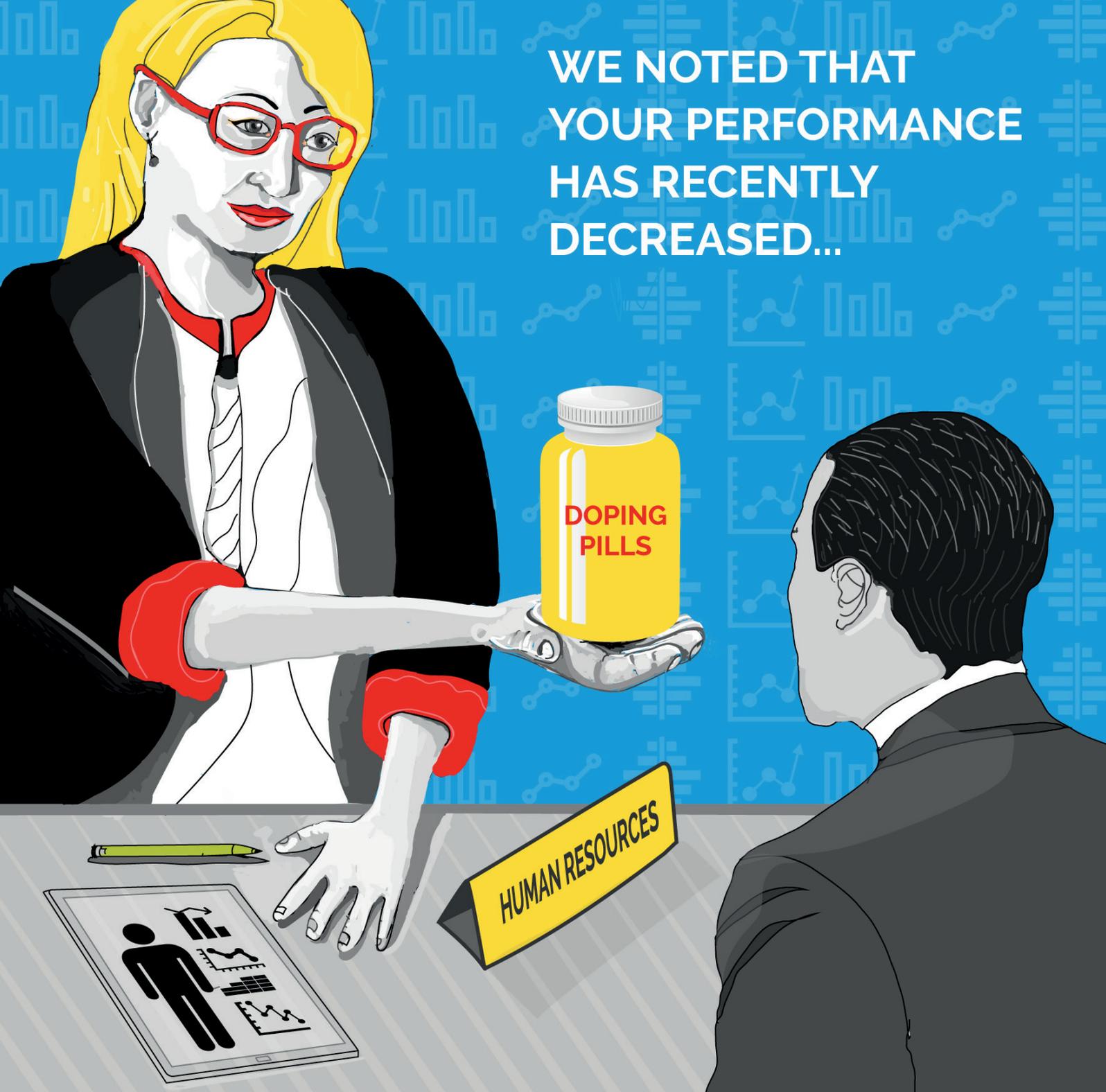
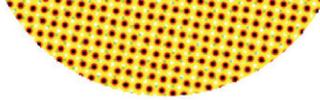


**WE NOTED THAT
YOUR PERFORMANCE
HAS RECENTLY
DECREASED...**



« IF ENHANCEMENT DRUGS BECOME COMMON PRACTICE IN THE WORKPLACE, NEW LAWS WILL HAVE TO BE DESIGNED AND IMPLEMENTED. »

« (...)FACTORY WORKERS MIGHT BE EXPECTED TO TAKE PHARMACEUTICAL COGNITIVE ENHANCERS TO COUNTERACT TIREDNESS AND FATIGUE AND ENABLE THEM TO WORK LONGER SHIFTS. »



CHAPTER 2

Enhancing human enhancement : a legal perspective

D. SHAW

«THERE ARE FASCINATING ETHICAL QUESTIONS ABOUT HUMAN ENHANCEMENT. BUT IT IS OFTEN FORGOTTEN THAT IT IS ULTIMATELY THE LAW WHICH WILL DECIDE HOW THESE ISSUES ARE DEALT WITH»

D. Shaw

Much of the discussion regarding human enhancement has focused on ethical issues. Should we make ourselves smarter using pills? Is it ethical to allow athletes to “dope”? Is it right to bestow particular qualities upon our children through the use of technology?

These are fascinating questions. However, it is often forgotten that it is ultimately law, rather than ethics, that will finally decide how we must address these issues. The law is frequently accused of lagging behind technological and pharmaceutical developments, which appears to be even more likely to occur in the case of human enhancement, where both science and the ethical debate are moving rapidly. We might wonder

whether the law will successfully anticipate and regulate the cutting-edge questions posed by the utilization of technologies for enhancing humans. In this chapter, I examine how natural, national and international laws address issues related to human enhancement.

NATURAL LAW

Some of the oldest objections to human enhancement derive from the concept of “natural law”. In essence, natural law attempts to determine moral rules using basic facts about human “nature” and “function”. Natural law is conceived of in contradistinction to “positive law”, i.e., the rules established by

various societies. It has been argued that natural law entails that many forms of human enhancement should be outlawed because the very aim of enhancement is to alter individuals' natural biological state (Anderson and Tolefson 2008). However, it can also be argued that the very nature of human beings is to find solutions that improve who we are, including our natural biological state. We are constantly attempting to improve ourselves by learning new facts and skills through new experiences. In this sense, we can even argue that education itself is a form of human enhancement (Harris 2007), and few supporters of natural law would argue against education.

ALTHOUGH IT IS OFTEN CLAIMED THAT HUMAN ENHANCEMENT IS "UNNATURAL" (ANDERSON AND TOLEFSON 2008), THIS STATEMENT HAS LITTLE LEGAL OR ETHICAL FORCE.

For example, hospitals and schools are not natural – they are human-made institutions – but we use them because they provide us clear benefits. Thus, based on the principles of natural law, it can be argued that education and healthcare are forms of human enhancement.

Natural law may seem to be interesting from a theoretical perspective, but it does not provide any useful information on how to address human enhancement in practice.

NATIONAL LAWS

Various national laws already tightly regulate one form of medical intervention that has been considered by some to be human enhancement: plastic surgery (Stern 2013). Although initially developed for therapeutic purposes (such as restoring function after an accident or a disease), the use of plastic surgery for aesthetic enhancements – hereafter referred as “cosmetic enhancement” – soon became popular all over the world. Given the potentially dramatic side effects of such interventions (even a “nose job” might result in a heart attack or a blood clot), cosmetic enhancements are strictly regulated to protect patients against risky and ill-advised medical practices. Despite some notable behavior involving misconduct such as the “Poly Implant Prothèse” scandal in France (Willsher 2013), this regulation has largely been successful.

Although cosmetic enhance-

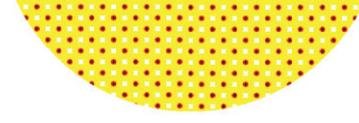
ment runs the risk of undesirable side effects, other forms of human enhancement through technological modifications might have clearly beneficial effects on health. For instance, it has been observed that people from wealthier backgrounds tend to be healthier than those from poorer backgrounds (Shaw 2014). If people who grow up in poorer areas tend to die younger because of their lower quality of life and lower levels of education, we may wonder whether providing them with cognitive enhancers might help them make healthier choices, which would reduce health inequalities between rich and poor.

IN OTHER WORDS. COGNITIVE ENHANCEMENT MIGHT BE USED AS A MEANS OF IMPROVING PUBLIC HEALTH (SHAW 2014).

Any such intervention would necessitate governance by means of a legal framework, particularly if it were available to everyone, as is the case in the USA with fluoride-enhanced public water supplies (Shaw 2012).

We should examine other types of technologies that may lead to human enhancement. First, extending our

lifespan by fighting diseases is one of the most widely accepted objectives of our industrialized societies. However, extending our lifespan substantially using the new tools offered by modern technology poses certain problems that may require legal regulation. For example, what might be the impact on societies if the average lifespan were increased up to 1,000 years through the use of life-enhancing technologies? Such a scenario might make it necessary for countries to create new laws to prevent the public from using such life-extending technologies to limit the impact on medical and natural resources (and on the environment through increased CO2 emissions). Denying public social care for such technology would likely be relatively easy. However, legislation might also be required to prevent the private use of such life-extending technologies to prevent the emergence of a two-tier system in which the very rich could live very long and healthy lives, whereas ordinary people could not. Second, many countries already have laws governing pharmaceuticals that enhance humans. For example, certain drugs that improve alertness and other cognitive abilities – such as methylphenidate (Ritalin), for example



– are available in most industrialized countries only by prescription. Most of these laws have been enacted for safety reasons because there is not yet sufficient data on the potential side effects of pharmaceutical “cognitive enhancers” and because they might become addictive if overused. Whereas current laws and regulations govern the use of cognitive enhancers for therapeutic purposes quite well by making them available only by prescription, they might also be used “off-label” by individuals aiming to enhance certain of their cognitive abilities rather than to treat the disease or health problems for which the drug was developed. From a “risk/benefit” perspective (i.e., balancing the risks vs. the benefit that these drugs may have on those using them), the use of such a drug might be considered more “risky” for healthy people due to the unpredictable and (perhaps) undesirable side effects associated with the pharmaceutical than such use would be for people who require the drug to restore normal function. In other words, taking the risk of the side effects to restore “normal functioning” might be worth it; however, taking such a risk to improve cognitive

skills beyond what might be considered “normal” might not be worth it. In this regard, regulation and legislation should be developed to regulate such off-label use of drugs in a way that also permits the responsible use of enhancement.

New laws may also be required to prevent “enhancers” from being used unfairly. For instance, some educational institutions (Lamkin 2011) are already considering banning the use of “cognitive enhancers” such as Ritalin by their students during exam periods because of the unfair advantage such drugs may offer. In addition, it has previously been suggested that some types of “enhancers” should only be available to people who obtain “enhancement licenses” that indicate that they understand the risks of using such “enhancers” and who agree to take them only if doing so does not jeopardize the integrity of their own life and/or the lives of others.

IF HUMAN ENHANCEMENT BECOMES COMMON PRACTICE IN THE WORKPLACE, THEN NEW LAWS WILL HAVE TO BE DESIGNED AND IMPLEMENTED.

On one hand, it might be necessary to regulate employers who try to force

their employees to use “enhancers” to improve efficiency.

FOR EXAMPLE. FACTORY WORKERS MIGHT BE EXPECTED TO TAKE PHARMACEUTICAL COGNITIVE ENHANCERS TO COUNTERACT TIREDNESS AND FATIGUE AND ENABLE THEM TO WORK MORE EFFECTIVELY AND/OR FOR LONGER PERIODS OF TIME.

Although current labor laws in some countries may forbid pressuring employees to take such drugs, it might be necessary to draft new legislation that specifically addresses the use of “enhancement technologies” in other countries. Indeed, some healthcare workers must already accept what is arguably a type of enhancement in the form of flu vaccinations; some schools also require children to be vaccinated if they wish to attend. On the other hand, colleagues – rather than employers – might also pressure individuals to use “enhancers”. If the unofficial use of enhancers were to become popular in particular professions, some professionals might feel obligated to use them, as is already the case with respect to surgery in the following scenario. Surgery is a competitive profession. If some surgeons began using cognitive enhancers, they might

become better at their jobs, leading other surgeons to use such cognitive enhancers. Furthermore, although employees should be protected from pressure to use performance-enhancing drugs, they might also face litigation if they make professional errors that might reasonably have been prevented by an “enhancer”. For instance, if a “non-enhanced” surgeon made a mistake during an operation, he might be sued for not having taken a performance-enhancing drug that might have helped him prevent the error. In summary, new laws similar to those that presently regulate “doping” among athletes may be required to regulate both the employer-endorsed and the de facto use of enhancing drugs in the workplace.

The field of criminal law may also be interested in enhancing some criminals with “mood stabilizers”. Just as some sex offenders are “chemically castrated”, advanced “mood stabilizers” might be used to reduce the risk of recidivism among criminals. Similarly, so-called “morality pills” may soon become a reality. With such a drug, those convicted of crimes could choose to take pills that might help them make



better moral choices. Alternatively, of course, they might be forced to take such pills as a condition of their release. Cognitive enhancers might even be used to improve certain aspects of criminals' cognition (in cases in which they have below-average cognitive levels). For instance, such enhancers might help them find work after release from prison or (more cynically) face their trial.

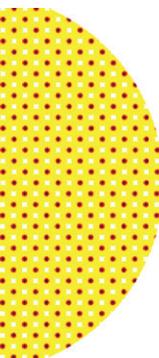
FINALLY. SOME GOVERNMENTS MIGHT CONSIDER GIVING "MORALITY PILLS" TO CITIZENS WHO DEMONSTRATE A HIGH RISK OF ENGAGING IN CRIMINAL BEHAVIOR TO REDUCE THE RISK THAT THEY MIGHT BREAK THE LAW IN THE FUTURE.

In this case, we may wonder how such governments would determine what behaviors are considered to represent a potentially "high risk of criminality". "Mechanical implants" may also raise new legal challenges. For example, Google Glass and other wearable devices incorporate technologies that can film videos, take pictures, read emails and/or surf the web. In a world in which people might easily and secretly record everything they see, new laws would be necessary to protect privacy and confidentiality.

INTERNATIONAL LAWS

Whereas societies probably want to legislate the use of technologies that might lead to human enhancement, the ramifications for international law are not immediately obvious. For instance, enhancing soldiers by means of technological modifications might have significant implications for the laws governing international conflicts and war crimes. When considered necessary, armies can essentially force their soldiers to take any technology or drug that may enhance their performance. For example, a new drug might enable soldiers to stay awake for 48 hours without tiring, and/or bionic implants might make them extraordinarily strong. If pharmaceutical and bionic interventions were to make the soldiers of rich nations such as the United States even more formidable adversaries, the military dominance of a few large nations would be enhanced to a staggering degree, reducing the ability of smaller, less advanced nations to defend themselves.

Sports constitute another arena of international regulations (also known as "soft laws") affected



by human enhancements. Most people are familiar with the Lance Armstrong scandal and the wider problems of doping in sports. For decades, the consensus has been that improving athletic performance using drugs is deeply wrong and unsportsmanlike. However, recent revelations concerning the extremely common and widespread use of doping substances in some sports has led some authors to call for doping substances to be permitted (Savulescu, Foddy, and Clayton 2004). Although these views remain in the minority, the regulations governing sports may have to change at some point in the future if doping in a particular sport becomes the norm rather than the exception. There is a parallel debate regarding the use of technologies that may enhance physical capacities in sport. For instance, the use of “bionic” body additions, such as Oscar Pistorius’ running blades, has been widely discussed (Lewis 2011). It is typically regarded as fair for disabled athletes to use such artificial limbs, but in some cases – including that of Pistorius – these “replacement body parts” might actually perform better than normal biological human limbs.

Finally, it is possible that new

international laws will have to be implemented to govern “enhancement tourism”, in which citizens from a homeland in which the use of a given enhancing technology is forbidden might choose to travel to another country in which it is available. We can easily make a parallel with “fertility tourism”, in which people seek access abroad to reproductive services that are forbidden in their own country.

THE PROSPECT OF SOME COUNTRIES ALLOWING MANY FORMS OF HUMAN ENHANCEMENT – WHEREAS OTHERS ARE MORE PROHIBITIVE – ALSO CREATES THE ABILITY FOR THESE COUNTRIES TO ESTABLISH ECONOMIC SECTORS BASED ON DEVELOPING TECHNOLOGIES THAT OFFER HUMAN ENHANCEMENTS.

A related issue involves groups of countries such as the European Union. These unions of states might want to implement legislation on strategies regarding the use of enhancing technologies so that citizens of all member states continue to have the same rights and opportunities in the workplace, for instance.

IN OTHER WORDS. IF ENHANCEMENT IN THE WORKPLACE WERE PERMITTED IN SOME STATES BUT NOT IN OTHERS. THE RIGHTS OF WORKERS IN PERMISS-

SIVE STATES MIGHT BE ERODED. SIMILARLY, SOME COUNTRIES MIGHT FEEL COMPELLED TO ADOPT A PERMISSIVE ATTITUDE TOWARD ENHANCEMENT TO REMAIN COMPETITIVE (MENUZ, RODUIT, AND HURLIMANN 2013).

Any future laws governing the enhancement of humans will be based on an ethical consensus regarding the key issues. The current consensus is that the three main areas of ethical concern are safety, coercion and fairness. The law must therefore prevent the use of unsafe technologies for purposes of enhancement, prevent people from being forced to use technologies to enhance themselves when they do not wish to do so, and prevent people from unfairly benefiting from the use of such technologies. Whether in the workplace, on a running track, or in the race to live to 200 years old, the wondrous potential of enhancement must be regulated by carefully drafted legislation.

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