media, and rely on it for a lifeline.

Further, the seduction of benzos has much in common with the instant gratification granted by social media. "Women often believe benzos are innocuous because of their ease of availability and abundance—prompting them to share with others because the medical community, who is to blame, has made them very accessible with no apparent stigma attached to asking for them." says Harold Jonas, a practicing psychotherapist and the president and founder of Sober.com.

However, with benzos to blame for almost a third of the deaths in an American opioid epidemic, the dangers of this addiction cannot be ignored. Sharing pills over social media has become a breeding ground for toxic female relationships and this toxicity has fatal consequences.

Print Citations

CMS: DiDonato, Jill. "Fatal Friendships: What Happens When Women Share Drugs on Facebook." In *The Reference Shelf: Prescription Drug Abuse*, edited by Betsy Maury, 69-72. Ipswich, MA: H.W. Wilson, 2017.

MLA: DiDonato, Jill. "Fatal Friendships: What Happens When Women Share Drugs on Facebook." *The Reference Shelf: Prescription Drug Abuse*. Ed. Betsy Maury. Ipswich: H.W. Wilson, 2017. 69-72. Print.

APA: DiDonato, J. (2017). Fatal friendships: What happens when women share drugs on Facebook. In Betsy Maury (Ed.), *The reference shelf: Prescription drug abuse* (pp. 69-72). Ipswich, MA: H.W. Wilson. (Original work published 2017)

College Students Aren't the Only Ones Abusing Adderall

By Emma Pierson
fivethirtyeight, November 5, 2015

I can easily understand the appeal of Adderall, a drug that treats ADHD by increasing focus and attention span. It has taken me three months to finish this article, several weeks of which was due to Facebook; I wrote the last draft in a caffeine-fueled mania, listening to "Reptilia" on repeat as a deadline loomed. Who wouldn't be tempted by a drug that might make it easier to keep up in a world that runs at overwhelming speed?

Evidently, many people agree. The proportion of Americans using Adderall, and other "study drugs" like Ritalin and Vyvanse, is increasing rapidly. Between 2008 and 2012, the use of ADHD medications increased by 36 percent, according to an analysis of pharmacy prescriptions.

This is partially because ADHD diagnosis rates have increased: by 16 percent among adolescents from 2007 to 2011, a Centers for Disease Control and Prevention analysis found. But many people also use Adderall and similar drugs nonmedically, that is, without a prescription or in ways not recommended by a doctor (for example, by snorting or in very high doses).

This behavior is risky. The Drug Enforcement Administration classifies Adderall as a Schedule II drug, the same category as cocaine, because of its potential for abuse. When used as prescribed to treat ADHD, Adderall and similar medications are both effective and unlikely to be addictive; when used improperly, however, they can be highly addictive, and the evidence that they significantly improve cognition is mixed.

So who is willing to take the risk of nonmedical use? If you believe the media coverage, it's college students: CNN has discussed the "rise of study drugs in college," and last year the Clinton Foundation described misuse of ADHD drugs as an "epidemic."

But it isn't only college students who use study drugs nonmedically—it's young adults more broadly, regardless of whether they're in college. And among college students who use study drugs, there are interesting and almost paradoxical patterns: Study drugs are used more by students at competitive schools, but also more by students with low GPAs. Study drugs may not be used by high-achievers to push themselves even harder; they may be used by those who are falling behind.

The emphasis on nonmedical study drug use in college students stems in part from a government report using data from 2006 and 2007, which said that college students ages 18 to 22 were twice as likely as people of the same age who weren't in college to have used Adderall nonmedically. But when I looked at more recent data from the 2013 National Survey on Drug Use and Health (NSDUH), an annual government survey that includes more than 55,000 Americans, the difference turned out to be closer to 1.3 times, not two times.

This is far smaller than the difference between white 18- to 22-year-olds and black 18- to 22-year-olds, whether they were in college or not (six times, or 18 percent vs. 3 percent), or the difference between 18- to 22-year-olds whose families do not receive food stamps and those whose do (1.6 times, or 14 percent vs. 9 percent). When I looked at Ritalin (another common study drug), non-college-students in that age range were slightly more likely than college students to engage in nonprescription use. My research shows that when it comes to nonprescription study drug use, being a young adult matters more than being a college student.

My research shows that when it comes to nonprescription study drug use, being a young adult matters more than being a college student.

Still, college students are 30 percent more likely than their nonstudent counterparts to use Adderall nonmedically. What drives this trend? Amanda Divin, a professor at Western Illinois University who studies nonmedical prescription drug use and behavior in college students, said that it can be easier to obtain study drugs on college campuses and more socially acceptable to use them. She cited a study in which 55 percent of fraternity members reported using nonmedical ADHD stimulants as evidence that social environment can dramatically affect usage rates.

Are nonmedical study drugs more popular at certain types of colleges? I sought to answer this question with data from Niche.com, which provides information to help people choose neighborhoods and schools. Niche gave me college-by-college surveys in which a total of more than 50,000 college students named the most popular drugs on campus. I connected this data with other data about each college, such as location and selectivity, and found, for example, that study drugs like Adderall and Ritalin were most popular at schools in New England. Only 25 percent of college students in Rocky Mountain schools reported that study drugs were among the most popular on campus versus 40 percent of students in New England, for example.

The differences among regions imply that surveys that look only at a single school may miss important trends in study drug use on campus.

Niche data also showed that study drugs were more popular at colleges that were more selective or had higher test scores. The positive correlation between ACT score and study drug use is highly statistically significant (and previous research has found this pattern as well).

If Adderall is more popular at colleges with competitive admissions standards, you might also expect it to be used more by high-achievers. But multiple studies find that students who use nonprescription study drugs have a lower college GPA—even when controlling for factors such as high school GPA, frequency of skipping classes and hours spent studying.

"These students tend to be lower-achieving students who procrastinate and do not study in advance, attempting to cram studying into one night with the assistance of Adderall to both stay awake as well as stay focused," Divin said.

These students are more likely to struggle in other ways as well. Previous research has found that students who use nonprescription Adderall or Ritalin are more likely to be depressed. The NSDUH data backs this up: College students who had used Adderall nonmedically reported higher levels of depression and were more likely to have considered suicide.

Importantly, these correlations, though significant, do not mean that Adderall causes low GPAs or depression. Causality might run the other way: Students who are already depressed or struggling in school could be using Adderall in order to feel better. Or a third factor may be to blame: Students who use Adderall nonmedically are also more likely to abuse alcohol and marijuana, for example.

So students at high-achieving schools and students with low GPAs are more likely to take Adderall. This could be because students are more likely to take Adderall when they are more stressed about their academic performance. Many studies make it clear that students use study drugs in part because of academic stress. A recent analysis of NSDUH data found that students were more likely to use stimulants for the first time during exam months. Other less conventional data sources support this latter finding: For example, I found that Google searches for "Adderall" in college towns spiked during exam months and dropped during summer months, and a 2013 study of 200,000 tweets mentioning Adderall found that they peaked during exam periods.

Adults older than 25 who use Adderall nonmedically may also struggle. I initially thought that adults working long hours at high-income jobs would be most likely to use Adderall nonmedically. I was wrong. The NSDUH data showed that adults whose family incomes were below $10,000 had the highest rates of nonmedical Adderall use, and those whose family incomes were greater than $75,000 had the lowest. Adults who used Adderall nonmedically also reported higher levels of depression and were more likely to consider suicide.

To a student confronting an exam, or an employee confronting a deadline, Adderall must seem as tempting as steroids to an athlete—particularly if everyone else seems to be using it. But Divin was clear: "There isn't data to suggest or support [the idea] that non-ADHD individuals who use prescription stimulants actually experience any benefits from their use."

Print Citations

CMS: Pierson, Emma. "College Students Aren't the Only Ones Abusing Adderall." In *The Reference Shelf: Prescription Drug Abuse*, edited by Betsy Maury, 73-76. Ipswich, MA: H.W. Wilson, 2017.

MLA: Pierson, Emma. "College Students Aren't the Only Ones Abusing Adderall." *The Reference Shelf: Prescription Drug Abuse*. Ed. Betsy Maury. Ipswich: H.W. Wilson, 2017. 73-76. Print.

APA: Pierson, E. (2017). College students aren't the only ones abusing adderall. In Betsy Maury (Ed.), *The reference shelf: Prescription drug abuse* (pp. 73-76). Ipswich, MA: H.W. Wilson. (Original work published 2015)