

## Why Cognitive Enhancing Drugs Should be Embraced

Mick Olson

Drugs have been permeating the seams of our culture for about as long as human society has existed. Examples of this can be seen throughout history, in all corners of the globe. Ancient tribes would use the different herbs in their area for medicinal as well as recreational effects (Abelson 2009). Vikings used mushrooms for psychedelic experiences before battle (Elizabeth 2010). Drugs have basically existed for the same amount of time that humans have. However, not all drugs are created equal. New drugs have entered the game and they are changing the way that we view these substances as well as what we use them for. I am talking about neural enhancing drugs, also known as cognitive enhancing drugs (CED). The scientists and pharmaceutical companies have created drugs that enhance the level at which your brain performs at. We now have drugs that will make you smarter, drugs that give you a longer attention span, and even drugs that can help you remember things better. These drugs are doing things that we did not even know were possible not too long ago. As with any new product, these new drugs bring to light new questions including the morality of their use, the people that should be allowed to use them, and countless other points of contention. This is of course a complex issue with many nuanced arguments coming from many different places. The fact that this topic is very complex does not mean that there is in intelligibility in all this. When I look at the research describing the benefits of CED's, I see a lot more positives than possible negative effects. For this reason, I think that we should fully invest in cognitive enhancing drugs, promoting them for the betterment of the human race.

### **Public Opinions on Drugs**

Drugs are virtually inescapable in modern American society. One only has to watch a movie, turn on the TV, or listen to a couple of popular songs on the radio to discover that the idea of drugs and their use is center in the zeitgeist of the masses (a particularly catchy and telling song is Betrayed by the rapper Lil Xan, with the repeated refrain “Xans don’t make you, Xans gon take you”). It is impossible to study the topic of drugs of any kind, even as specific and neural enhancing drugs, without first exploring the general attitudes of people on the idea of drugs and their uses. That would be like discussing with someone their opinion on the offside rule in soccer without them knowing what soccer was in the first point. Overall, views on drugs have changed in the past several years, especially among teens. For example, the percentage of teens that use drugs overall has fallen over the last few years (Partnership 2000). The same is true for teen marijuana use, as teens in the mid 2000’s tended to be more likely than kids today to try or use marijuana (Partnership 2000). However, of those same teens, the ones today are much more likely to be more frequent users, with the percentage of teens who said they use marijuana daily increased by 10% (Friese 2017). Teenagers are not a monolith, so it is also informative to reference the different views on drugs by different groups of teens. One study polled students who had never used a drug, students who had tried things once, students who used drugs occasionally, and regular users. The differences were very significant. Of the groups who had tried the drug at least once, they were far more likely to view the drug as an activity and not a substance (Friese 2017). This view was strongly contradicted by the students polled who had never tried a drug, who almost unanimously viewed them as substances. The groups also differed in a couple of other interesting areas. For example, the groups who used the drug found the substance to have way fewer detriments to their health as the other groups thought it did (Friese 2017). Although these results seem fairly logical and self-explanatory, there are interesting

conclusions to be drawn. I think that this shows a very deep divide in our society where drugs are involved. From these studies, it looks like that line may be between users and non-users, but it could be anywhere based on different circumstances or substances. Marijuana is one drug where there is basically a consensus among teens however, as most of the teens did not see the drug being dangerous at all (Friese 2017). I think this is a good indicator of the general consensus about marijuana currently. There would not be successful movements of people campaigning for its legalization if it was considered dangerous. With legalization in Washington, Oregon, Colorado, and most recently California, the claim that marijuana is no longer seen as dangerous is strongly supported. Now I am not foolish enough to try and say that this public opinion is completely correct or that drugs are not harmful at all. According to one study, there is a strong link between drug and alcohol use as an adolescent and certain psychiatric disorders later in life (Teen 2002).

There are several major takeaways that can be drawn from these findings. First of all, public opinions on drugs can most definitely change. This suggests that moral objections to CED's today might not be as tightly held in the future. The fact that the moral baseline changes over time is widely known, but it is important to keep that fact in mind when we are assessing the validity of some of these arguments. Another takeaway is that teens of this generation are less likely to see drugs as dangerous. They are more likely to try drugs many consider "harder" (i.e. outside of marijuana, alcohol, and nicotine). It follows, then, that this new generation of teens will not be as opposed to trying neural enhancing drugs as past generations. The future success of cognitive enhancing drugs looks very bright if there is the possibility that more people will be open to trying them, and also a possibility that one day they may not even be considered dangerous.

## **Current Cognitive Enhancing Drug Use**

Much of the talk around CED's centers around hypotheticals set in the future. These are useful for discussion, but it would be ignorant to claim that these drugs have not already arrived. A CED that is already widely available (and immensely popular) is Adderall, a potent and long-lasting amphetamine. Adderall is designed to be prescribed to people with ADHD to help them with attention span as well as focus (Wertheim 2017). It has since been adopted by many people without ADHD to help with a multitude of tasks, or even for purely recreational use. It is important to establish which group of people is using Adderall. It is most popular with college students (Bauman 2015). These students use the drug for many different things, with many claiming it has effects outside of its stated purpose. When studied, students at one Southeastern university claimed to use the drug for academic performance, conformity, coping and weight loss (Blevins 2017). These same students had lower perceived risks than the students who didn't use the drug (Blevins 2017). Cognitive enhancing drugs are already available and very popular. This basically makes any discussion about assessing the consequences before the drugs become a reality nonsense. Adderall is far from the only neural enhancing drug available today. Others such as Ritalin have been available for years (CQC 2013). This means that we do not need to discuss the possible ethical impacts of these drugs because we could look at real life trends for reference. These studies also display several of the trends that were established with the study of teens and recreational drugs. The users saw lower perceived risks than did people who were not users. As previously mentioned, Ritalin is another CED that is available today. College students also use Ritalin to enhance their academic performance (CQC 2013). Due to the extremely competitive culture of academic institutions, students may be looking for any advantage they can

get. CED are supposed to give you that extra edge, so it is clear to see why they are so popular among university students.

### **The Psyche of the User**

As previously established, many students are using drugs to augment their academic performance. What makes them think this is okay, or what is their rationale for using these drugs? Some students did not really have a great answer for this tough question. One study found that although students really didn't think about their rationale for using Adderall much, they found a connection between students who abused stimulants like Adderall and adult onset ADHD (Peterkin 2011). This trend shows that students who seem to be abusing the drugs were likely to be self-medicating. Even if many students are self-medicating, it is still very informative to explore why they believed it was acceptable to augment their academic performance with drugs. One study found that students were more likely to try drugs that enhanced parts of themselves that are not integral to their identity (Riis 2008). The cognitive enhancing drugs that are used to increase academic performance usually affect memory, focus, and motivation. All three of these aspects are seen by the individual to not be integral to their identity. Due to the fact that they did not see it as remedying an insecurity, they are more open to using the drug. Conversely, if a drug were to enhance some part that is integral to a student's identity, like their sense of humor, they were much less likely to try it. If you take a drug to enhance your performance in an area that is integral to your identity, you are accepting that you have a deficiency in a certain area. Most well-adjusted people realize that they do have shortcomings in their character, but a smaller percentage of people would let themselves think that they have shortcomings that need remedy by means of drugs.

Now that we have established why people use these drugs, it is important to look at their effectiveness. Most college students reported feeling that Adderall significantly increased the amount of time that they could focus, as well as the amount of time that they could work on one specific task (Brewer 2013). If Adderall is proven to help with academic performance, why isn't every student using it? The argument that was most commonly presented was that they felt that it was a form of academic dishonesty. A drug that can help you do your work better is the same as using some type of online forum as a crutch, at least in the eyes of these students (Sattler 2013). I tend to strongly disagree with this view. I see it kind of the same as a baseball player trying to play in the outfield without a glove. In this analogy, the glove is a tool that the player uses to better do his job, that is catching the ball. As long as the other outfielders also have the ways and means to use a glove during the game, there is absolutely nothing unfair about its use.

I see cognitive enhancing drug use in the exact same way. They are used as a tool to help you complete your task more efficiently. It's not as if the drug is doing the task for you. It just amplifies the knowledge, skills, and motivation that was already inside of you. Using Sparknotes for a book that you may or may not have read in order to write an essay is much worse than taking an Adderall to focus and write it. The only thing that could make Adderall use "unfair" in the academic world is if there was restricted access to it. Now, legally the only people that should be using Adderall are the people who were diagnosed with ADHD by a doctor and were given a prescription. Let's not be oblivious. Many people who use the drug did not obtain it by legal means. One study found that on one college campus the majority of students claimed that they could get Adderall if they wanted (Varga 2012). It would be foolish to not extrapolate these findings to all college campuses. If almost everyone has access to it, and it is no more academically dishonest than using online forums, what is the problem with using the drug? One

author I discovered shared a very similar sentiment to me. The author compares the use of CED's to increase academic performance with performance enhancing drugs in sports (Schermer 2008). CED's and PED's are both considered cheating in their prospective fields. If cognitive enhancing drugs are treated the same way that performance enhancing drugs are, then there would be some sort of penalty for the "cheater." Schermer (2008) disagrees with this view and attacks this cheating analogy directly. He argues the rationale for using CED's should not be allowed because it is "cheating" cannot stand alone. Cheating implies only that the rules are being broken. There are unwritten rules in academia that you should not be using anything that misrepresents your level of understanding or effort. CED would be directly in conflict with these rules. Despite this fact, Schermer (2008) claims that because rules can be changed CED's shouldn't be banned. There needs to be more reasoning in why they should not be allowed beyond the reality that they might be a form of cheating. I strongly agree with this sentiment.

### **The Arguments against Cognitive Enhancing Drugs**

Many people think that CED use is a major issue that needs to be discussed before use becomes widespread, or even before the drugs get developed. One very common argument is that CED's are ruining part of the human condition (Chimowitz 2015). Chimowitz (2015) argues that drugs that are helping with motivation are allowing us to leave part of the human condition behind. He posits that part of the experience of being human is that you must find motivation within yourself in order to complete a task. Historically, if you could not find the motivation to complete a task, it would not be completed. With these new drugs, if motivation is eluding you, you can take a pill and have absolutely no problem with completing anything that you desire. If you need motivation in the form of a pill, do you really desire to complete the task? Chimowitz (2015) argues that the answer to that question is no. He thinks that if we are able to take a pill to

induce motivation, we are losing part of the human experience that makes us find meaning or cause in the tasks we must complete. If we no longer have to find purpose or meaning in our tasks, we risk becoming completely apathetic in many facets of our life. However, there has to be major qualifications to these claims. Most college students using CED's such as Adderall for tasks that they have to complete because of some larger goal. They want a profession that requires a college degree, but maybe they do not have the motivation to complete that particular set of Chemistry problems. It is not life altering to get a little boost of motivation when your innate supply is running low and will most certainly not make you apathetic about everything in life. The problems start to occur when you need a pill to want to do anything. Other authors have different reservations as to why these drugs should not be allowed. Feinberg argues that CED's will help evil people do harm to others (2014). The author proposes that these drugs that enhance parts of our cognition will allow people who have malice in their hearts to cause more harm to others than ever before (Feinberg 2014). The argument goes as follows: historically, the worst tyrants have used the most effective means of controlling the people they rule over. The author believes that CED's will allow future tyrants to control who has access to these drugs (Feinberg 2014). The tyrant could only allow those who have similar values to him or her access to these drugs, making these people inherently superior to the rest of the population. This would allow them to spread evil easier than ever before and make resistance almost impossible.

Other CED cynics question the claimed benefits of these drugs. One author claims that CED's will lead to more inequality between different groups of people (Ray 2016). Ray (2016) is basically responding to a theory that doctors could prescribe CED's to people who did not receive as good an education as people from more affluent families. Hypothetically, these children would be able to learn faster, therefore closing the gap between them and other students

and hopefully closing the inequality gap. Ray (2016) strongly disagrees with this claim and instead claims that the introduction of these drugs will increase inequality between different groups. The author argues that due to current inequality, the drugs will be available to more affluent students who already attended better schools in the first place (Ray 2016). The wealthier families will still have access to the drugs by illegal means if the government places strong regulations on these drugs, so the Ray does not view regulation as appropriate resolution to this quandary. There could be other possible solutions to this problem, however. For example, what if there was mandatory drug testing enforced in every school. There would be certain substances that should only be available to certain groups of people with some sort of disadvantage. If you tested positive for a substance that you were not supposed to be taking, there would be some form of punishment. This kind of testing would involve a large amount of governmental involvement and a possible violation of personal rights, but the potential rewards to a successful system are just too great not to pursue. Other authors question the actual effectiveness of cognitive enhancing drugs (Zohny 2015). Zohny points to the lack of data that definitively states that these drugs are effective (2015). The drugs that are currently in production, or the ones that are still in production and have data out, do not have sound data supporting their effectiveness. These are just some of the many dissident voices that are afraid of the possibilities that CED's bring. Despite this, some authors are not deterred by the possible consequences of these drugs.

### **The Arguments for Cognitive Enhancing Drugs**

The most obvious and practical use of CED is to prescribe them to help people with disabilities achieve a "normal" level of function. It is thought that these drugs could be used to help with levels of cognition in people suffering from schizophrenia (Michalopoulou 2013). Often schizophrenia is accompanied by lower levels of intelligence, a short memory, and a

generally lower level of cognition than is considered normal. New cognitive enhancing drugs could lead to higher levels of cognition when accompanied with cognitive remediation. These drugs could drastically speed up the rehabilitation of the patient, decreasing the amount of time required for a functional recovery. It has also been hypothesized that cognitive enhancing drugs could be used to help people struggling with drug addiction (Sofuoglu 2013). The use of CED's could enhance the abilities of the addicts to plan, and "facilitate inhibitory and attentional control" (Sofuoflu 2013). The benefits would help immensely in the treatment of someone with a substance abuse problem. There is currently data that suggests that the drugs actually do have a positive effect of the recovery of a drug addict (Brady 2011). These are only a few examples of the many different disabilities that could be lessened or erased completely by cognitive enhancing drugs.

Many arguments against CED's are based on religious grounds, as the use of these drugs is seen as incompatible with religious doctrines. Despite large amounts of resistance, there are some authors who believe that the use of cognitive enhancing drugs is compatible with religious beliefs. One author argued that exact stance. Rakic (2012) was responding to the general thoughts of the religious community that if you took drugs to enhance any part of yourself, you were basically declaring that what God ordained on you was not enough. The author does not fully believe in this point, however. He believes that cognitive advancement is permissible if it is accompanied by equal moral advancement (Rakic 2012). The advancement of the human race intellectually must be accompanied by subsequent moral advancement, or we risk becoming a shell of our former selves. There was a very similar argument about using the ethics from Buddhism when considering CED use (Hughes 2013). The path to a better life has to be accompanied by technologically mediated spiritual progress. With the spiritual part of

advancement accounted for, the drugs then could be used effectively to achieve a more happy and virtuous life. Both of these examples prove that cognitive enhancing drugs can be used in very conscious and calculated ways. There are obviously possible unintended effects, like any other substance, but when used in conjunction with morals you can get all of the benefits with little to no consequences.

The most controversial use of CED's is when they are used for augmentation of a completely normal trait. Many see nothing but terrible consequences where using these drugs for advancement is concerned, but others choose to look at the massive benefits that they could bring. One article described the prescribing of CED's to perfectly normal people as "promoting social welfare" (Forlini 2013). Forlini (2013) believes if you prescribe these drugs to regular people to increase their productivity, intellect, or personality, they will be better at their jobs and contribute more to society than they ever had before. If the average person in a society where everyone was using cognitive enhancing drugs is as intelligent as the smartest people on the planet today, think of what we could collectively accomplish. In order for that situation to become a reality, we must start giving normal people drugs that enhance their cognition. Others think that neural enhancing drugs will help in unexpected areas of society. One author believes that the introduction of these drugs will have a profound impact on the social justice movement (Butcher 2013). Butcher (2013) believes that if we can get these drugs to underperforming groups we can close the inequality gaps between them and the rest of society. These drugs could potentially be part of the solution to one of the greatest problems of modern society. Others see the risk of not enhancing as greater than the risk of advancing. Levy (2013) ventured to say that there would be potentially major consequences if we chose to not enhance ourselves. For some cognitive enhancing drugs there will be an extraordinary amount of benefits associated with their

use and an extremely low level of consequence. Levy (2013) argues that in situations like the one described above, it is reasonable to require enhancement (he is mainly focusing on making parents enhance their children). In this situation the benefit to society overrules the right of the parent to choose whether or not to enhance their child. A society of enhanced individuals would hypothetically be so much more virtuous and prosperous that the small amount of risk inherent to enhancement would be completely disregarded. If we do not shy away from the minimal risks associated with cognitive enhancing drugs, they may be what takes human civilization to the next level.

## **Conclusion**

The possible benefits of cognitive enhancing drugs are enormous. From the treatment of people with disabilities, such as patients with Alzheimer's (Chen 2011), to the augmentation of completely healthy individuals, the list of positive effects that these drugs could make is vast. Like any great advancement, there is also inherently great risk. The use of these drugs could lead to a loss of part of the human spirit, greater inequality, and possibly even a dystopian future. Those possibilities may seem bleak, but the outlook for CED is not all bad. Although using these substances for enhancement is generally opposed today, I proved above that opinions on how dangerous a drug is changes over time. Hopefully society will come around on CED's one day. Certainly, these drugs are not universally opposed, because they are incredibly popular on college campuses. I would venture to say that one day, as a society, we will fully embrace CED's and reap their benefits. Technoptimists such as myself believe that we can get all of the positive outcomes through the use of these drugs with little to none of their negative impacts. Though careful examination and cautious planning, CED's can be harnessed effectively and without side

effects. Their use may be the catalyst that pushes human society to the next level, pushing us closer fulfilling our great potential. CED's present an opportunity that we cannot afford to miss.

#### Reference

Abelson, M. B., Dawey-Mattia, D., & Shapiro, A. (2009). Finding New Uses For Ancient Drugs. *Review Of Ophthalmology*, 16(6), 64-67.

Baumann, M., Dillon-Carter, O., Bukhari, M., Rothman, R., & Partilla, J. (2015). Neuropharmacology of replacement analogs of the designer drug 3,4-methylenedioxymethcathinone. *Drug and Alcohol Dependence*, 156, 17. doi:10.1016/j.drugalcdep.2015.07.965

Blevins, C. E., Stephens, R., & Abrantes, A. M. (2017). Motives for Prescription Stimulant Misuse in a College Sample: Characteristics of Users, Perception of Risk, and Consequences of Use. *Substance Use & Misuse*, 52 (5), 555-561. doi:10.1080/10826084.2016.1245338

Brady, K., Gray, K., & Tolliver, B. (2011). Cognitive enhancers in the treatment of substance use disorders: Clinical evidence. *Pharmacology, Biochemistry and Behavior*, 99(2), 285-294. doi:10.1016/j.pbb.2011.04.017

Brewer, C. D., & DeGrote, H. (2013). Regulating methylphenidate: Enhancing cognition and social inequality. *American Journal of Bioethics*, 13 (7), 47-49. Retrieved from <https://search.proquest.com/docview/1512603061?accountid=14070>

Butcher, J. (2003). Cognitive enhancement raises ethical concerns. *Lancet*, 362(9378), 132.

Chen, Q., Prior, M., Dargusch, R., Roberts, A., Riek, R., Eichmann, C., & ... Schubert, D. (2011). A Novel Neurotrophic Drug for Cognitive Enhancement and Alzheimer's Disease. *Plos ONE*, 6(12), 1-17. doi:10.1371/journal.pone.0027865

- Chimowitz, H., Hough, S., & Sade, R. (2015). Enhancement, ethics, and existentialism. *American Journal of Bioethics: Neuroscience*, 6(1), 48-49. Retrieved from <https://search.proquest.com/docview/1697205199?accountid=14070>
- CQC raises concerns about students' 'smart' drug abuse. (2013). *Therapy Today*, 24(7), 6.
- Elizabeth, W. (2010). Food foragers find fun amid the wild fungi. *USA Today*.
- Feinberg, M. (2014). On the Moral Use of "Smart Drugs". *Objective Standard: A Journal Of Culture & Politics*, 9 (4), 22-27.
- Forlini, C., M.A., Gauthier, S., M.D., & Racine, E., PhD. (2013). Should physicians prescribe cognitive enhancers to healthy individuals? *Canadian Medical Association Journal*, 185 (12), 1047-50. Retrieved from <https://search.proquest.com/docview/1440186923?accountid=14070>
- Friese, B. (2017). "Is Marijuana Even a Drug?" A Qualitative Study of How Teens View Marijuana Use and Why They Use It. *Journal Of Psychoactive Drugs*, 49 (3), 209-216. doi:10.1080/02791072.2017.1290854
- Gardner, E. L. (2011). Addiction and brain reward and anti-reward pathways. *Advances In Psychosomatic Medicine*, 3022-60. doi:10.1159/000324065
- Hughes, J. (2013). Using Neurotechnologies to Develop Virtues: A Buddhist Approach to Cognitive Enhancement. *Accountability in Research: Policies and Quality Assurance*, 20(1), 27-41. Retrieved from <https://search.proquest.com/docview/1549264962?accountid=14070>
- Levy, N. (2013). There may be costs to failing to enhance, as well as to enhancing. *American Journal of Bioethics*, 13(7), 38-39. Retrieved from <https://search.proquest.com/docview/1512603035?accountid=14070>

- Michalopoulou, P., Lewis, S., Wykes, T., Jaeger, J., & Kapur, S. (2013). Treating Impaired Cognition in Schizophrenia: The Case for Combining Cognitive-Enhancing Drugs with Cognitive Remediation. *European Neuropsychopharmacology*, 23(8), 790-798.  
doi:10.1016/j.euroneuro.2013.03.012
- Partnership survey: Teen marijuana use down, Ecstasy up. (2000). *Alcoholism & Drug Abuse Weekly*, 12 (46), 3.
- Peterkin, A. L., Crone, C. C., Sheridan, M. J., & Wise, T. N. (2011). Cognitive Performance Enhancement: Misuse or Self-Treatment?. *Journal Of Attention Disorders*, 15(4), 263-268.
- Rakic, V. (2012). From Cognitive to Moral Enhancement: A Possible Reconciliation of Religious Outlooks and the Biotechnological Creation of a Better Human. *Journal for the Study of Religions and Ideologies*, 11(31), 113-128. Retrieved from <https://search.proquest.com/docview/928106427?accountid=14070>
- Ray, R., & Davis, G. (2016). Pharmacists can't administer opportunity: The role of neuroenhancers in educational inequalities. *American Journal of Bioethics*, 16 (6), 41-43. Retrieved from <https://search.proquest.com/docview/1826541435?accountid=14070>
- Riis, J., Simmons, J.P., & Goodwin, G. P. (2008). Preferences for Enhancement Pharmaceuticals: The Reluctance to Enhance Fundamental Traits. *Journal Of Consumer Research*, 35 (3), 495-508.
- Sattler, S., Sauer, C., Mehlkop, G., & Graeff, P. (2013). The Rationale for Consuming Cognitive Enhancement Drugs in University Students and Teachers. *Plos ONE*, 8(7), 1-10.  
doi:10.1371/journal.pone.0068821

- Schermer, M. (2008). On the argument that enhancement is "cheating". *Journal of Medical Ethics*, 34 (2), 85-88. Retrieved from <http://www.jstor.org/stable/27944561>
- Sofuoglu, M., DeVito, E., Waters, A., & Carroll, K. (2013). Cognitive enhancement as a treatment for drug addictions. *Neuropharmacology*, 64, 452-463.  
doi:10.1016/j.neuropharm.2012.06.021
- Varga, M. D. (2012). Adderall Abuse on College Campuses: A Comprehensive Literature Review. *Journal Of Evidence-Based Social Work*, 9(3), 293-313.  
doi:10.1080/15433714.2010.525402
- Wertheim, L. J. (2017). ATTENTION DEFICIT. *Sports Illustrated*, 127 (17), 58-63.  
2002, December 12). Teen drug and alcohol use linked to later psychiatric ills. *New York Amsterdam News*. p. 20.

