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On attitudes and practices concerning prohibition and coercion to use Pharmaceutical Cognitive Enhancement

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Keywords: applied ethics, ethnography, prescription stimulants, cognitive enhancement, legalization, coercion

Abstract

This article combines methodologies explorations from the fields of anthropology and applied ethics in order to examine moral assumptions underlying the illegal status of pharmaceutical cognitive enhancers (PCEs) such as Adderall and other prescription stimulants often used to improve concentration, motivation and alertness. We begin by

presenting empirical data from ethnographic fieldwork conducted among university students, professors and police officers in New York City. The data show that the moral views associated with use of PCEs are not about legality, and that the practices of the authorities are relaxed and do not always reflect the law. We then present a detailed ethical analysis of a central argument in favor of the prohibition of PCEs which has received little careful analysis in the bioethical literature. This is the coercion argument. Our analysis, drawing on the philosopher Robert Nozick's specification of coercion and the sociologist N. A Fitz understand of peer pressure shows that legalization of PCEs would not necessarily involve or bring about coercion or bring about morally problematic forms of coercion or peer pressure. While the article shows that prohibition might not make a difference to uses of pharmaceuticals for enhancement, it also questions whether the grey zones between authorities' practices and the actual law might in some ways be understood as coercive.

Keywords: cognitive enhancement; education; prohibition; regulation; study drugs;

Introduction

It is a fact that some healthy (or cognitively normal) individuals – most frequently described as university students– use so-called 'pharmacological cognitive enhancers' (PCEs). PCEs also go by more popular names, like 'study drugs' and 'smart drugs', and their use is sometimes referred to as 'brain doping' or 'academic doping'. We use the term 'pharmacological cognitive enhancement' as placeholder for pharmacological interventions that are used to improve one or more cognitive abilities among people who do not suffer from mental conditions or disorders. Prescription stimulants, the most

commonly described PCE, is usually prescribed for Attention Deficit Hyperactivity Disorder (ADHD) but used by healthy students to boost for example concentration, attention and motivation throughout the semester, and most frequently in exam periods (HUSK REFS)

It is also a fact that in several countries, the law prohibits the unauthorized use and distribution of PCEs among healthy or undiagnosed individuals (Greely et al. 2008, Sahakian and Labuzetta 2013). In the US, for example, Adderall and Ritalin are classified as schedule II controlled substances, according to which possession without prescription, manufacture and distribution is illegal and punishable. According to the US Controlled Substance Act (CSA), section 844 illegal possession of a schedule II drug can be penalized with up to 1 year of imprisonment or/and a $1000 fine. Distribution of schedule II drugs, depending on the amount can be penalized with up to 20 years of imprisonment (https://www.deadiversion.usdoj.gov/21cfr/21usc/844.htm attended August 27, 2018).

So how should the state respond to these facts? One central question the state and its citizens need to answer when confronted with the current situation is whether it is morally acceptable to prohibit healthy individuals' access to PCEs. This is an important question, because the policy the state adopts will probably have a substantial impact on the lives of many people and organizations – on actual users, potential users, the criminal justice system, medical doctors, hospitals and the pharmaceutical industry.

PCEs have been the object of much bioethical discussion in the last decade, particularly in connection with concerns about medical safety, coercion and fairness (Schelle et al 2014). While the realms of medical safety and concerns about fairness have received

some attention in empirical studies investigating students' attitudes and experiences with PCEs (for example Aikins 2011, DeSantis & Hane 2010, Forlini & Racine 2012, Petersen et al. 2014) there are very few empirical investigations of coercion (Schelle et al 2014). The few studies that exist reveal the general belief that the use of PCEs should be a matter of people's own choice, however, we know very little about what coercion might look like in situations of PCE use, and whether or not students actually feel coerced in some ways to enhance themselves.

This article aims to address these gaps by combining methodologies and explorations from the fields of anthropology and applied ethics. First we present empirical data from ethnographic fieldwork conducted among university students, teachers, police officers and drug dealers in New York City. The data show that neither the students using PCEs nor the police officers or teachers interviewed considered that the illegality of healthy people's use of PCE was something to worry about. These attitudes suggest that we need to investigate the ethical question whether healthy peoples' use of PCEs should remain prohibited. Important for the focus of our ethical analysis we shall see, that reasoning from values like personal autonomy and peer pressure, were central, to some of the student's justification to take PCE's. Secondly, we present a short overview of central moral arguments for and against the prohibition of cognitive enhancers. We hereby also contribute to the bioethical literature by providing a more detailed ethical analysis of a central type of argumentation in favor of prohibition, which, though it has often been mentioned, has received little careful analysis. This argument is based on the worry that if the ban on non-prescribed PCEs is

lifted, healthy people will inevitably end up being coerced, either directly or by means of social peer pressure, into using them.[3]

Mangler nok lige en sætning eller to der afrunder eller noget i den stil…

Methodological approaches

In this article we use two different methodological approaches to explore attitudes and practices concerning the use and regulation of 'study drugs'. By combining empirical data from ethnographic fieldwork with an ethical analysis of the underlying arguments for and against the use and legalization of 'study drugs' (or more specifically arguments form coercion and peer pressure), we show how the two kinds of knowledge are related and in several ways can and perhaps should influence each other.

Måske lidt mere her om hvordan vi bruger dem sammen, men det kan vi først skrive når vi har arbejdet på den sidste del hvor vi kobler de to 'materialer'

Ethnographic fieldwork

The ethnographic data we present here were gathered in the course of fieldwork conducted in New York City during the fall semester of 2013. The fieldwork focused primarily on university students' use of prescription stimulants for enhancement purposes, and the data examined in this article specifically concern attitudes to the

[3] See e.g. Farah et al. (2010, 35–36), Metzinger and Hildt (2011) and Petersen (2018).

prohibition of prescription stimulant use. The study is based on interviews and participant observation involving 20 students from three different universities over the course of 5 months, as well as interviews with university staff (4), police officers (2) and drug dealers (3) to contextualize the student focus. Students were recruited through two university departments' mailing lists with a flyer describing the research project and invited to email the researcher if interested in participating. University staff and police officers were contacted, also through email, and an interview was scheduled with those who responded. Drug dealers were found in an online forum where they posted ads for study drugs for sale. The dealers were contacted through email and text messages, explaining that the researcher was not interested in buying but in talking about the buying and selling of study drugs. Many dealers did not respond and two of the three were wary of meeting but after many messages back and forth decided to go for it. Two of the dealers were interviewed several times while one was only interviewed once. All interviews were transcribed verbatim and coded manually by asking empirical questions to the material about ethical concerns, attitudes towards and practices of prescription stimulant use (Petersen 2015). The study has been reported to, and fulfills the requirements of, the Danish Data Protection Agency.

Ethical analysisIn conducting our ethical analysis of arguments from coercion and peer pressure, both of which conclude that the use of PCD's is morally troubling, we rely on standard argumentation analysis. According to such analysis, we identify, reconstruct and critically discuss these ethical arguments.[5] One strategy in the critical discussion of these arguments involves a *specification of central concepts* like 'coercion' and 'social pressure' that in our case will be based on both theoretical conceptions of e.g. coercion

[5] See e.g. Thomson (2001).

and empirical indications on how students experience 'social pressure'. A second strategy is to clarify and question *empirical assumptions* about what would follow if PCE's where legalized. Finally, we investigate whether some of the moral arguments involve *double-standard*, e.g. if one argues that social pressure to enhance cognitive performance by means of PCE's is moral problematic, while still accepting the social pressure to wear glasses in order to enhance cognitive performance is morally unproblematic.

Ethnographic data

It's not about legality

> I don't really think those guards give a crap. I mean we're not in high school. We're adults, we're in graduate school. Obviously it's illegal stuff but they're not there to give people detention… It's more worries about vandalizing. They don't care if you are drinking, snorting cocaine or whatever… (Ben, PhD student)

The use of prescription stimulants for enhancement purposes is most commonly explained as illegal drug use (Petersen, 2015), and while this does not always reflect the context of enhancement practices (Petersen, Nørgaard, & Traulsen, 2014; Vrecko, 2015), much of the use of these pharmaceuticals does happen through illegal exchanges (Inciardi et al., 2009; McCabe, West, Teter, & Boyd, 2014), as Ben's remarks suggest. Although it is considered a felony in the US to give or sell controlled substances to others, most students have access to prescription stimulants through friends, or friends of friends, on campus. None of the students in this study worried about the illegality of

exchanging prescription drugs with each other. They simply did not consider it a risk or serious problem. Concerns about getting caught had more to do with losing time than they did with having committed a crime.

> Even if you happen to get caught, which is very unlikely, it's not going to ruin your life. I mean, it's going to cost a lot of time and that is probably the worst part. Time you don't have. But they don't really care so much about university students. (Harrison, MA student)

All the students in this study expressed the opinion that using prescription stimulants was not really wrong and was a matter of personal choice.

> It's my body, my life… it's not like it makes a difference to others if I do what works for me. (Martin, BA student)

While many students would not tell their parents or other family members about their stimulant use, regardless of whether they obtained the stimulants legally or illegally, their wish to keep their use secret often had more to do with not wanting to cause worries about health and their abilities than with aspects of illegality. Most students had never heard of anyone at their university getting caught for taking or exchanging stimulants. Speaking to people in law enforcement, we confirmed that the use of stimulants by students is rarely a major concern. Arrests were mentioned, but only in isolated cases where there was a pattern in which large amounts of money were involved. It is not even clear from a legal perspective under what conditions doctors' decisions to prescribe stimulants should be classified as illegal. As one of the police officers explained, stimulants and anxiety drugs differ in this way from opioids, the category of strong painkillers that are also, in some circles, a commodity much in demand:

> It's tougher to prove that someone is illegally prescribing anxiety drugs or stimulants than say opioids like oxycodone. I think it is pretty clear to most people what a doctor should be doing before prescribing oxycodone. A person can't come in and say 'My hand really hurts, I need a prescription'. There has to be testing done before you prescribe such a powerful opioid. But when it's an anxiety drug or a stimulant, what's good enough for a doctor to do? When has the doctor taken the proper steps? And the law in New York State really is not clear on that, so it sort of is up to law enforcement to decide whether a doctor is doing enough or not. It is pretty clear when a doctor has not taken the right steps in prescribing oxycodone, but when it is a stimulant or, for example, Xanax, does the doctor have to ask five questions, ten or twenty? Does it have to be a five-minute appointment, or a twenty-minute appointment? When is enough enough? (Law enforcement officer)

When he was asked what this unclear situation means for the investigation of cases involving stimulants, the police officer explained that it results in less investigation on his part and that of his colleagues.

> We definitely do less of those cases than we do with the prescribing of opioids. Even if we do have jurisdiction it is very challenging to prove. I mean it's not illegal to prescribe to a lot of people if you are taking the proper steps. It's not illegal to have a good, successful practice. Just because someone is prescribing frequently doesn't indicate criminal behavior. (Law enforcement officer)

As has been discussed elsewhere, many students talk about how easy it is to get a prescription from a doctor without having ADHD, and students sometimes joke about the role of the doctors, calling them 'pill pushers' (Petersen et al 2014). Likewise, on campus, it is almost always possible to find Adderall or one of the other stimulants, and if all else fails, there are plenty of 'study aid' ads in an online newspaper and marketplace known in the US as Craig's List. In fact, when Craig's List was brought up in conversation with the officers of the law enforcement unit, they acknowledged that once in a while they do crack down on those involved and arrest a number of stimulant sellers, but they also said that for the most part they go after large, organized drug dealers and not what they called 'little random fish'.

Even so, the drug dealers who advertise on Craig's List, and who participated in this study, were quite concerned about getting caught. They had methods of 'screening' those that contacted them to buy their drugs and would only sell to someone if they qualified as safe. One of the drug dealers had actually been caught once and had spent two months in prison. He said he no longer sold stimulants, but that he did sell information about how to get a prescription, including which doctor to go to, which again is an indication of the blurred boundaries between legality and illegality in stimulant prescribing practices. Most of his customers were not students, but lawyers and people in finance. Students, he said, have such easy access to stimulants that they have no need to go to a dealer to get them.

None of the students in this study said they would buy stimulants on Craig's List, or on the Internet for that matter. Most of them thought it would be too expensive, and some felt it would be unsafe because they did not know the seller. In the main, they had not felt the need to investigate online provision, because it was so easy to find stimulants at their university. One student, Martin, a B.A. student in his senior year, even wrote a paper about how easy it was to get hold of stimulants on his campus. In his quest to see how many stimulants he could get within a week, he had written a few messages on his phone and on Facebook and asked around. Within a few days, he already had more drugs than he could use himself.

> That paper that I showed you was all written on Adderall. I forgot to mention it. I think I was supposed to mention it in the paper. Because I have talked to him [a professor] about it, and I was like, can I take these drugs and write about my experiences? And he said, this is an anthropology course, yes. (Martin, BA student)

Martin confirmed many times in conversations throughout the semester that it was not a problem to talk to most professors about the use of stimulants. He said that most of them were aware of what is going on, and that they didn't really care. Our own discussions with several professors during the semester confirmed that cognitive enhancer use is widely known about by faculty staff at the different universities included in this study. The extent to which professors worried about their students' use of stimulants varied greatly. Arthur, a professor in his mid-forties, mentioned that the topic of study drugs sometimes came up in class discussions. When asked what happened in class when the topic emerged, he said that he would joke about it with the students and they would laugh about it together. The author, with whom he had the conversation, asked him carefully what signal he thought that joking might send to the students, and whether the jokes might be thought of as tacit approval. Arthur's face looked briefly horrified. He had never considered that. He went on to explain that, in his view, university staff do not confront students about their use of stimulants because many academics use stimulants themselves. He also said that such confrontation would be a double-edged sword: professors do not want to encourage their students to use study drugs, but they do want them to do well. Thus, the uncertain morality of prescription stimulants exists on multiple levels, not only among those who use them (Petersen, Nørgaard, & Traulsen, 2015), but also among those who directly or indirectly may benefit from other people's use.

Regardless of whether students use prescription stimulants legally or illegally, their moral concerns are not about the law, but rather about whether or not their use of

enhancers is adopted for a good purpose (DeSantis & Hane, 2010; Petersen et al., 2014). Students tend to regard Adderall and other stimulants as effective working tools, comparable to a fast computer, or a strong cup of coffee, not necessarily as drugs (DeSantis & Hane, 2010; Petersen et al., 2014). In fact, some students have explained that they actively choose between obtaining stimulants legally versus illegally in order to control their own use (Petersen, 2018). By choosing to obtain stimulants via an illegal route, they ensure that they do not always have access and therefore end up using less often. By contrast, those who choose the legal method of getting hold of PCEs – that is, by obtaining a prescription from their doctors – seem to want to make sure that they have stimulants when they need them. And it is precisely because doctors, according to the university students in this study, are so easily convinced to prescribe stimulants, that questions about the illegality of using stimulants without a prescription seem unreasonable to many. But although it comes as no surprise to learn that healthy users of PCEs find it unreasonable to prohibit their use, it is clear that the students' view on this matter is not the only one that can be taken.

3. Ethical arguments for and against PCE use, and an analysis of the argument from coercion

In a short research article it is impossible to determine decisively whether PCE use by healthy individuals should be banned, especially if we want to give a fair hearing to all the arguments for and against prohibition. As a starting point, however, it would be quite natural as a liberal minded thinker to argue that as long as PCEs are safe enough for healthy individuals to use from a health point of view and effective in boosting

cognition (although whether either of these conditions is true is highly controversial),[6] it is obvious that access to them should not be prohibited.[7] However, a brief look at the public debate and the academic literature on the subject reveals that many worries about the legalization of PCEs are not simply about safety or effectiveness. Scholars and the public are also, for example, worried that legalization will create unequal opportunities for those who can afford to buy PCEs and those who cannot.[8] It has also been suggested that the use of medicine by healthy people runs counter to the real purpose of medicine.[9] And concern has been expressed that PCE use will have a negative effect on human character, making us less authentic and alienating us from our true selves.

These are all arguments meriting serious study, but in what follows we wish to reconstruct and critically assess another concern. This is the anxiety that if the ban on PCEs without prescription is lifted, increased use of PCEs will in effect lead inevitably to healthy people being *coerced* into using them.[10]

We have chosen to focus on this argument because we believe it has not yet received adequate analysis in the literature on neuroethics, and because some students in our study did indeed feel coerced into using PCEs in order to perform well. The under-investigation of the coercion argument is somewhat surprising, given how frequently it figures in the literature, and given how morally important it is that our autonomy is protected from coercion.

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[6] Zohny (2015) argues that there is no consistent evidence that the PCEs often referred to in the neuroethical literature augment cognitive abilities among those who use them.
[7] Bostrom & Roache (2007).
[8] Fokuyama (2002), Bostrom & Sandberg (2009) and Glannon (2011).
[9] For a proponent of this view, see Kass (1985); for a short critical discussion of the view, see Bostrom & Sandberg (2009) and Buchannan (2011, 27).
[10] See e.g. Farah et al. (2010) and Metzinger and Hildt (2011).

Onarguments from coercion

If the production, distribution and selling of PCEs to healthy individuals were to be legalized, access to these drugs would become easier and PCE use would probably become more widespread. Several commenters have expressed a concern that this could lead to situations where, in a morally problematic sense, people are coerced, or pressured at least, to use PCEs.[11] When, for example, Greely and colleagues describe what they consider substantial ethical concerns about the use and legalization of PCEs, they write: "[one]… concern is freedom, specifically freedom from coercion to enhance."[12] Other commentators, such as Morein-Zamir and Sahakian, mention that "…powerful coercion is also likely to be found… as individuals ascribe better scholastic performance and overall better functioning to better cognition and are pressured to perform better in competitive environments."[13]

This kind of reasoning gives rise to at least three questions. What do we mean by the word 'coercion'? Who would coerce whom if the state were to lift the ban on PCEs? And, is the coercion of healthy individuals, making them feel that they must take PCEs, always morally wrong?

Before reconstructing an initial argument from coercion and answering these questions, we need to say a few words about why it is morally important to address it. If it is true that legalizing PCE use by healthy people would lead to the coercion of certain individuals, eroding their autonomy, we have an argument that undermines a central point sometimes made in defense of legalization. Some have alsoargued that when the

[11] Researchers who mention this worry without engaging in detailed ethical analysis of it include Farah et al. (2010), Greely et al. (2008), Glannon (2011) and Fitz et al. (2014).
[12] Greely et al. (2008, 703).
[13] Morein-Zamir and Sahakian (2011, 237).

state prohibits the use of PCEs for healthy, well-informed and competent individuals, it thereby coerces some of it citizens to act in a certain way. The moral premise in this argument is that such individuals should be left to decide for themselves what kinds of drugs they use: this is not the business of others, including the state.[14] However, let us now turn to a reconstruction and critical discussion of the argument from coercion.

Reconstruction of the argument is not easy, as those who worry that morally problematic coercion will result from the legalization of PCEs have not spelled out their argument in detail. However, we hope that the following reconstruction complies with the thinking of a least some of those with worries about coercion.

> P1: If PCE use by healthy individuals is legalized, these individuals will be left to choose between using PCEs or not performing at their best – e.g. in education.
>
> P2: Individuals left with a choice like that will be coerced into using PCEs.
>
> P3: If we coerce individuals in that way, we violate their autonomy.
>
> P4: There is a moral reason not to violate the autonomy of individuals.
>
> C: Therefore, there is a moral reason not to legalize PCE use by healthy people.

Before criticizing the argument, we wish to make some comments on its interpretation. First, concerning P1, we take it for granted that if people do not perform at their best in education this may have negative consequences for them. Furthermore, concerning P1 it may be true that some people may perform better by not using PCE's, but if they know

[14] See e.g. Sententia (2004, 223) "Cognitive liberty is every person's fundamental right to think independently, to use the full spectrum of his or her mind, and to have autonomy over his or her own brain chemistry… The individual, not corporate or government interests should have sole jurisdiction over the control and/or modulation of his or her brain states and mental processes."

they would probably not feel any kind of coercion to take PCE's. So, P1 seem a fair reconstruct in an argument against legalization of PCE's that is based on respect for autonomy. Secondly, concerning P2 and P3, we can rephrase the argument and create different versions depending on who we take to be the people supposedly coercing others. In what follows, we will differentiate between three potential coercers: the state, university administrators and social peers. We shall see that the distinction between these groups is important in assessing whether it makes sense to say that lifting the ban on PCEs would result in coercion. Thirdly, P2 can also be set out differently if the coercion to use PCEs is taken to create health risks. However, in the following we will set aside this detail. The reason for doing this is that coercion in itself may be viewed as morally problematic independently of whether the coerced use of PCEs involves health risks or benefits.[15]

We can now move to critical discussion of the argument. We believe that there are at least two major problems with it. The first challenge is to explain how it makes sense to claim, as is asserted in P2, that healthy individuals would be coerced into using PCEs if PCE use by healthy people was legalized. To explain this, we need to consider what 'coercion' means. One modern and standard way of specifying the meaning is elaborated by Robert Nozick.[16] On a condensed version of Nozick's view, a person A coerces another B (the coercee) into doing x only if the following three conditions are met:[17]

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[15] Furthermore, it speaks in favor of a separation between moral concerns about safety/health and moral concerns about coercion than violation of autonomy can be viewed as a morally problematic in itself and because the relevant scholars in the neuroethical literature deal with these concerns under different headings – see. e.g. Greely et al.(2008) and Farah et al (2010, 35).

[16] Nozick, R. (1969). Each condition is a necessary for coercion and all three taken together amount to a sufficient condition for coercion.

[17] Anderson (2011).

(1) A aims to get B to do x;

(2) A communicates a threat to B;

(3) A's threat indicates that if B fails to do x, A will bring about some consequences that would make not x-ing less desirable for B than x-ing.

This specification readily applies to core cases of coercion. Imagine a university administrator who says "If you do not take these cognitive enhancers, you will be asked to leave the course." In this case, all three conditions are met.

However, would it always be correct to say that coercion has taken place if the state were to lift the ban on PCEs? Not, always. First, it is far from plausible, on this specification of coercion, to say that the *state* would necessarily coerce healthy individuals to use PCEs merely by legalizing PCEs. A state lifting the ban on PCEs for healthy individuals need not – in fact, probably will not – do so with the *aim* of getting healthy individual to use PCEs. By analogy, when the state legalizes certain substances, like alcohol or tobacco, the aim is not usually to get people to use alcohol or tobacco. The purposes of legalization could be various – e.g. to combat a criminal black market for alcohol and tobacco, or to ensure that the state is less paternalistic. The same reasoning can be applied to lifting the ban on PCEs, so it is far from obvious that the first condition of coercion is met.

Equally, by lifting the ban on PCEs the state need not – and probably will not – be communicating a threat to its citizens, so the second condition is unlikely to be met either. But if the first and second conditions are not met, the third will not be met either. Therefore, on the Nozickian specification of coercion, the argument from

coercion is misconceived: by lifting the ban on PCEs the state need not be coercing anyone.

It is possible, of course, for a state to coerce its healthy citizens to use PCEs by claiming that if they do not use the drugs they will be punished. However, this is not very likely to happen, especially in a liberal state. Nor is it obvious that coercion would occur if the alleged coercers are peers collectively putting social pressure on an individual to take PCEs. We know that social pressure can be defined in many ways. However, if by social pressure we mean merely that a person comes under a pressure to use PCEs because he or she knows, or believes at any rate, that his or her peers are using them (so there is no explicit request from peers to join them in using PCEs),[18] none of the three conditions for coercion will be met. Things are of course different if the alleged coercer is a school admissions manager who announces that she will not accept pupils who do not use PCEs. In such cases, it seems fair to say that all three conditions for coercion are met.

However, it is one thing to ask whether the legalization of PCEs can reasonably be said to lead to practices of coercion, and another to ask whether the legalization of PCEs is morally defensible even in those cases where it makes sense to say that legalization would lead to coercion. In sum, then, on the analysis above, it does not seem reasonable to argue that merely lifting the ban of PCEs for healthy people amounts to coercive use of PCEs by the state, or that the increased peer pressure to use PCEs if the ban is lifted can rightly be called coercive. However, it does seem

[18] This specification is identical to the characterization of 'peer pressure' given by Fitz et al. (2013, p. 5).

reasonable to say that coercion occurs in cases where an employer, or school, requires healthy people to use PCEs as a condition of being given a job or being enrolled.

This brings us to the second challenge. Is it morally acceptable to coerce others into using PCEs? The answer to this question depends on at least two further questions. What are the consequences of not giving in to the threat involved in the coercion? And, in connection with what kind of education or occupation is the threat being proposed? If the threat from a university administrator is that he will have your children killed if you do not use PCEs to perform at a high level in education, this is clearly morally wrong. And even if the threat is less dramatic, in that the administrator requires you to use PCEs in order to attend the university, that is clearly morally unacceptable, too. It is morally problematic, because it violates the applicant's autonomy, or because we believe that healthy children should have access to education without being required to use medicine.

There seem to be at least three comforting answers to the worry that lifting the ban on PCEs for healthy people will increase the risk of coercion within the education system. First, the legalization could be combined with the introduction of rules that protect pupils and university students from being required to use PCEs. This would fit well with other rules governing the education system in many countries, where applicants are protected from coercion by those in power (e.g. when it comes to non-disclosure of religion or sexual orientation). An example of this approach can be seen in Ashford, Connecticut, in the US, where school staff are not allowed to recommend or require any healthy child to take stimulant medication (or any other kinds of drug).[19]

[19] Conn. Gen. Stat. Series 4000. Personnel (2012).

Secondly, lifting the ban on PCEs could also be combined with laws, or more local but nevertheless strict guidelines, declaring either that healthy children below the age of 21 are not permitted to use PCEs or that healthy and adult workers may not be recommended or required to use PCEs.

Thirdly, together the legalization of PCEs and the imposition of rules prohibiting coercive PCE practices – rules, that is to say, set out in criminal law or stated in the ethical rules, or codes of practice, for a profession – may in fact minimize autonomy violations. For even if the legalization does, in fact, lead to the coercion of some individuals, it may remain true that continuing prohibition would also have coerced some individuals not to use PCEs. As stated in the introduction to this section, the state coerces healthy individuals not to use PCEs by punishing healthy people who buy, sell or possess PCEs, and therefore threatening people who are considering whether to do those things.

Whether legalizing PCEs really would minimize autonomy violations caused by coercion is hard to determine and depends on at least two issues. Are the rules, like those in Ashford, Connecticut, successful in protecting individuals from coercion? And how many healthy people want to use PCEs, and how many want PCE use by healthy individuals to be legal? If the rules against coercion work as intended, and if a majority of people want to use PCEs or want their use to be legal, then – assuming we believe more autonomy to be better than less – we will have a good reason to insist that the legalization of PCEs is desirable. Moreover, if education is a valuable tool for enhancing people's autonomy, PCEs might help us, as individuals in education, to be more autonomous: they might do so, for example, by making it possible for users to stay

in education or be better-educated.[20] This reasoning is, of course, speculative. We need more data to settle such important questions. However, the speculation highlights the fact that proponents of the argument from coercion cannot take it for granted that the number of autonomy violations will increase if the ban on PCEs is lifted.

However, our study supports a view that what is at stake concerning coercion it not that students experience a direct threat (which would amount to a Nozickian notion of coercion) use PCE', but more that there exists a kind of social pressure to use PCE's. In our data set there are several observation which indicates this kind of social pressure. For instance when students say that the consider PCE's as a tool akin to a fast computer. We believe that the unstated assumption here is that they will lose out in the completion if they do not use a fast computer or PCE's. Furthermore when e.g. a teacher jokes about the use of PCE's or the students have never know someone who has been punished because of using PCE's this may lead to the idea it normal to use PCE's. So one could worry that in increase in peer pressure to take PCE's, will take place if such drugs were legalized. This could be problematic because by legalizing PCEs the state will either directly support or cause an acceleration in the growth of an already problematic *performance society* – a society in which people are under immense pressure to perform, leading to stress, burnout and depression, in a rat-race where only the strongest or luckiest thrive. However, we see three problems with this kind of reasoning.

First, the wider implications of banning a technology because it might support a performance society are not attractive. The use of glasses, reading books, and search engines on the internet to locate research papers could also be said to support a

[20] For this kind of reasoning, see Ray (2016).

performance society. However, no reasonable person would prohibit use of these tools, so why should we accept glasses and search engines but prohibit PCEs? It might be argued that there is a morally relevant difference between use of the tools just mentioned and the use of PCEs. However, it is far from obvious that a good argument can made for the moral difference gestured at here – for example, both reading and PCE can affect the brain in serious ways. Secondly, one may hold that the problem with a performance society is not with the technologies that support it. The problem is how we use and regulate these technologies, and how we have arranged society and particularly the labor market. Perhaps we work too many hours, have too few holidays, or need to earn too much money, because we need to pay for healthcare insurance or education for our children. The performance society may have more to do with these social facts and less with a technology such as PCE. Thirdly, technologies like PCEs may in fact help us to cope with the pressure to achieve in a performance society by making it easier and less stressful for individuals to function cognitively. We may also be better at solving social problems if we are cognitively enhanced; thereby reducing the social causes of for example stress and burnout. Again, it is an open question whether these possibilities are actualities, but they are possibilities we should not overlook if we have a genuine interest in solving or reducing social problems.

4. Conclusion

We have presented ethnographic data on the attitudes and practices of PCE in relation to the illegal status it is generally accorded. We have shown that students who use prescription stimulants as study drugs are not particularly concerned about the illegality

of these practices, and that authorities, such as the police and university teachers, are not very motivated to reduce or prevent students' use of cognitive enhancers. We have also scrutinized coercion arguments from an applied ethics perspective, and shown that lifting the ban on PCEs for healthy people would not necessarily lead to coercion. Even if it did, the coercion argument in favor of continuing to criminalize healthy people's use of PCEs faces further challenges. One is that the PCE legalization could of course be combined with laws, or more local but strict guidelines, which prohibit morally problematic coercive use of PCEs in the education system.

It is clear from the empirical data we have reported here that prohibition does not prevent people from using medicines such as PCEs. It is also quite obvious that the students in this study felt they were making their own choices about whether to use drugs for enhancement, and thus did not feel coerced. In their eyes, their use of stimulants increased their autonomy, recalling Carl Elliot's suggestion that using pharmaceuticals for enhancement sometimes actually makes people able to feel more like themselves (Elliot 2003). However, what is not clear is the way in which the grey zones between the practices of those in positions of authority (by which we mean doctors' prescribing practices, effective acceptance by the police, and the tacit approval of PCEs given by university teachers) and the legislation of PCEs influence and direct people who use, or want to use, pharmaceuticals for enhancement. The question is whether or not the ambiguities connected with PCEs are in some ways coercive in a morally problematic way, and we have tried to show when this is the case…

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