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Should the state prohibit healthy people's access to pharmacological cognitive enhancers? On arguments from coercion and individualization

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1. Introduction

It is a fact that some healthy (or cognitively normal) individuals, among, for example university students, scientific researchers and business managers use so-called 'pharmacological cognitive enhancers' (PCEs).[1] 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'. Examples of PCEs are methylphenidate (e.g. Ritalin©), which is prescribed for Attention Deficit Hyperactivity Disorder (ADHD) and used by healthy individuals to boost concentration, attention and motivation, and modafinil (Provigil©), which is prescribed for narcolepsy and used by some to improve, for example, memory and problem-solving. Another fact is that the law in several countries prohibits the production, storage, possession, distribution, and buying and selling of PCEs to healthy or undiagnosed individuals.[2]

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

To answer this question in a short research article is impossible if we want to give a fair hearing to all the arguments for and against the prohibition of PCEs to healthy people. As a starting point, one could argue that if PCEs, from a health point of view, are safe enough for healthy individuals to use and effective in boosting cognition (although whether either of these conditions is true is highly controversial),[3] it is obvious that access to PCEs by healthy people should not be prohibited.[4] However, a short look at the public debate and the academic literature on the subject, makes it is clear that many worries about the legalization of PCEs are not simply about their safety or effectiveness. Scholars and the public are also worried, or at least discuss the worry, that legalization of PCEs will create unequal opportunities between those who can afford to buy PCEs and those who cannot,[5] or that the use of medicine by healthy people runs counter to the real purpose of medicine.[6] There is also a concern that PCE use will have a negative effect on human character, making us less authentic and alienating us from our true selves. And some have suggested that if the ban on non-prescribed PCEs is lifted, healthy people will inevitably be coerced to use them,[7] or that increased individual use of PCEs following legalization would individualize, or medicalize, problems such as stress and burnout – problems that really are sociopolitical problems that only can or ought to be solved collectively.[8]

It what follows, I will try to make some piecemeal progress by reconstructing and critically discussing the last two of these arguments against lifting the ban on PCEs for healthy people. I have chosen to focus on these arguments because they have received little careful analysis in the literature on neuroethics and neurolaw.[9] This is somewhat surprising, given how frequently they figure in the literature, and given how morally important it is, especially from the perspective of liberal-minded western societies, that our autonomy is protected from coercion, and given also that so many agree that social problems either cannot or ought not be solved on an individual basis.

In Section 2, I will reconstruct and criticize some versions of the coercion argument. The common starting point in coercion-based arguments is the premise that lifting the current ban on PCEs will compromise people's autonomy by coercing them to use PCEs. To evaluate the arguments we will need to specify what 'coercion' can be taken to mean. We will also need to ask by whom, and how, such coercion might be imposed. I will argue that lifting the ban on PCEs for healthy people either cannot be identified with coercion at all or, if it can, is such that there are several challenges to such arguments in favor of criminalizing healthy people's use of PCEs. Furthermore, I will argue that pressure, such as peer-pressure and the pressure exerted by raised

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[1] It is unclear how many healthy individuals use PCEs, and how often, to enhance their performance: see Zohny (2015). One study found that approximately 34% of 1811 college students had illegally used ADHD stimulants over a period of six months: see De Santis, Webb, and Noar (2008). Another found that the past-year prevalence of the use of methylphenidate and amphetamines for cognitive enhancement was about 1% among 1500 German high school pupils and university students: see Franke et al. (2011). For a discussion of the distinctions between 'illness' and 'health', and between 'enhancement' and 'therapy', see Gross (2011).

[2] See e.g. Greely et al. (2008) and Sahakian and Labuzetta (2013), Dubljevic (2013a).

[3] 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.

[4] Bostrom and Roach (2007).

[5] Fukuyama (2004), Bostrom and Sandberg (2009) and Glannon (2011).

[6] For a proponent of this view, see Kass (1985); for a short critical discussion of the view see Bostrom and Sandberg (2009) and Buchannan (2011, 27).

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

[8] Schwartz (2013) and Ketchum and Repantis (2016).

[9] An exception, when it comes to discussion of coercion and the use of PCE's, is Erler (2018).

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expectations among employers, is usually not morally wrong and therefore does not provide us with a strong reason to retain the current legislation.

In Section 3, I will reconstruct and critically discuss what we can call 'the argument from individualization'. This argument claims, roughly, that the use of PCEs by healthy people is morally wrong because it individualizes problems arising in connection with, for example, the labor market (e.g. anxiety, stress, depression and burnout) and learning and education (e.g. lack of resources to include disadvantaged but healthy students) that are caused by social and political structures. This is alleged to be troubling because these problems cannot be solved by individuals using medicine; they can only be solved if, collectively, we change the social structures that create them. Moreover, by focusing on an individual solution we may draw attention and resources away from the project of addressing the social problems at the root of the difficulties that prompt individuals to use PCEs in the first place. I will argue that this argument, in the versions I consider, is problematic for several reasons. First, if it is not realistic to expect that the problematic social or political structures can be solved within a certain amount of time, individualized ways of addressing the issues may be better than doing nothing. Secondly, we can do both: we can combine a liberal approach to individuals' decisions to use drugs such as PCEs and, at the same time, work to change the social structures that make people stressful and depressed.

The view of the connection between ethics (or morality) and the criminal law which underlies the following analysis is as follows. I take it for granted that if one argues that a certain kind conduct ought to be (or remain) prohibited, that is because there are moral reasons in favor of prohibition. This could mean that a moral reason in favor of prohibition constitutes a necessary condition for prohibition, in which case there may be other conditions (e.g. whether we have the knowledge and financial resources to implement and enforce a given prohibition in the criminal justice system) that should be taken into account before we have a sufficient reason for prohibition. Another possibility would be that moral reasons should deliver both necessary and sufficient conditions for prohibition in the sense that they alone should determine the content of the criminal law. Here I will not settle which of these positions is correct. I merely point out that it is impossible to critically discuss the content of the criminal law without introducing ethical considerations.

2. The argument from coercion

If the production, distribution and selling of PCEs to healthy individuals were to be legalized, access to these drugs would be easier and PCE use would probably become more widespread. Several commenters have expressed a concern that this could lead to situations where people, in a morally problematic sense, will be coerced or pressured to use PCEs.[10] When, for example, Greely et al. 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."[11] Potentially, the labor market is an area in which freedom from coercion would be challenged if PCEs were to be legalized. Greely et al. may have in minds cases such as the following. In order to perform well in your job, or just to keep your job, you need to respond to your employer and peers, who are, in a morally problematic sense, coercing, or pressuring, you to use PCEs. Other commentators, such as Morein-Zamir and Sahakian, mention that: "More subtle but no less powerful coercion is also likely to be found outside the work environment, as individuals ascribe better scholastic performance and overall better functioning to better cognition and are pressured to perform better in competitive environments."[12]

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 the argument and answering these questions, I need to say a few words about why it is morally important to spill ink on this argument. First, let us accept that one of the reasons why coercion raises moral concerns is because coercive conduct conflicts with the autonomy of individuals. The sense that this conflict is morally problematic has to do with the idea that individual autonomy is an important moral value that we often have good reasons not to violate. One reason for this view is that autonomy is valuable in itself. Another is that autonomy is a valuable instrument to the realization of other important values, like well-being or equality of opportunity. Therefore, if legalizing PCEs to healthy individuals in some way leads to violations of their autonomy, this clearly speaks against legalization.

Secondly, if it is true that legalizing PCEs for healthy people would lead to coercion and violation of the autonomy of certain individuals, we at the same time have an argument that undermines a central argument in favor of legalization. Some have argued that when the state prohibits the use of PCEs for healthy, well-informed and competent individuals who want to use them, it thereby coerces some of it citizens to act in a certain way. The moral premise in this argument is that such individuals should decide for themselves what kinds of drugs they want to use; this is not the business of others, including the state.[13] However, let us now turn to a reconstruction and critical discussion, or a coercion argument against the legalization of PCEs.

Reconstructing 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, I hope that the following reconstruction complies with the thinking of a least some of those who share the worry about coercion.[14]

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. at work or in education.

P2: Individuals left with a choice like that are being coerced to use 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, I wish to make a few initial comments on its interpretation. First, concerning P1, I take it for granted that if people do not perform at their best at work this may have negative consequences – e.g. losing one's job. Secondly, concerning P2 and P3, we can rephrase the argument in different versions depending on who we take to be the people supposedly coercing others. In what follows, I will differentiate between three possible coercers: the state, the employer (or school administrator) and social peer pressure. As we

[10] 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).
[11] Greely et al. (2008, 703).
[12] Morein-Zamir and Sahakian (2011, 237).
[13] 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."
[14] The structure and wording of this argument is partly inspired by Veber's (2014) reconstruction of a coercion argument against lifting the ban on doping. One important difference between my reconstruction and Veber's is that a normative premise is included in mine.

shall see, 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 I will set aside this further 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]

Finally, we should keep in mind that the argument from coercion, even if it is plausible, is not designed to be a knockdown case against lifting the ban of PCEs – unless, of course, it is assumed that there is an absolute moral constraint against the violation of autonomy.[16]

We can now move to a critical discussion of the argument. I believe that there are at least two major problems with it.[17] The first challenge is to explain how it makes sense to say, as is said in P2, that healthy individuals would be coerced into using PCEs if PCE use by healthy people were legalized. To explain this, we need to consider what 'coercion' means. I would like to begin by ruling out a traditional understanding of coercion: namely, that A coerces B to do x when A makes B do x through compulsion or by exerting brute force.[18] An example would be an employer force-feeding an employee with PCE against his will. I will not discuss this way of specifying coercion in detail, as it is obvious that if this is how we understand coercion, it is indeed morally wrong to coerce people to use PCEs. It is morally wrong because it violates autonomy and is very likely to damage the well-being of the person coerced. Instead, I will rely on a more modern and standard way of specifying the meaning of coercion inspired by Robert Nozick.[19] On a condensed summary of Nozick's view, a person A (the coercer) coerces another person B (the coercee) into doing x only if the following three conditions are met.[20]

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 non x-ing less desirable for B than x-ing.

This specification applies easily to core cases of coercion. Imagine an employer who says: "If you do not take these cognitive enhancers, my friend, you will be sacked." In this case, all three conditions are met.

However, does it always make sense to say that coercion takes place if the state lifts 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. If the state lifts the ban on PCEs for healthy individuals, it may not have the aim of getting healthy individual to use PCEs. By analogy, when the state legalizes certain substances, like alcohol or tobacco, the aim is usually not to get people to use alcohol or tobacco. The reasons for legalization could be many – e.g. to combat a criminal black market on alcohol and tobacco, or to ensure that the state is less paternalistic. The same reasoning can be applied to lifting the ban on PCEs. Thus, it is far from obvious that the first condition of coercion is met. Moreover, by lifting the ban on PCEs the state may not be communicating, in any way, a claim or threat to its citizens, so the second condition need not be met either. In addition, if the first and second condition are not met, neither is the third. Therefore, if the Nozick-inspired version of coercion is right, the argument from coercion is misconceived, since 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 these drugs they will be sacked or thrown out of the country. However, this is not very likely to be the purpose of legalizing PCEs, especially in a liberal state. Nor is it obvious that coercion would occur if the alleged coercers are peers collectively imposing social pressure on an individual to take PCEs. We know that social pressure can be defined in many ways. I do not have the space to specify them all. 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 that his or her peers are using them (so there is no explicit request from peers to join them in using PCEs),[21] none of the three conditions for coercion is met.

Things are different if the alleged coercer is an employer or school admissions manager who announces that they will not hire employees or 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 if legalization of PCEs is morally defensible even in those cases where it makes sense to say that the legalization would lead to coercion. In sum, on the analysis above, it does not seem reasonable to argue that merely lifting the ban on PCEs for healthy people amounts to coercive use of PCEs by the state, or that the increased peer pressure to use PCDs if the ban is lifted can rightly be called coercive. However, it does seem reasonable to argue the 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 to use 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 occupation is the threat being proposed? If the threat from an employer (no matter what the occupation is) is that he will have your children killed if you do not use PCEs to perform better at work, this is clearly morally wrong. But if the threat is less dramatic, in that an employer requires you to use PCEs in order to be given or stay in a job, things are morally more complicated. There are sectors, like the military, where personnel are legally required to take PCEs to boost their performance. The reason for this requirement is the safety of the individual soldier and others who depend on him or her in dangerous situations.[22] Moreover, we can easily imagine other occupations where taking PCEs in critical situations at work is part of the job description. For example, if surgeons could save more patients by using PCEs during very difficult and risky operations, it would be morally acceptable, everything else being equal, to require surgeons in the relevant situations to take PCEs.[23] However, in occupations where it is not obvious that lives can be saved by the use of PCEs, and in schools, I believe that many will agree that coerced use of PCEs is morally problematic. 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, or because the well-being and work efficiency of employees or students could very well be negatively affected if they are required to take PCE's.

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 labor market or in the education system. First, the lifting

[15] Furthermore, it speaks in favor of a possible separation between moral concerns about safety and moral concerns about coercion that violation of autonomy can be viewed as morally problematic in itself and because the relevant scholars in the neuroethical literature deal with these concerns under different headings.

[16] I assume autonomy does not have absolute moral value in the sense that it is always morally forbidden to violate healthy people's autonomy. Otherwise implausible implications follow – e.g. that we are not morally permitted to intervene and violate the autonomy of a terrorist who is about to commit an atrocity.

[17] I believe P1 can be criticized too. I doubt that it is true, for example, that job applicants who do not take PCEs will not be able to perform at their best. There are many ways to improve your performance at work without taking medicines, and some drugs may impair performance. If any of this is true, P1 is false.

[18] See Anderson (2017) for a more detailed account of this understanding of 'coercion'. Dubljevic (2013b) calls it 'total coercion'.

[19] Nozick (1969).

[20] For a critical discussion of Nozick's position on 'coercion' see Anderson (2017) and Dubljevic (2013b). For an elaboration of Nozick's theory of coercion, see Feinberg (1986).

[21] This specification is identical to the characterization of 'peer pressure' given by Fitz et al., 2014, p. 5).

[22] Moreno (2006).

[23] Greely et al. (2008).

of the ban could be combined with rules that protect job applicants and children from being required to use PCEs. This would fit well with other rules governing the education system and the labor market in many countries, where applicants and employees are protected from coercion by those in power (e.g. when it comes to non-disclosure of religion or sexual orientation, or to work-safety rules).[24] An example of such rules already being in place 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).[25]

Secondly, lifting the ban on PCEs could also be combined with legal or local rules declaring either that healthy children are not permitted to use PCEs or that healthy and adult workers may not be recommended or required to use PCEs.[26]

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 lead to the coercion of some individuals, the prohibition itself also coerces some individuals not to use PCEs. As stated in the introduction, the state coerces healthy individuals not to use PCEs: by punishing healthy people who buy, sell or possess PCEs, the state threatens people who are considering whether to do those things. Whether legalizing PCEs may in fact minimize autonomy violations caused by coercion is hard to determine and depends on several issues.[27] Are the rules, like those in Ashford, Connecticut, successful in protecting individuals from coercion? How many healthy people want to use PCEs? How many people 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, and if we believe that more autonomy is better than less, we have a good reason to insist that the legalization of PCEs may in fact increase people's autonomy. Moreover, if education is a valuable tool for enhancing the autonomy in people's lives, PCEs might help us to be more autonomous: they might do so, for example, by making it possible for users to be educated or well educated.[28]

This reasoning is, of course, speculative, and we need more data to answer these 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 if lifted. Whether or not this is true is an open, empirical question.

Before dealing with the next argument, I would like to comment briefly on a version of the argument from coercion I have met with in several discussions at seminars and conferences on PCEs. The idea is that 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. I see three problems with this 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 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.[29] 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.[30] 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.

3. The argument from individualization

Another argument, conspicuous by its absence in the academic debate over moral and legal issues connected with use of PCEs, is the argument from individualization. The following remark seems to capture central parts of this argument: "… using stimulants as cognitive enhancing drugs to solve the social problem of poorly educated students in inadequate schools, misattributes the problem as an individual problem, when it is really a collective sociopolitical problem."[31] A more general reconstruction of this kind of reasoning, used against the legalization of PCEs, can be formulated like this:

P1: If the state legalizes PCE use by healthy individuals, it supports an individual (and medical) solution to problems on the labor market or in the education system, which are social problems.

P2: There is a moral reason not to support individual solutions to social problems.

P3: If the state legalizes PCE use by healthy individuals, it supports an individual solution to social problems.

C: Therefore, there is a moral reason for the state not to legalize PCE use by healthy individuals.

Before discussing this argument, I will elaborate on P1 and P2. The claim that the state 'supports' an individual solution to social problems can be understood in two ways. By lifting the ban the state could directly support an individual solution by explicitly making it clear that if people have problems with their cognitive performance they should use these drugs. However, a more worry would be that the state, by lifting the ban, indirectly supports the use of PCEs by making PCEs easier to access. Furthermore, the problems mentioned in P1 would not only be those mentioned in the remark quoted above.[32] They could also relate to problems on the labor market, as mentioned in the last paragraph of Section 2 (depression, stress, burnout and anxiety caused by the work environment). Concerning P2, it may not be obvious why there is a

[24] Appel (2008).
[25] Conn. Gen. Stat. Series 4000. Personnel (2012).
[26] See e.g. Garasic and Lavazza (2016) for a discussion of such rules – especially the rule that there should be a duty to disclose the use of PCE in competitive-selective contexts. One might also worry that the pharma industry would promote PCE use, but as happens with tobacco in many countries there could be a legal ban on advertising PCEs.
[27] Appel (2008).
[28] For this kind of reasoning, see Ray (2016).
[29] However, see Bublitz and Merken (2014) for a defense of the existence of a moral difference between reading books and using PCEs. For a critique of this view, see Petersen and Kragh (2016).
[30] Of course, technologies like email, Facebook and mobile phones can and probably often do make us feel stressed, at least until we learn to use them in ways that do not make us stressful.
[31] Schwartz (2013).
[32] Signs of 'inadequate schools' of the kind mentioned in the quote could include overcrowded classrooms, noisy environments, and poorly educated or unmotivated teachers.

moral reason not to support an individual solution to a social problem. I believe that there are at least two reasons for this view. One basis of the moral wrongfulness stated in P2 would be concern about efficiency. The view here would be that we either cannot solve social problems (as mentioned in P1) with individual solutions, or are at any rate less effective in solving them in that way. Another worry would be that the focus on an individual solution may draw attention and effort away from social solutions or lead to political apathy, in the end harming those who are destined to be depressed or stressed in the rat-race of the labor market and the education system. The idea is that an individual solution would stand in the way of innovative discussion and action on how to solve the social problems that create problems for individuals.

There are at least two problems with this argument. First, there are good moral reasons to accept a society in which people themselves try to deal with the causes of social/political/structural problems even if individual problem solving cannot solve the social problems (or is less effective or draws attention away from social solutions). No rational person would claim that we should not give individuals who have lost a relative in a traffic accident psychological support because we should only attempt to solve the social problem posed by car accidents by trying to improve traffic safety. Rather than focusing solely on collective solutions to this social problem, we should spend time both on helping individual victims of traffic accidents and on improving traffic safety. The same reasoning applies to PCEs. Given that they are safe to use and efficient cognitive performance enhancers, we should allow healthy people to use them if that helps them; at the same time, through politics, we ought to combat a damagingly pressured labor market and education system.

Furthermore, realistically, preferred social solutions to a damaging and stressful labor market or an overcrowded and poor education system, even if they are developed, could not be put in place immediately. Given this, it seems morally wrong not to allow individuals try to deal with these social problems on an individual level by legalizing PCE use by healthy individuals. The social changes needed to combat these problems may only be realized 10 to 20 years from now. By choosing to focus only on long-term social solutions, we are choosing to ignore the people who would benefit from using PCDs right now. Moreover, the social changes may never occur. If that were to turn out to be the case, it would have been even more morally wrong not to have supported individual solutions earlier. Leaving people to deal with social problems on an individual basis, and allowing them a wide array of possibilities (e.g. mindfulness, exercise, psychological therapy and medicine), would be better than doing nothing.

Secondly, the notion that an individual solution is morally problematic because it draws attention away from the social structures that cause the problems from which individuals suffer is based on pure speculation. It is not, as far as I know, backed up by any empirical data. It could just as well be said that PCE use will give some individuals enhanced cognitive power to focus on, and solve, social problems in the labor market and the education system. For all we yet know, this might be true.

4. Conclusion

I hope to have shown that lifting the ban on PCEs for healthy people cannot necessarily be identified with coercion, and that, even if it can, there are further challenges to the coercion argument in favor of criminalizing healthy people's use of PCEs. I have pointed out, for example, that in some situations (e.g. for soldiers in combat) it seems morally right to coerce employees to use PCEs, and that the legalization of PCE use by healthy people can be combined with rules or laws that prohibit morally problematic coercive use of PCEs on the labor market or in the education system. Furthermore, I have argued that pressure, such as peer-pressure and pressure of the kind exerted by raised expectations among employers, is usually not morally wrong and therefore, to the extent that it occurs, provides us with no good reason to retain the current legislation.

I have also reconstructed and evaluated what I called the argument from individualization, arguing that this argument, in the versions considered, is problematic for several reasons. First, if, as seems likely, relevant changes to the problematic social and political structures that put employees and students under pressure would take a long time to make, individual problem-solving may be better than doing nothing or waiting for better times to come (times that may never come). Secondly, we can in any case do both: individual decisions that involve medicine could be made lawful, and at the same time, work could begin on changing the social structures that leave people stressful and depressed at work on in schoolrooms.

As mentioned in the introduction, the ethical analyses of the argument from coercion and the argument from individualization presented here tackle only two of the many arguments that have been canvassed in the debate over whether PCE use by healthy people should be prohibited. Although these two arguments have several flaws, there may be other and better arguments for prohibiting PCE use by healthy people; or perhaps the two arguments can be improved in ways I have overlooked. However, I hope that the discussion in this paper has made some progress in helping us to understand worries about coercion and individualization, and how these concerns can be met.

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