

# Ethical Considerations on Physical Enhancement in the Competitive Sports World: With Regard to a Better Body\*

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Medical technology has made remarkable advances in recent years. On the one hand, these advances have the benefit of contributing to the happiness of humankind; on the other hand, they can raise various ethical and social issues, precisely because they are applied to individual humans. One such issue is enhancement technology, which can be used not only for the purpose of treating disease, but also for improving or enhancing the body or mind; humans themselves can become subject to alterations without any medical purpose. Body enhancement used to improve athletic performance is of particular concern in competitive sports. In this study, body enhancement was considered to be an act of pursuing a better-performing body, and examined the issues related to “better-ness” in this context from an ethical viewpoint. Specifically, I (1) elucidate the meaning of the word “better-ness” within the phrase “better performing” and (2) examine whether the act of pursuing a body that is “better” is an act of overall human betterment by engaging in an ethical discussion of its pros and cons. I use the principle of act described in Kant’s practical philosophy as a framework for discussion. With regard to (1), I conclude that the meaning of “better” in the context of body enhancement in competitive sports is defined by theoretical (logical) judgment, and not by moral judgment. With regard to (2), I describe what an unacceptable act is according to Kant’s Formula of the End in Itself. I also present the limits of this study, and point out the need to clarify in future studies the concept of what comprises human nature.

**Keywords:** Immanuel Kant, better-ness, good

## 1. Background

Medical technology has made remarkable advances in recent years. Developments in the life sciences and molecular biology have elucidated the biological aspects of human bodily functions. Concurrent with this, medical technology has seen rapid development. In particular, therapy that utilizes gene technology, so-called gene therapy, has become more firmly established, owing partly to the conclusion of the Human Genome Project, which has decoded the base sequence of the entire human genome.\*<sup>1</sup>

On the one hand, these advances have the benefit of contributing to the happiness of mankind; one

the other hand, they raise various ethical and social issues, precisely because they are applied to individual humans. One such issue is enhancement technology, which can be used not only for the purpose of treating disease, but also for improving or enhancing mental or physical strength so that humans themselves become subject to alterations without any therapeutic purpose. A noteworthy example is the issue of doping in competitive sports. With the application of genetic modification technology, doping methods are becoming more sophisticated each passing year. There is a growing chorus of voices expressing concern over doping as an issue of mental and physical enhancement (Miah, 2004, pp. 56-57; Schneider, 2005).

Reports suggest that, technically, gene technology can be applied not only for treating disease, but also for improving or enhancing the bodies of healthy humans. Some forms of genetic modification have the effect of improving muscle action and muscular function, and are already recognized as physical capacity improvement technologies. For example, researchers have reported the successful induction of abnormal hypertrophy of mouse skeletal muscles as a result of introducing insulin-like growth factor genes (IGF genes) in those cells (Barton-Davis, et al., 1998). Another method for enhancing muscles through genetic modification is suggested by successful experiments involving transgenic animals whose genes were transformed by the introduction of DNA from foreign cells (Musarò, et al., 2001). Moreover, it is possible to improve oxygen transport capacity by artificially making erythropoietin, the hematopoietic hormone that facilitates the production of red blood cells (Berglund and Ekblom, 1991). Furthermore, it has been suggested that the potential exists for manufacturing super athletes by way of germ cell modification (Munthe, 2000, pp. 219-220). In recent cases, it is common knowledge that induced pluripotent stem cells (iPSCs) have brought about remarkable advances in regenerative medicine.

There is no small chance that these forms of non-therapeutic intervention that rely on the application of sophisticated medical technology will spread rapidly among people, all in the name of self-determination and coupled with the desires of individuals. It may be said that the issue of enhancement is especially pertinent in competitive sports where physical excellence is the locus of competition. It is for this reason that the competitive sports world has been very quick to respond to this new problematic, which is feared to accompany developments in medical science technology. Prompted by the concern that genetic modification technology might be misused, genetic doping was added to the anti-doping regulations issued by the World Anti-Doping Agency (WADA) in 2003.

Sustained by the increasing sophistication of medical science technology, important ethical issues that risk unsettling the very concept of humanity are contained under the issue of enhancement, including technologies like germ cell modification. Confronting these ethical issues, the existing literature is marked by a divided debate, where some have ar-

gued that we have no choice but to accept physical enhancement as a part of competitive sports (Tamburrini, 2002, pp. 259-266).

Considering this status quo, it is vital that researchers in the sports field acknowledge the considerable social influence of enhancement, address these ethical issues upfront, and disseminate their views.

## 2. Aims

The primary aim of this research is to investigate the various ethical issues of human enhancement that are viewed as problematic in the competitive sports world. These issues, ranging from intellectual enhancement aimed at improving cognitive capacity (e.g., memory) to enhancement attempting personality adjustment, can be approached by asking various questions from numerous perspectives. For example, the German Reference Center for Ethics in the Life Sciences (DRZE), in their “Enhancement: The Euphenics and Ethics of Biotechnology” (2007), names the following five areas as belonging to the action field of enhancement: (1) gene technology, (2) the use of growth hormonal drugs in pediatrics, (3) the use of psychotropic substances, (4) cosmetic surgery, and (5) doping in sports (p. 4). Following this classification scheme, the object of this study is the fifth category of sports enhancement. In particular, it focuses on the issue of physical enhancement, which is especially relevant to competitive sports.

Although the object of study is limited to physical enhancement, its ethical problematics can be approached from various perspectives. When discussing the ethical challenges of physical enhancement, the scope of investigation in this study is limited as follows. Physical enhancement is often defined as the “act of pursuing a better body” (Miller and Wilsdon, 2006, pp. 6-19); Kass, 2003, pp. 101-156). The aim is to investigate from an ethical perspective the meaning of “goodness” within the phrase “pursuing a better body.” The reason for this is stated below.

As hinted in the title “Better Humans?” (Miller and Wilsdon, 2006), a book on enhancement published by the British NGO DEMOS, the debate on human betterment is central to the issue of enhancement. Yet, as long as we are unclear about the substance of “goodness” in the “better” human, we cannot properly discuss the validity of the act of

enhancement. It follows then that as long as we cannot precisely define the meaning of “goodness” within the phrase “pursuing a better body,” we also cannot concretely know what the act of “pursuing a better body” is, thus leaving the ethical problematics inherent to it equally unclear. With the issue so imprecisely defined, there is no way to debate whether to permit it or not. Conversely, it is only once we grasp the essence of the “goodness” within the phrase “pursuing a better body” that we can investigate from an ethics viewpoint the validity and problematics of the issue.

Even so, a survey of the existing literature that discusses the ethics of enhancement reveals no studies that focus on the “goodness” of the “better human” and the “better body.”\*<sup>2</sup> Surveying the Japanese and foreign ethics research on enhancement, even when including research from both gymnastics and sports and bioethics, reveals that it is mainly the following three topics that garner attention: (1) research on the definition of enhancement (Kato, 2005; Ibuki and Kodama, 2007); (2) conceptual research on the line between therapy and capacity improvement (Schneider and Friedmann, 2006; Culbertson, 2009; Morgon, 2009; Holtug, 2011); and (3) applied ethics research on the issues and evaluation of enhancement (Miah, 2001; Bostrom, 2005; Shinohara, 2007; Kuramochi, 2007; Carr, 2008; Schermer, 2008; Buchanan, 2009; Petersen and Kristensen, 2009; Schneider and Rupert, 2009; Tännsjö, 2009; Sato, 2012; Harris, 2011; Etieyibo, 2012). In other words, it is observed that enhancement is being debated without first having clarified the meaning of the “goodness” of the “better human” and the “better body,” which from the perspective of this study is problematic.

Building on this, the primary aim of this study is to elucidate from an ethics perspective the meaning of the adjective “good” within the phrase “pursuing a better body.” Further, the secondary aim is to evaluate the arguments for and against the act of “pursuing a better body” in order to debate the act’s ethical validity. Finally, thinking concretely about future tasks, I want to create the foundation of an ethical framework for discussing physical enhancement in competitive sports.

### 3. Method

#### 3.1. Method

The primary aim of this study is to reach an understanding of physical enhancement as the action to “pursue a better body” and to investigate from an ethics viewpoint the meaning and substance of the “goodness” within the phrase “pursuing a better body.” To achieve this, I have taken the following methodological steps.

In this study, I use Kantian deontological philosophy as the framework for discussion. Firstly, I go through the principle of action in Kantian deontological philosophy. Next, applying the distinction made by the principle of action, I qualitatively categorize the acts in preparation for a discussion of physical enhancement. Based on this I elucidate the “goodness” in the phrase “pursuing a better body.”

After clarifying the meaning of “goodness” within the phrase “pursuing a better body,” I discuss the “goodness” of the act of “pursuing a better body.” Here the objective is to investigate from an ethics viewpoint the validity of the act of physical enhancement, although the argument is furthered based on the concept of moral goodness in Kantian deontological philosophy.

The reason for making the principle of action in Kantian deontological philosophy a framework of discussion is as follows. Since Aristotle, the reason concerned with practice (*praktischen Vernunft*) has had happiness as its aim and it was presupposed that this aim was of an empirical nature.\*<sup>3</sup> Kant, however, investigated a use of pure practical reason that did not presuppose such a thing, and did so by qualitatively distinguishing between acts. This qualitative distinction also relates to the concept of moral goodness. I chose this as a framework of discussion because the careful differentiation that follows from this principle of action allows us to approach the essence of any act’s goodness and because it can be said to possess a definite usefulness when investigating the act’s validity.

#### 3.2. Terminology: Enhancement

To investigate the ethical issues of enhancement, we first need to define the term. As can be seen in the conceptual research of the existing literature, enhancement is a word whose meaning can be interpreted in too many ways. For example, there is no single way of understanding the phenomenon of

cosmetic surgery. At certain times it is perceived as enhancement and at other times as therapy.

The research of Ibuki and Kodama (2007) helpfully analyzes the concept of enhancement as it is discussed in Japan and abroad. They point out that the literature outside of Japan frequently refers to Jungst's definition of enhancement as "intervention aimed at the improvement of human form and function that goes beyond the requirements of health maintenance and recuperation." The Japanese literature instead refers to Matsuda's definition of it as "medical intervention in the human mind or body with the aim of improving capacity and properties beyond the aims of health recuperation and maintenance" (Ibuki and Kodama, 2007, p. 49). They go on to state that, irrespective of which definition one prefers, it remains difficult to draw a definite line between enhancement and therapy, there being an inherent challenge in conceptually defining what constitutes "the usage of medical technology without a therapeutic aim" (Ibuki and Kodama, 2007, p. 51). On top of this, Ibuki and Kodama (2007) go on to define enhancement even more broadly, as "a form of medical science intervention whose aim of improvement *does not significantly align with the aims of medicine*" [author's italics] (p. 51).

Thomas Murray, who in the past has served as chairman of the WADA Ethical Issues Review Panel, seems to hold a similar view, stating that therapy and enhancement are intertwined concepts and that we should not strictly differentiate between them (Murray, 2007).

As shown above, according to the existing literature, enhancement turns out to be a concept intertwined with therapy, making it difficult to distinguish between the two, but signifies an act that is relatively unaligned with the aims of medicine. For the purpose of this study, I make an amendment and define enhancement as *a form of medical intervention in the mind or body that does not significantly align with the aims of medicine but is a means toward some other aim.*

#### **4. The Theoretical Good(Theoretical Correctness)and Moral Good of an Act: The Principle of Action in Kantian Deontological Philosophy**

Be it the doping called enhancement relevant in

the competitive sports world or general issues of enhancement relevant in daily life, when it comes to questioning their respective ethics, the two must be said to have much in common. For example, genetic doping is anticipated as a form of non-medical intervention in the body that applies genetic modification technology for the sake of pursuing what is "faster, higher, stronger," that is, "better," regardless of its therapeutic necessity. In the same way, the more general issue of physical enhancement also pursues what is "better," in response to desires such as "wanting to live longer" or "wanting to become taller." In other words, physical enhancement can be seen as an issue relating to acts pursuing "goodness."

What, then, is the meaning of this "better-ness," which everyone desires? In particular, how should we understand the question of what "goodness" signifies, when it comes to the pursuit of the "better" body in the context of competitive sports?

To address this question we have to establish what constitutes the "goodness" of any given act. If we take a step back, asking what an act is, we see that our acts belong to one of two major categories. They correspond to either "situations where the only concern is the goal-rationality of the act" or "situations where the concern is what action we should take."\*4

For example, normally the act of "drinking coffee" follows from "wanting to drink coffee," and this act is thought of in terms of goal-rationality. The act is characterized by the preceding rational contemplation of how to act in order to fulfill one's desire, that is, how to achieve the aim of drinking coffee, be it the process of grinding the beans and boiling the water, or the searching for instant coffee in a vending machine. Kant is one philosopher who explained this type of act in detail, as seen below.

*Principles of self-love* can indeed contain *universal rules of skill* (for discovering means to [one's] aims), but then they are merely *theoretical principles* (e.g., how someone who would like to eat bread has to devise a mill). [author's italics] (Kant, 1788, S. 25-26)

From this quote we learn that the principle of action containing the "universal precepts of skill" is the "principle of self-love," which is also presented as a "theoretical principle." As the example indicates, a person who holds bread as the object of his

desire must devise the mill, which is the means to achieving his aim. Important here is that the “universal rules of skill” (along with the “principle of self-love” and “theoretical principles”) “show which acts are possible” (Kant, 1785, S. 415) and “through what means those aims can be achieved” (Kant, 1785, S. 415). In other words, this type of act can be said to be concerned with an “if...then...” logic, that is, with hypothetical necessity.

Based on the above, the “universal precepts of skill” might be seen as equating both the “principle of self-love” and the “theoretical principles.” Yet Kant writes the following about the “theoretical principles.”

All practical principles that presuppose an *object* (matter) of the faculty of desire as determining basis of the will are, one and all, empirical and cannot provide any practical laws. (Kant, 1788, S. 21)

The object of the faculty of desire is nothing other than “an object whose reality is desired,” or, an “aim.” That is to say, “all practical principles that presuppose an object of the faculty of desire as determining basis of the will” refer to principles that presuppose an object of desire, an aim, as determining the basis of the will. The quote also states that such principles cannot become practical laws, with these “practical laws” meaning “moral laws.” In short, it has been demonstrated that an act requires a determination of the will, but that any act whose determining basis of the will is an object of desire, or “theoretical principle,” is altogether empirical and cannot become moral.\*5

To recapitulate, the essential points to keep in mind are that (1) acts that presuppose an object of desire (i.e., an aim) fall under the category of “theoretical principles,” (2) theoretical determination is concerned with hypothetical necessity, and (3) acts belonging to “theoretical principles” are wholly distinct from acts belonging to “moral principles.”

Having surveyed the distinction made by the principle of action, we now turn to the question of what kind of “goodness” is the “goodness” that accompanies acts based on theoretical determination. As stated above, the standard for determining the goodness of an act based on theoretical determination is whether the means accord with the aim, that is, whether the conditions and consequences can be said to be bound by necessity. To elaborate on this, I would like to refer to Kant on the universal

precepts of skill.

Whether the end is rational and good is not the question here, but only what one has to do in order to achieve them. The precepts for the physician, how to make his patient healthy in a well-grounded way, and for the poisoner, how to kill him with certainty, are to this extent of equal worth, since each serves to effect its aim perfectly. (Kant, 1785, S. 415)

As explained, the overriding aim of a physician, for example, is to treat the patient’s condition no matter what. If that act is said to be “good,” that is because it accords with the aim and so can be said to be a theoretically “good” act. Similarly, the aim of the “poisoner” is to “murder his target without fail” and so it follows that any means that accord with this aim are also “good” acts from a theoretical point of view. In the context of this study, I indicate as a matter of convenience this *theoretical goodness* as the “theoretical good (theoretical correctness).” This distinguishes it from the goodness of moral good and bad, which has principally been indicated as the “moral good.”

Now, in the example of the poisoner, the morality (the moral good) of the act of “murdering his target without fail” is not a question of “theoretical principles” (Kant, 1785, S. 414). This is because it refers to the effectiveness of the means in relation to the aim rather than the moral goodness of the act and the aim themselves. If we concern ourselves with questions about the goodness of the act and the aim of murder by poison in themselves, then it becomes necessary to consider the question on the basis of moral determination (“what action should we take?”). In that case, the standard of determination cannot simply be whether the conditions and the consequences are bound by necessity, but will require another standard.

Now, mirroring the qualitative differences between acts, we have established that there are also qualitative differences between the “goodness” of acts. In short, there is a difference between the effectiveness of acts concerned with goal-rationality (based on theoretical determination) and the moral goodness of acts based on moral determination. Building on this point, I want to next examine the substance of the issue of physical enhancement, that is, the “goodness” of the “better body pursued.”

## 5. The “Theoretical Good” and the “Moral Good” of the “Better Body Pursued”

In the previous sections I explained about the qualitative differences regarding the goodness of acts. In this section I will elucidate the substance of the adjective “good” within the phrase “pursuing a better body.” Understanding the meaning of this goodness is a key to grasping the meaning of the very act of physical enhancement in the competitive sports world.

In the beginning we saw some representative examples of medical science technology illustrating what interventions to the human body are concretely possible. We also confirmed the difficulty of drawing a line between therapeutic and non-therapeutic interventions aimed at capacity improvement. On a conceptual level there is a clear difference in the application of medical science technology between therapeutic and non-therapeutic acts. As Culbertson (2009) has argued, if we assume that a particular technology is a medical science technology with a therapeutic aim, then there is a difference between when that act of body intervention is “the aim itself” and when it is “a means to an external aim” (p. 141). Kato (2005) similarly argues that enhancement, in short, is “the use of medical technology toward non-therapeutic aims”. If so, then *the gene technology used for therapy* comes with the aim of removing the causes of serious disease, but the technology used for capacity improvement is geared toward the external aim of becoming “better” in terms of strength, speed or some other ideal. In other words, the act of enhancement in competitive sports can be said to be an instrumental act with regard to an external aim.

Now, let us consider what we mean by the “goodness” of the “good body” that is pursued through physical enhancement. In the case of capacity improvement for the external aim of “pursuing a better body,” we are not talking about the pursuit of a moral body or a body in some way universally good. A sprinter wishes to pursue a body that can run faster and a weightlifter wants to pursue a stronger and more robust body that can lift heavier objects. In other words, regarding the “good” body in the context of competitive sports, the substance of that “goodness” depends on what each individual desires, that is, his or her object of desire.

The object of desire is the aim of each individual.

So then the act of “pursuing a better body” that constitutes physical enhancement is an issue of necessity stemming from the relation between the aim (condition) and the means (consequence) that is based on theoretical determination. Thus, its “goodness” is limited to its theoretical effectiveness. In other words, the “pursuit of a better body” that constitutes physical enhancement in competitive sports means the “pursuit of a *more theoretically good* body” and not the “pursuit of a *morally good* body” based on a moral determination.

It must be said that this qualitative distinction between acts is exceedingly important when thinking about the goodness of acts. This is because, if there is no qualitative distinction between acts concerned with goal-rationality and acts concerned with what should be done, then it follows that no qualitative distinction can be made with regard to the good and bad of those acts. Moreover, it would come with the risk that the effectiveness of an act concerned with goal-rationality is mistaken for moral goodness.

For example, if the primary and immanent aim of an athlete is the pursuit of victory (Kawatani, 2005, p. 29), then any act that accords with that aim is a “theoretical good.” Since the goal-rationality of the aim-means relation is arrived at by theoretical determination, the way of approaching that aim is not taken into account no matter how extreme it may be. So then the logical conclusion would be that the means of doping when employed to achieve the aim of victory is a theoretically good act from the theoretical viewpoint of the logic of competitive sports. If we do not inquire into the meaning of “goodness” in this context, then we risk the fallacy of accepting something that is not morally good as if it were. Mindful of this fallacy we see that the qualitative distinction between an act’s “theoretical principle” and “practical (moral) principle” is extremely meaningful.

Having established the above, we can finally move on to examining the goodness of the very act of physical enhancement, as it is manifested in the “pursuit of a *more theoretically good* body.”

## 6. The Basis for Discussing the Moral Good of the Act of Physical Enhancement

### 6.1. Preliminary Considerations for Discussing the Moral Good of the Act of Physical Enhancement

If I were to elaborate on the careful examination of the qualitative distinction between acts up to here, the implication has been that if an object of desire is established, then any method, whatever it may be, that accords with that aim would be considered a theoretically good act. Once the “improvement of physical capacity” is established as an aim, medically and scientifically improving physical capacity through the application of genetic manipulation technology becomes an instrumental act that is *more theoretically ‘good’* than earnestly training over a long period of time, as long as the former proves to be more successful, more rational, and in better accord with the aim. I reiterate that, having imposed this limitation, when it comes to the question of the theoretical effectiveness of the very act of enhancement, there is no room for moral discussion.

Conversely, if we are either scrutinizing the good or bad of the aim or scrutinizing the good or bad of the way of approaching that aim, rather than its goal-rationality, then it can become the object of a moral discussion of the act’s goodness. This is because, in the former case, we are examining the validity of the aim as an aim and, in the latter case, examining the way of approaching that aim but not from the perspective of the necessity of the aims-means relation (goal-rationality).

At this point there are two questions we need to answer: Firstly, why do we need to address the issue of physical enhancement in competitive sports on the basis of moral determination, rather than theoretical determination concerned with goal-rationality? This is the same as asking why we need ethics in sports.

Secondly, having presupposed the need for moral determination, how can we apply it to the issue of physical enhancement in the context of competitive sports? This overlaps with the discussion of the validity of physical enhancement in competitive sports.

I will start by looking at the first question. The need for ethics in sports can be found in human

practical reason, in sensitivity and conscience. For example, it has been pointed out that when genetic modification technology is used on humans, there are those who show no repulsion toward its being used to remove the cause of a disease but are opposed to it being used for improving capacities (Culbertson, 2009, p. 141). This kind of moral intuition is what provides the opportunity to consider various ethical issues and the reason for advancing the debate. Moreover, it is unlikely that this moral intuition can be discarded even in the particular context of competitive sports logic. This is because, although a competitive sports logic definitely exists, it is not a world unto itself, but is connected to the general world of daily life (DRZE, 2007, pp. 114-115), meaning that there is no guarantee that this logic can exist by itself. It follows that any discussion of the issues surrounding the athlete’s body in competitive sports cannot avoid including the bioethical issues of the human body in general. So, the need for an ethical consideration of the validity of physical enhancement in competitive sports becomes apparent once more.

Having established that dealing with the issue of physical enhancement requires not only theoretical determination but also moral determination, we should now turn to how we can approach the issue using moral determination. This concerns the validity of physical enhancement, but as stated previously, the analysis proceeds by scrutinizing the aim itself and the way of approaching that aim.

When the act of physical enhancement appears as a means, it is in pursuit of victory, which is the immanent aim of competitive sports.\*<sup>6</sup> Consequently, when scrutinizing the aim itself by way of moral determination, we are faced with the question of whether the pursuit of victory, the aim of competitive sports, is morally problematic. According to common understanding, there can be said to be nothing morally wrong in aiming for victory in the context of competition. The problematic arises from the way of approaching the aim, the method of pursuing victory. What kinds of physical enhancement would be disallowed if we were to evaluate the aim of victory not from the perspective of theoretical determination, concerned with goal-rationality, but from that of moral determination?

The final task of this study is to attempt an ethical consideration of the goodness of the act of physical enhancement.

## 6.2. An Ethical Investigation of the Goodness of the Act of Physical Enhancement

The problematic of the issue of the goodness — or the “moral good” — of the act of physical enhancement, which is to say the validity of that act, can be divided into two sub-sections. The first includes various issues unique to sports, and the other covers the various bioethical issues concerned with the body of the athlete, the subject of sports (Tamurrini, 2002).

It has been pointed out that the issue of physical enhancement unique to sports “cannot but turn into a discussion of the telos and gist of the relevant sport and of what virtue is pertinent to the game” (Sandel, 2009, p. 38). For example, ahead of the 2008 Beijing Olympics, a debate raged over whether the artificial leg of a South African sprinter gave him an advantage. Conversely, if the artificial leg gave the other athletes an advantage, this would cast doubt on the fairness of the game. Also, would it be acceptable to race with springs attached to the spikes, despite allowing the material development of those same spikes? For example, Pawlenka (2004) points out that sport characteristically is “predicated upon the voluntary imposition of man-made obstacles and its aims are achieved by standardized methods” (S. 294); and so the springs can be said to go against these fundamental characteristics.

However, if we look not at artificial legs and spikes but at the body of the athlete, we can no longer resolve the dilemma with reference only to its fundamental characteristics, the fairness and aims of sports. For example, the pursuit of physical excellence through scientific training methods is allowed,\*<sup>7</sup> so then why is the use of prohibited substances and the improvement of physical capacity through the application of genetic modification technology not allowed? When addressing this question, we must think not only about the naturalness of sports or the spirituality of sports competition, but also about the issues of freedom and humanity with regard to the body. In this way the issue of the goodness of the act of physical enhancement in the context of competitive sports is seen to be the intersection of numerous perspectives, drawing from issues regarding both the nature of sports and of the body and humanity.

It is impossible to scrutinize all of the points and perspectives in this study. Therefore the focus here

is on the issue of the “act of altering one’s body” and the question under consideration is what kinds of acts of physical enhancement in competitive sports are not allowed. As explained in the Methods section, the discussion will proceed based on the concept of goodness in Kantian deontological philosophy.

Kant stated that among the various moral goods, good without limitation is the “good will (*der gute Wille*)” (Kant, 1785, S. 393).

The good will is good not through what it effects or accomplishes, not through its efficacy for attaining any intended end, but only through its willing, i.e., good in itself. (Kant, 1785, S. 394)

[...] yet since reason nevertheless has been imparted to us as a practical faculty, i.e., as one that ought to have influence on the *will*, its true vocation must therefore be not to produce volition *as a means* to some other aim [i.e., to realize happiness], but rather to produce a *will good in itself*, for which reason was absolutely necessary. (Kant, 1785, S. 396)

In this way, the moral good without limitation is equated with moral good will. This is a goodness that is not a means toward an aim, such as the realization of happiness, but a goodness in itself. Kant called “what contains merely the ground of the possibility of the action whose effect is the end” a “*means*” and strictly distinguished between the “subjective ends” toward which this means is directed and the “objective [ends], which depend on motives that are valid for every rational being.” He notes that an objective end is “something *whose existence in itself* had an absolute worth” (Kant, 1785, S. 427-428), stating:

[...] the human being, and in general every rational being, *exists* as end in itself, *not merely as means* to the discretionary use of this or that will, but in all its actions, those directed toward itself as well as those directed toward other rational beings, it must always *at the same time* be considered as an *end*. (Kant, 1785, S. 428)

This famous quote is Kant’s “Formula of the End in Itself” in moral law. The ground for this principle of the will is that “*Rational nature exists as end in itself*” (Kant, 1785, S. 429).

This principle is expressed as a practical impera-

tive thusly: “*Act so that you use humanity, as much as in your own person as in the person of every other, always at the same time as end and never merely as means*” (Kant, 1785, S. 429). The reason for the imperative “act” here is that the will of humans is not always able to carry out what is good, despite understanding that an act is morally good; and thus there remains the possibility of acting contrary to good conduct, all the while knowing what conduct is good.\*<sup>8</sup>

One point we need to be careful about when seeking to understand this practical imperative to “*Act so that you use humanity, as much as in your own person as in the person of every other, always at the same time as end and never merely as means*” is that it is not telling us not to use others as means, but that if we use others as means, then we must always at the same time use them as an end. Another point is the expression “in your own person as in the person of every other,” and the fact that I myself am also included in that. In other words, we should always act at the same time as an end, and never merely as a means, not only using the humanity with which other persons’ are endowed, but that with which our own persons are too.

For example, regarding the issue of organ donation, uncompensated donation is permitted while for-profit organ sale is not, as evidenced by the criminalization of organ markets in many countries. Wherein lies the difference between these two ethical treatments? In the latter case of for-profit organ sales, the main point is that one’s own organ is used as a means toward the aim of earning money. In the former case of uncompensated organ donation, the donation still implies that one’s own body is used as a means, yet it differs in that the very act of donating has also been made an aim.

Similarly, in the context of competitive sports we see many situations where the self or one’s body is instrumentalized. For example, even going through a tough training regime in preparation for a game is a form of bodily instrumentalization. At the same time, the use of prohibited substances, which might have lethal side effects, or physical enhancement, which utilizes manipulation technology that might change our species concept of humanity, are acts of self-instrumentalization, even as they are used with the aim of victory. What is the difference between these two acts? Kant stated that, when faced with this type of question, a human should ask himself

“whether his action could subsist together with the idea of humanity *as an end in itself*” (Kant, 1785, S. 429). In other words, taking heed of this idea of humanity, we understand that “the human being, however, is not a thing, hence not something that can be used *merely* as a means, but must in all his actions always be considered as an end in itself. Thus I cannot dispose of the human being in my own person, so as to maim, corrupt, or kill him” (Kant, 1785, S. 429). It then follows that, within the framework of Kantian deontological philosophy, the least that can be said is that the physical enhancement of “pursuing a better body” goes against this idea of humanity, since it degrades one’s body and life to be nothing more than means toward the aim of victory, thus making it a target of sanctions.

## 7. Conclusion and Future Research

I would like to conclude by summarizing the findings of this study and making recommendations for future research.

This study investigated from an ethics perspective the issue of the “good” in the act of “pursuing a better body.” Although what can be said within the framework of the principle of action in Kantian deontological philosophy is limited, the findings of this study are as follows.

1. The physical enhancement that “pursues a better body” in competitive sports is an act falling under the category of “theoretical principles.” In other words, it is an act concerned with the necessity of the aims?means (condition?consequence) relation.
2. It follows that the meaning of the adjective “good” in the phrase “pursuing a better body” is limited to its theoretical goodness and does not imply any moral goodness.
3. Seen theoretically, if the pursuit of victory is established as an aim, then physical enhancement, which is a rational means that accords with that aim, becomes a theoretically good act.
4. If we question the morality of physical enhancement in the “pursuit of a better body,” it becomes a question of how the aim is approached and, especially with regard to physical enhancement in competitive sports, it becomes an investigation of what acts are not permitted, or what constitute morally good or valid acts.
5. Regarding the validity of physical enhancement

in the “pursuit of a better body,” any act that injures one’s body or life by using them as mere means toward the aim of victory, or that contradicts the idea of humanity must never be allowed.

The findings can be summarized in this way.

Munthe (2000) identified gene selection, germ cell modification and somatic cell manipulation as instances of “genetic modification” for capacity improvement (pp. 219-220). By using Kant’s “Formula of the End in Itself” it is possible to reach the conclusion that we clearly cannot allow germ cell modifications that might unsettle the species concept of humanity. However, what of somatic cell manipulation where the object of modification is not the germ cell but the non-genetic somatic cell? Additionally, the complexity of making a determination increases further if we talk about genetic modification technology for improving muscular function that achieves somatic genetic manipulation without any major side effects.

As a standard for determining what acts of physical enhancement are not permissible in competitive sports, criteria like “using one’s body or life as mere means” or “going against the idea of humanity” are decidedly meaningful for determining their validity as long as the acts in question are not ambiguous with regard to this standard. This applies, for example, to the aforementioned case of germ cell modification.

Yet, because this is an abstract standard for determination, we can expect individual concrete cases where it would be difficult to apply. What kind of physical enhancement would go against the idea of “humanity as an end in itself” and so be an unallowable act? For all the individual concrete acts we would have to analyze each case by itself, but it seems evident that we cannot clearly resolve everything with reference to Kant’s “Formula of the End in Itself.”<sup>9</sup> As in the aforementioned example, could somatic genetic modification, in the absence of side effects, ever subsist together with the idea of humanity? To deal with these kinds of complex and difficult cases we need to elucidate the concept of humanity (*Menschlichkeit*). This is an important, concrete task for future research. Furthermore, we need to attempt to formulate detailed prescriptions for individual cases.<sup>\*10</sup>

## Supplement

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## Notes

- \*1 The Human Genome Project refers to the decoding of the base sequence of the entire human genome. It was launched by the US Departments of Energy and of Health and Human Services in 1990. The decoding was completed in 2003 (Collins et al., 1998). Moreover, the first instance of gene therapy was performed in 1990 on two girls who received therapy for adenosine deaminase deficiency at the University of California (Palmer et al., 1987).
- \*2 When surveying the existing literature on the ethics of enhancement, I examined Japanese and foreign papers in the fields of gymnastics and sports as well as bioethics. Specifically, I examined the Japanese gymnastics and sports journals “Gymnastics Research (*Taiiku-gaku Kenkyū*)” and “Gymnastics and Sports Philosophy Research (*Taiiku-Supōtsu Tetsugaku Kenkyū*)” and the foreign “Journal of Philosophy and Sport.” I examined the Japanese bioethics journals “Bioethics Research (*Seimei Rinri Kenkyū*)” and “Medical Philosophy and Medical Ethics (*Igaku Tetsugaku Igaku Rinri*)” and the foreign “Bioethics Journal.”
- \*3 Aristotle held that practical reason has happiness as its aim and framed it as empirical. Kant, on the other hand, thought that there might exist a purely practical use of reason, which does not presuppose an empirical aim, and attempted to prove this.
- \*4 Although they are referred to as acts, as Kuroda (1992) points out, “being surprised and being dizzy are not acts” (p. 7), meaning that “such things that are involuntary or contrary to the will, such that they befall you, cannot be said to be ‘acts’” (p. 7).
- \*5 Theoretical (*theoretische*; also translated as “contemplative”) determination is a form of determination only concerned with the necessity of “if...then...” (condition and consequence). As such, it is a determination that can be accompanied only by hypothetical necessity. In other words, it only has conditional necessity but no absolute necessity (Kant, 1788, S. 44-48).
- \*6 If we limit ourselves to sports, and especially “competitive” sports, we cannot ignore the competitive component. Thus, the pursuit of victory can be said to be the immanent aim. For example, Kawatani (2005) also frames the pursuit of victory as the immanent aim of sports (p. 29).
- \*7 If we use the distinction made by Kant’s principle of action, then “the pursuit of physical excellence through scientific training methods” is a form of self-instrumentalization, but as long as it does not lead to the destruction of humanity, it cannot be said to be morally bad. Moreover, it does not deny the training that is the means toward victory, which is the object of one’s desire, that is, one’s happiness (aim). In other words, Kant does not deny the pursuit of one’s own happiness. Nonetheless, as I explain in the main text with reference to the distinction made by the principle of action, we cannot take it as “morally good.” Especially in this study, the main task is to investigate what types of physical enhancement are not permissible from a moral perspective.

- \*8 Regarding the possibility of acting contrary to good conduct, all the while knowing what conduct is good, Kant explained it in the following way. “[...] a will that does not directly do an action because it is good, in part because the subject does not always know that it is good, in part because if it did know this, its maxims could still be contrary to the objective principles of a practical reason” (Kant, 1785, S. 414).
- \*9 Kant did not approve of suicide, writing that “he makes use of a person merely as *a means*, for the preservation of a bearable condition up to the end of life” (Kant, 1785, S. 429). Yet, there are more complicated cases. Kant pointed out the need to carefully examine case like “the amputation of limbs in order to preserve myself, or the risk at which I put my life in order to preserve my life, etc.” (Kant, 1785, S. 429).
- \*10 Regarding his Formula of the End in Itself, Kant himself also pointed out the necessity of comparing individual cases and making detailed prescriptions, but wrote that “they belong to morals proper” (Kant, 1785, S. 429), which is altogether different from metaphysics. He discusses this on the first page of chapter one, section one of part two, “Groundwork of the Metaphysic of Morals” of *The Metaphysics of Morals*. I would like to make the additional point that, when making detailed prescriptions for individual, concrete cases of physical enhancement in competitive sports, it is necessary to also acknowledge the context of competitive sports, that is, the ethical issues unique to sports.

## References

- Barton-Davis, E. R., Shoturma, D. I., Musaro, A., Rosenthal, N., and Sweeney, H. L. (1998). Viral mediated expression of insulin-like growth factor I blocks the aging-related loss of skeletal muscle function. *Proc. Natl. Acad. Sci. U. S. A.*, 95: 15603-15607.
- Berglund, B. and Ekblom, B. (1991). Effect of recombinant human erythropoietin treatment on blood pressure and some haematological parameters in healthy men. *J. Intern. Med.*, 229: 125-130.
- Bostrom, N. (2005). In defense of posthuman dignity. *Bioethics*, 19: 202-214.
- Buchanan, A. (2009). Human nature and enhancement. *Bioethics*, 23: 141-150.
- Carr, C. L. (2008). Fairness and performance enhancement in sport. *J. Philos. Sport*, 35: 193-207.
- Collins, F. S., Patrinos, A., Jordan, E., Chakravarti, A., Gesteland, R., and Walters, L. (1998). New goals for the U.S. human genome project: 1998-2003. *Science*, 282: 682-689.
- Culbertson, L. (2009). Genetic enhancement in the dark. *J. Philos. Sport*, 36: 140-151.
- DRZE (2007). [Enhancement: Human remodeling by biotechnology and ethics] (J. Matsuda and S. Ogura Trans.). Tokyo: Chisen Shoin. (Original work “Enhancement: Die ethische diskussion über biomedizinische verbesserungen des menschen” published 2002)
- Eteyibo, E. (2012). Genetic enhancement, social justice, and welfare-oriented patterns of distribution. *Bioethics*, 26: 296-304.
- Harris, J. (2011). Moral enhancement and freedom. *Bioethics*, 25: 102-111.
- Holtug, N. (2011). Equality and the treatment-enhancement distinction. *Bioethics*, 25: 137-144.
- Ibuki, T. and Kodama, S. (2007). A conceptual analysis of enhancement and its implications. *J. Jpn. Assoc. Bioeth.*, 17: 47-55. (in Japanese)
- Kant, I. (1785). *Grundelegung zur Metaphysik der Sitten*. Akademieausgabe IV, Kant’s gesammelte schriften [Groundwork of the metaphysics of morals]. Berlin: Walter de Gruyer & Co. (in German)
- Kant, I. (1788). *Kritik der praktischen vernunft*. Akademieausgabe V, Kant’s gesammelte schriften [Critique of practical reason]. Berlin: Walter de Gruyer & Co. (in German)
- Kass, L. (2003). *Beyond therapy: Biotechnology and the pursuit of happiness. A report of the President’s council on bioethics*. New York: Harper Collins.
- Kato, H. (2005). [Ethical issues of enhancement]. *J. Jpn. Med. Assoc.*, 134, 34-37. (in Japanese)
- Kawatani, S. (2005). [Lecture on Sports Ethic], Kyoto: Nakanishiya Publishing. (in Japanese)
- Kuramochi, T. (2007). Enhancement and modern society. *J. Jpn. Assoc. Bioeth.*, 17: 38-41. (in Japanese)
- Kuroda, W. (1992). [Acts and Norms]. Tokyo: Keiso Shobo Publishing. (in Japanese)
- Miah, A. (2001). Genetic technologies and sport: The new ethical issue. *J. Philos. Sport*, 28: 32-52.
- Miah, A. (2004). *Genetically modified athletes: Biomedical ethics, gene doping and sport*. New York: Routledge.
- Miller, P. and Wilsdon, J. (2006). *Better humans?* <http://www.demos.co.uk/files/betterhuman-sweb.pdf?1240939425> (accessed 2013-06-18).
- Morgan, W. J. (2009). Athletic perfection, performance-enhancing drugs, and the treatment-enhancement distinction. *J. Philos. Sport*, 36: 162-181.
- Munthe, C. (2000). Selected champions: Making winners in the age of genetic technology. In T. Tännsjö & C. Tamburrini (eds.), *Values in sport: Elitism, nationalism, gender equality and the scientific manufacture of winners* (pp. 217-231). New York: Taylor & Francis.
- Murray, T. H. (2007). Enhancement versus therapy. In B. Steinbock (ed.), *The oxford handbook of bioethics* (pp.494-495). London: Oxford University Press.
- Musarò, A., McCullagh, K., Paul, A., Houghton, L., Dobrowolny, G., Molinaro, M., Barton, E. R., Sweeney, H. L., and Rosenthal, N. (2001). Localized Igf-1 transgene expression sustains hypertrophy and regeneration in senescent skeletal muscle. *Nat. Genet.*, 27: 195-200.
- Palmer, T. D., Hock, R. A., Osborne, W. R., and Miller, A. D. (1987). Efficient retrovirus-mediated transfer and expression of a human adenosine deaminase gene in diploid skin fibroblasts from an adenosine deaminase-deficient human. *Proc. Natl. Acad. Sci. U. S. A.*, 84: 1055-1059.
- Pawlenka, C. (2004). Doping im sport im Spannungsfeld von Natürlichkeit und Künstlichkeit [Doping in sports in the area of tension between naturalness and artificiality]. In C. Pawlenka (ed.), *Sportethik: Regeln-Fairness-Doping* [Sports and ethics: rules-fairness-doping] (S. 293-308). Paderborn: Mentis. (in German)
- Petersen, T. S. and Kristensen, J. K. (2009). Should athletes be allowed to use all kinds of performance-enhancing drugs? A critical note on Claudio M. Tamburrini. *J. Philos. Sport*, 36: 88-98.
- Sandel, M. J. (2009). *The case against perfection*. Cambridge: Harvard university press.
- Sato, T. (2012). *Ethical issues in character enhancement*. Igaku-

- Tetsugaku Igaku-Rinri, 30: 20-29. (in Japanese)
- Schermer, M. (2008). Enhancements, easy shortcuts, and the richness of human activities. *Bioethics*, 22: 355-363.
- Schneider, A. J. (2005). Genetic enhancement of athletic performance. In C. Tamburrini & T. Tännsjö (eds.), *Genetic technology and sport: Ethical questions* (pp.32-41). New York: Routledge.
- Schneider, A. J. and Friedmann, T. (2006). Gene doping in sports: The science and ethics of genetically modified athletes. Amsterdam: Elsevier Academic Press.
- Schneider, A. J. and Rupert, J. L. (2009). Constructing winners: The science and ethics of genetically manipulating athletes. *J. Philos. Sport*, 36: 182-206.
- Shinohara, S. (2007). Biotechnological enhancements from an ethical point of view. *Jpn. Assoc. Bioeth.*, 17: 42-46. (in Japanese)
- Tamburrini, C. (2002). After doping, what? The morality of the genetic engineering of athletes. In A. Miah & S. B. Easson (eds.), *Sport technology: History, philosophy and policy* (pp. 253-268). Washington: Emerald.
- Tännsjö, T. (2009). Ought we to enhance our cognitive capacities? *Bioethics*, 23: 421-432.
- Ueda, A. and Watanabe, M. (2008). [Controversy on enhancement: Reinforcement of the body and spirit and advanced science and technology]. Tokyo: Shakaihyoronsha. (in Japanese)



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- Jesus Ilundain-Agurruza, Koyo Fukasawa, Mizuho Takemura (2014) *The Philosophy of Sport, Eastern Philosophy and Pragmatism*. In: C.Torres, (Ed.) *The Bloomsbury Companion to the Philosophy of Sport*. Bloomsbury Publishing, London: 66-79.

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