Treating the Enhancement Debate: Irrelevant Distinctions in the Enhancement Medicine Debate

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Abstract

This article argues against the relevance of the enhancement/treatment and biomedical/non-biomedical enhancement distinctions by analysing their validity in two ways: their clarity and whether they track our intuitions regarding what is permissible and impermissible. The treatment/enhancement distinction is found to be deficient in both respects. The biomedical/non-biomedical distinction, whilst clear, does not track our intuitions regarding what is permissible and impermissible. The article concludes that, in order to help the enhancement medicine debate, the distinctions should be abandoned due to the fact they hinder clear ethical analysis.

1 Introduction

In much of the literature on enhancement medicine several distinctions are deemed relevant which, upon reflection, do not do the moral work attributed to them. These distinctions are the distinction between therapeutic and enhancement medicine and the distinction between biomedical enhancement and other forms of enhancement. These divisions, often considered morally significant, are vague and do not track our moral intuitions regarding permissibility and impermissibility. This article concludes that, in benefit of clarity, the divisions should be abandoned as they do not do the moral work required of them and may prove pernicious to the debate. The following article is structured into three sections. The first analyses the enhancement-treatment distinction and argues it is both unclear and does not track the line between morally permissible and impermissible actions, the second analyses the biomedical/non-biomedical enhancement distinction and argues that, whilst it is clearly definable, it also does not track the line between what is permissible and

Kriterion – Journal of Philosophy (2014) 28: 1–12.
http://www.kriterion.at

what is impermissible. Finally, the conclusion argues for the abandonment of the distinction due to the fact it is pernicious to the debate.

2 The Enhancement-Treatment Distinction

The distinction between treatment and enhancement has been given various formulations. Norman Daniels defines it thusly:

> "The treatment-enhancement distinction draws a line between services or interventions meant to prevent or cure (or otherwise ameliorate) conditions that we view as diseases or disabilities and interventions that improve a condition that we view as a normal function or feature of members of our species" ([4, p.309])

Michael Sandel distinguishes between enhancement and treatment by stating that:

> "Although medical treatment intervenes in nature, it does so for the sake of health, and so does not represent a boundless bid for mastery and dominion. [...] The reason is that medicine is governed, or at least guided, by the norm of restoring and preserving the natural human functions that constitute health." ([9, p.47])

On the other hand, Nick Bostrom and Anders Sandberg formulate the distinction between (cognitive) enhancement and (cognitive) treatment in terms of defects. Even though their distinction is specifically tailored to cognitive enhancements it can easily be modified to fit all enhancements:

> "An intervention that is aimed at correcting a specific pathology or defect of a cognitive subsystem may be characterized as therapeutic. An enhancement is an intervention that improves a subsystem in some way other than repairing something that is broken or remedying a specific disfunction." ([2, p.312])

The above distinction is of interest in the ethical debate regarding enhancement medicine as many people believe treatment to be acceptable whereas enhancement is not. The distinction is considered to carry moral significance by tracking the distinction between permissible and impermissible actions.[1] Firstly, the distinction will be shown to be vague,

which makes resting moral significance on it doubtful. Secondly, the distinction will be shown to be ineffective at tracking the moral intuitions of those who use it as a dividing line between what is acceptable and what is not.

All three of the above formulations of the distinction between enhancement and treatment rely on one fundamental notion, that of what is 'normal' or 'natural' for our species. One may point out what these vague statements mean. 'Normal' for humanity seems to be contingent on the moment in time and point of view one assesses humanity from. A 'normal' life span 100 years ago is radically different to a 'normal' life span in the developed countries in the twenty-first century which is in turn radically different to a 'normal' life span in places such as Darfur of the Democratic Republic of Congo.

Another problem which presents itself is that of the genius. ([1, p.2]). The problem arises when one takes 'natural' to be dependent on the person. If an individual with above average cognitive abilities suffers an injury or disability which reduces his cognitive ability, he receives treatment if this injury is cured according to Bostrom and Roache. On the other hand, if one is below average and one 'enhances' her capacities, without having suffered a prior injury, she has received enhancement, which is compatible with still having below average cognitive abilities. If one attributes moral significance to the distinction between enhancement and treatment the second scenario is not permissible.

Take now an analogous example. Barry is an extraordinarily fast runner yet, during training, he pulls a hamstring. He has suffered what would normally be called an injury and, hence, he receives treatment. However, as his starting point was so vastly superior, he also seems to have an "*intervention that improve[s] a condition that we view as a normal function or feature of members of our species*" ([4, p.309])

Whilst Sandels distinction uses the notion of 'natural' when defining the purpose of therapeutic medicine, Daniels uses it to describe enhancement medicine. In this respect Sandel's position seems harder to uphold. Consider the following scenario: An elderly patient, say 90 years old, is severely ill at hospital. Her liver is not functioning as it would in a young person. She is not, then, healthy. However, the term 'healthy' also requires qualification. What is healthy for a 20 year old would be more than healthy for a 90 year old. Should one restore the elderly patients liver function to that of a 20 year old? It seems like such a high level of functioning is above "*the natural human functions that constitute health.*" ([9, p.47]) at least for a 90 year old. However, if one is

intervening in liver function it seems arbitrary to make her liver function 'natural' for a 90 year old and stop there, considering any further betterment an impermissible enhancement.

Another problem arises when considering how one is to understand Daniels' reliance on the locution "*normal function or feature of members of our species*" ([4, p.309]) If one understands normal as the statistical average then therapy would constitute raising those below average to the average. This, however, is impossible to sustain due to the fact the condition of those below-average is factored in to the average. Modifying the condition of those below average will lead to an increase in the average among a population, therefore justifying more therapy which, in turn, will raise the average further.[2]

This problem could be avoided, however, by considering the "*normal function or feature of members of our species*" ([4, p.309]) as the most common level of functioning. This approach, whilst avoiding the above problem, in turn involves the problem of Bostrom and Roaches 'genius case' outlined above.

Daniels also questions the coherence of the distinction when he argues that if of two children, both with predicted heights of 160cm, one has a growth hormone deficiency and the other is just genetically short, only the child with the hormone deficiency would be prescribed treatment. (Daniels, 2000, p. 311) However, in this case, it seems that one could also argue that treating the child with a genetic disposition to being short doesn't constitute (according to one reading of Daniels' distinction) a enhancement as it doesn't improve on "*a condition that we view as a normal function or feature of members of our species*" ([4, p.309]) due to the fact being 160cm tall is abnormally small for a current male member of our species in the developed nations.

Take now the distinction Sandel uses to argue against enhancement medicine. Sandel argues that medicine intervenes in nature to preserve and promote health. That is, treatment is acceptable due to the fact it is "*guided, by the norm of restoring and preserving the natural human functions that constitute health.*" ([9, p.47])

Sandel's distinction is problematic and can be shown to be so by adapting an argument used by Buchanan. Buchanan uses a series of examples to argue that enhancement may be necessary to preserve well-being. ([3, p.2, p.162–164]) Suppose one has a normal capacity to deal with radiation. Yet one lives in a radioactive zone, say outskirts of Chernobyl or the newly radioactive zone surrounding Fukushima. A normal human body cannot survive such levels of radiation over a long period of

time without suffering adverse effects. Enhancement medicine could, for example by preventing the degeneration of tissues or through somatic genetic enhancement, increase the normal human body's capacity to withstand radiation. This intervention would "*improve a condition that we view as a normal function or feature of members of our species*" ([4, p.309]) yet it would restore the basic functions that constitute health. Hence it would constitute therapy according to Sandel's definition yet enhancement according to Daniels'. What the above example shows is enhancements (improving of functions) may be necessary to preserve goods and health. If one attributes the moral distinction certain authors attribute we arrive at the counterintuitive position that reducing the impact of cancer is morally impermissible.

Having shown that there is no clear, agreed upon distinction between enhancement and therapy and that in many cases the distinction is vague and hard to apply, the thesis that this distinction tracks moral intuitions regarding what is permissible and impermissible must be analysed.

Vaccinations constitute a paradigmatic example of a medical enhancement (the enhancement of the immune system) which is not considered morally problematic. Vaccination clearly improves upon the "*normal function or feature of members of our species*" ([4, p.309]) yet it is widely considered permissible and even compulsory (in some cases) as a matter of public health. The vaccination example poses a problem for Daniels' account whilst Sandel's account seems to be able to treat vaccinations as treatment due to the fact they preserve health. The example of vaccinations lends further support to the idea that the distinction between enhancement and treatment does not do the moral work certain authors wish it to do.

A second example of a biomedical enhancement which is commonly deemed acceptable is the administration of chlorine or long chained fatty acid supplements to mothers during late pregnancy and early post-pregnancy. This enhancement, deemed permissible, is an even more radical example of enhancement than the enhancements discussed above as it involves the enhancement of another human being and, hence, involves the problems of autonomy enhancements of oneself do not. ([2, p.320])

The above argument rests on consequentialist reasoning which argues that the modification is acceptable as it has good consequences (the health of the baby). It could be argued, however, that the intentional modification of another human being is wrong on deontological grounds. This argument is powerful in these cases. However, the above

case of administering dietary supplements seems a relatively inoffensive case of modification which, whilst wrong according to certain deontological ethical systems, seems to be intuitively acceptable.

A third example of the morally irrelevant nature of the enhancement/treatment distinction is the case of Prozac and depression. Prozac is a selective serotonin re-uptake inhibitor, that is, it inhibits the reabsorption of serotonin thus raising the levels of serotonin in the brain. Low levels of serotonin are commonly associated with depression and lack of self worth. Prozac is prescribed as medication for patients suffering from depression, which is often linked to low self-esteem. However, many people who do not suffer from depression have low self-esteem, a condition prevalent, especially among women. ([5, p.43]) The lack of self-esteem has far reaching consequences, such as failure at work, aggression, loss of confidence and may play a part in the current alarming levels of eating disorders among both men and women.

Treating a patient who suffers from low self esteem (although not depression) with Prozac would raise their levels of serotonin and, hence, better their self esteem. Helping people feel better is surely a worthwhile goal and morally permissible. To consider this treatment one would have to consider low self-esteem a psychological disorder which leads to the problem of excessive medicalisation.

The enhancement-therapy distinction is void of moral considerations when analysed correctly. The fact one achieves what is 'normal' for the species carries no moral weight if one denies a teleological view of human evolution. The fact a distribution is common seems to have no moral weight, unless one embarks on the naturalistic fallacy route and derives an 'ought' from an 'is', against David Hume's best wishes.

Having seen the vague nature of the enhancement-therapy distinction, and shown the lack of moral work such a distinction does, it seems the enhancement medicine debate would be clearer without it. If the enhancement-therapy distinction is abandoned one can focus more clearly on whether certain biomedical interventions promote wellbeing, promote the interests of individuals, are a valid expression of one's rights regarding one's bodies or whether they are problematic from the standpoint of distributive justice. The enhancement treatment proves harmful to the debate by obscuring these questions in a way specified in the concluding section of the article.

3 Biomedical and Non-biomedical Enhancement

Another distinction is often appealed to in the enhancement medicine debate: the distinction between biomedical enhancement and other types (non-biomedical) of enhancement. The distinction is used as a morally relevant dividing line between what is permissible and what is impermissible: Non-biomedical enhancement is seen as permissible whereas biomedical enhancement is seen as impermissible. ([9, p.51]) ([3, p.143])

This distinction is most commonly supported by the following three interconnected arguments: (i) a biomedical enhancement may have worse consequences than a non-biomedical enhancement, (ii) biomedical enhancements are irreversible ([3, p.173]), (iii) biomedical enhancements modify the organism and are, hence, more dangerous. ([3, p.146])[3]

In this section these considerations in favour of the distinction will be shown to be mistaken. Firstly, however, one must settle definitions. In this article Buchanan's uncontroversial value-neutral definition of biomedical enhancement will be used:

> "A biomedical enhancement is a deliberate intervention, applying biomedical science, which aims to improve an existing capacity that most or all normal human beings typically have, or to create a new capacity, by acting directly on the body or brain." ([3, p.23])

Having defined biomedical enhancement one comes to the question, what is a non-biomedical enhancement? A non-biomedical enhancement is one where the intervention aimed at improving or creating a capacity does not utilise biomedical science. Examples of non-biomedical enhancements are easy to find, literacy and numeracy (both cognitive enhancements), computers, agriculture, smelting and clothing are all forms of enhancements which are not biomedical. These enhancements are generally thought to be morally unproblematic. The moral issues they give rise to are of a derived nature as they regard the consequences of the application and use of these enhancements. The ecological consequences of, say, extensive environmentally unfriendly farming may be of moral interest, making the activity in question impermissible. The moral impermissibility does not regard farming *per se* but irresponsible farming, in the same way there is nothing morally wrong with driving a car (unless one takes a radical ecological stance) yet there is something wrong with recklessly driving a car. On the other hand, biomedical enhancements, it is argued, pose moral problems in themselves and not just when used

irresponsibly or due to the fact the consequences are devastating. They are, in this sense, *essentially* impermissible. ([3, pp.115–148])

It is often assumed that biomedical enhancements carry worse consequences than non-biomedical enhancements. This assumption can be shown to be false as it involves a prejudice regarding biological intervention, a sort of 'bio-fetish'. Take for example a common non-biomedical enhancement: the use of mobile phones. The use of mobile phones is seen to be morally permissible. However, the consequences of production and, hence, use of mobile phones may have extremely disastrous consequences. The search for Coltan, a rare mineral necessary for the production of mobile phones, causes a substantial number of deaths in the Democratic Republic of Congo ever year due to the fact control of the mines has led to an escalation in violence between waring factions. ([7]) As well as the geopolitical problems caused by the 'resource curse', mobile phone use can carry biological consequences. Whilst these are not yet fully known, there is evidence suggesting a possible link to male infertility. ([6])

Another example of a particularly potentially problematic enhancement is science, as Buchanan points out: "*The awesome collective cognitive enhancement we call science has create the risk of a nuclear holocaust, for example*" ([3, p.25]) Cosmetic enhancements such as deodorant have contributed, through the spread of CFC's in the atmosphere, to the reduction of the ozone layer and, hence, to global warming.

As the above examples show the negative consequences of biomedical enhancements are not *a priori* greater than those of non-biomedical enhancements.

Nick Bostrom and Anders Sandberg jokingly argue that education, a non-biomedical enhancement, can also have terrible consequences:

> "Education can enhance cognitive skills and capacities, but it can also create fanatics, dogmatists, sophistic arguers, skilled rationalizers, cynical manipulators and indoctrinated, prejudiced, confused or selfishly calculating minds." ([2, p.322])

The second assumption which must be addressed is the fact that biomedical enhancements are irreversible and, hence, if they carry negative consequences, more dangerous. The irreversibility of a modification is, however, not exclusive to biomedical enhancements. Some non-biomedical enhancements are also not reversible in this way. Irreversibility is, obviously, interesting when analysing the risks of undertaking a certain course of action. If the use of computers has negative consequences one

could always stop using them. If, however, a certain enhancement is irreversible one is stuck with the negative consequences.[4] There are many examples of this irreversibility: take, for example, education. The development of language skills could be understood as irreversible. ([3, p.40]) Other enhancements such as agriculture could also be considered irreversible. If humanity were to revert to a nomadic lifestyle the death of millions of people would follow. In this sense sedentary agricultural life is irreversible. ([3, p.40])

Thus, with the above examples, one can see that being irreversible is a feature common to certain non-biomedical enhancements as well, making the supposedly morally relevant line cut into what was originally considered permissible, hence making it inadequate. However, the above argument presupposes that biomedical enhancements really are irreversible. The fact is that not all biomedical enhancements are irreversible. Take for example the consumption of psycho-active substances to augment memory or cognitive capacity. These are both biomedical and reversible enhancements. Another example of the reversible nature of certain biomedical enhancements is the paradigmatically sci-fi example of a microchip implanted in the brain which could, if needed, be removed. Buchanan, once again, cites examples of reversible biomedical enhancements: "*we already know how to block the expression of genes that have been inserted into laboratory animals*" ([3, p.40]) Buchanan doesn't, on this occasion, give a reference in the scientific literature to back up this point.

The third supposedly morally relevant point which distinguishes biomedical enhancement from non-biomedical enhancement is the fact that only biomedical enhancement alter our biology. This supposition, like the two before, is also not true. Norman Daniels cites evidence supporting the claim that literacy produces neurological changes regarding how information is processed in the brain ([8]). Buchanan also references this fact various times in *Beyond Humanity?*. ([3, p.39 and p.24])

Non-biomedical enhancement has not only modified our biology as individuals, it has even altered our genetic make-up. Buchanan gives the following example "*the proliferation of dairy farming in Middle Eastern and European populations created selection pressures that led to the evolution of genes associated with lactose tolerance.*" ([3, p.40]) Other examples include mixing of previously isolated gene pools through more efficient transportation, the creation of institutions such as empires and the overcoming of racial prejudice (making mixed race couples acceptable).

The supposition that only biomedical enhancements alter our biology can be seen to be unfounded. It could be argued, however, that while non-biomedical enhancements alter our biology only biomedical enhancements do so intentionally. The problem with such a response brings is the question of why the intentional modification of our biology is morally more problematic than the unintentional alteration of our biology through our actions.

The distinction between biomedical enhancements and non-biomedical enhancements, unlike the enhancement/treatment distinction, exists and can be clearly marked out. The distinction between biomedical and non-biomedical enhancement suffers from a different problem. The arguments used to support the moral relevance of the distinction do not lend the support which is needed, as they apply both to some biomedical enhancements and some non-biomedical enhancements. The distinction, supposed to track morally relevant points such as the irreversibility or the possibility unintended bad consequences (made worse by the irreversibility), turns out to be of little use even as a criteria for moral permissibility.

Thus the distinction is of little use in the moral debate surrounding the permissibility of enhancement medicine and could be done without in the interest of clarity. Attention can then focus on the relevant problems of unintended bad consequences.

4 Conclusion

Having analysed both distinctions a conclusion can be arrived at: the enhancement debate would be clearer if these were abandoned allowing the discussion to centre on the relevant ethical problems which enhancement may or may not raise. The cost of abandoning these distinctions is low as they do little or no moral work. The distinctions above mentioned not only don't do any moral work they are, in some circumstances, actively injurious to the health of the debate as they offer a pseudo-argument often used to mask fallacious reasoning and to arbitrarily interrupt the chain of reasons.

However the above discussion remains incomplete if the supposed harms of using the distinction are not made explicit. The above distinction is harmful in a number of ways. Firstly, the use of this distinction depletes precious scarce research resources by sidestepping the relevant distinctions and by generating independent problems such as the problem of excessive medicalization. Secondly, the distinction is misleading

as it provides a proxy for rational thought. It could be argued that the distinction is not harmful, or only moderately so, as it also has a positive effect. The distinction, under this account, would act as a sort of warning sign which, whilst not always accurate, 'flags up' possibly problematic enhancements. Whilst this may be true the 'warning sign' account has problems of it's own. Due to the fact the volume of warning signs is so great, one conceives of 'non-flagged up' enhancements as completely unproblematic. The 'warning sign account' acts like wet-floor-signs do. They are so over used one does not pay proper attention when they are not present.

Notes

1 I thank Margarita Boladeras and a discussion with fellow students in the Bioethics seminar for pointing out they may do moral work in other scenarios when debating how to allocate scarce public resources in order to obtain a minimum level of wellbeing for all. This possibility is not conclusive as enhancements may be necessary to raise the level of wellbeing of those least well off as will be seen in the remainder of the article. For an interesting approach see [4]. For sake of clarity 'morally significant' will be taken to mean significant when distinguishing the permissible from the impermissible.

2 I am indebted to Ned Martorell Parsekian for helpfully pointing this mathematical fact out to me.

3 Both argument i) and iii) presuppose the idea of the human organism as a finely balanced whole. The third view is more commonly held as an argument in the anti-enhancement literature.

4 It is interesting to note that little attention is payed to the other side of the coin. If biomedical enhancements are irreversible then those that increase well-being will also be irreversible.

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