Editorial

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Policy recommendations to deal with 'academic doping' in Denmark — a successful transfer of a doping control framework?

Who amongst the International Network of Humanistic Doping Research (INHDR) have used drugs to enhance academic performance? Okay, in this instance you can hide behind your computer screens but it is still interesting to ask whether we are all researching and publishing on equal terms — or are some of us gaining an unfair advantage through 'academic doping'? It is now well known that the World Anti-Brain Doping Authority, an initiative that would produce a list of prohibited 'academic doping' substances, oversee the implementation of testing procedures in academic research, and regulate the punishment for a positive test, turned out to be an April Fool's prank. Created by evolutionary biologist Jonathan Eisen at the University of California, Davis, this thought provoking exercise culminated with an informal survey undertaken by the journal Nature (see Maher, 2008) on the use of 'academic doping', providing data to indicate that drugs such as methylphenidate, modafinil and beta blockers were being used for non-medical, cognitive enhancing purposes. Now, depending on your perspective you can either laugh at this hypothetical scenario of drug testing of academics and perhaps students, fear that it might end up a reality or, conversely, welcome the transfer of a 'successful' doping control programme into the academic world.

The apparent diffusion of cognitive enhancing drugs, such as methylphenidate and modafinil, used with the intention of enhancing performance (rather than treating debilitating diseases such as ADHD and narcolepsy) amongst researchers and students has raised concern amongst members of the Danish Council of Ethics. This independent council advises the Danish Parliament and creates public debate on ethical issues, for example

those relating to gene technology and, more broadly, to the health sector. The council has considered the ethical implications of medically enhancing cognitive abilities in healthy individuals and presented its viewpoints and proposed policy recommendations in a recent report (see The Danish Council of Ethics, 2010). In brief, the report highlights: questions of equity which may arise over access to enhancement technologies; issues relating to how humans may experience a loss of ownership of their achievements if they are the result of deliberate use of drugs; the possibility that cognitive enhancement may dissolve valuable conditions of human co-existence i.e. tolerance of human diversity; and, the adverse effects of such drugs and the risk of interfering with the complexity of the human brain. Indeed these arguments have been well rehearsed (see for example British Medical Association, 2007).

Despite little being known about the use of cognitive enhancing drugs in Denmark, in the absence of a specific and coherent regulation of these drugs — although these drugs are currently regulated as both medicinal products (according to the Danish Medicines Act) and controlled substances (according to the Danish Executive Order on Euphoriant Substances) — (some) members of the Ethical Council have proposed the development of separate legislation. According to these Council members the Danish Act on Prohibition of Certain Doping Substances may well serve as a template for a control framework for 'academic doping'. Presumably, concern over the use of 'doping substances', such as anabolic steroids, by the general 'exercising' public influenced the development of the Act on Prohibition of Certain Doping Substances, thus making prohibition the principle mechanism for the control of both manufacture, trafficking and use of 'doping substances' in Denmark. Since 1994, as specified in the Act, controlled 'doping substances' may not be 'manufactured, imported, exported, marketed, dispensed, distributed or possessed, except for use for prevention or treatment of illness'. Violation may result in a fine and/or imprisonment.

So what could be the consequence — intentional or unintentional — of transferring such an Act, designed to prevent doping use in the general population (i.e. outside (elite) sport), into the academic community? Will it decrease the use of cognitive enhancing drugs, and, ultimately, prevent the ethical ramifications (according to the Ethical Council's report as highlighted above) of (pharmacological-based) human enhancement? If prohibition is to work, it must have a deterrent effect. Will an 'Act on Prohibition of Academic Doping Substances' have such an effect?

It is obviously going to be difficult to gauge the effect of such legislation, however, one way to increase compliance might be through threats of sanctions or use of punishments. If an 'academic doping' act was implemented, it could be the task of Danish police to investigate the trafficking and possession of cognitive enhancing drugs in groups likely to use such drugs e.g. researchers or students at Danish universities. Another less intrusive way would be for universities and other workplaces to adopt rules prohibiting the use of these drugs. For example, one might argue that such rules should ban students from using these drugs at examinations. Each

university could then decide whether to use drug testing to enforce these rules. The adoption of such rules is in fact another recommendation in the aforementioned report.

This latter scenario is not at all dissimilar to the current control of anabolic steroid use in Danish commercial gyms. Legislators adopted the popular expression 'fitness doping', arguing that further action was needed to respond to the widespread use of anabolic steroids in groups within the general population. Concomitantly, Denmark became the first country to introduce a doping control programme targeting commercial gym members not participating in (elite) sports. Presently, gyms are required by law to inform customers if they have entered an agreement with Anti Doping Denmark to allow doping control in the gym. Let us assume that a similar 'academic doping' control programme was implemented at Aarhus University that tested researchers or students taking examinations. There are approximately 33,000 students at Aarhus University and for the programme to have a deterrent effect a significant percentage of the students would have to be tested. The cost of this would be substantial. Also, we should consider the lack of evidence regarding the effectiveness of deterrence as a strategy to prevent drug use in Danish gyms. It is worth noting that so far the doping control programme in gyms seems unable to effectively curb the use of anabolic steroids and, ultimately, reduce the adverse effects associated with these drugs.

Other complications should be considered: if prohibition is the main mechanism of control of cognitive enhancing drugs, rational debate on human enhancement or education in relation to and treatment of adverse effects may play a smaller role in society's response to this form of drug use. Ultimately, introducing separate legislation may even discourage some users from engaging with health care professionals in fear of adverse consequences. A further problem is that just because possession and importation of cognitive enhancing drugs is prohibited by Danish law, does not mean that these drugs will not be available on the illicit market. However, here adulteration and misbranding of drugs are commonplace and may cause significant harms to users. Finally, prohibition and the underlying moral values attributed to drug users may decrease the ability to collect valid and precise data on the use of such drugs (including harmful effects), thus limiting the chances of rational debate.

The proposals by the Ethical Council are undoubtedly well intended, however, implementing separate legislation prohibiting 'academic doping' or a drug control programme at universities, may have unintended consequences — not least because they may be regarded as a disproportionate response to the issue, particularly by those that would be the target of such measures. Currently, a framework to regulate cognitive enhancing drugs already exists in Denmark (i.e. the Danish Medicines Act and the Danish Executive Order on Euphoriant Substances), and may function as a safeguard of any harms which such drug use may pose. Further, the adoption of the popular term 'cognitive enhancing drugs' is misleading in defining the effect of these drugs. While

they may impair the normal process of fatigue, it is doubtful if they will significantly improve the cognitive ability to think or feel (see for example Flower et al, 2010). Although this may change in the future as new drugs emerge. There is a danger that legislating may stifle dissemination of information on the actual effects of these drugs.

Presently, the implementation of an 'Act on Prohibition of Academic Doping Substances' remains speculative; so far politicians and administrators of Danish universities have been lukewarm about the proposal. However, for those members of INHDR who may use cognitive enhancing drugs to increase their performance, think twice about joining us at the next conference in Aarhus. We might be welcoming you with a mandatory drug test.

References

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