



# Applying Two-level Utilitarianism and the Principle of Fairness to Mandatory Vaccination during the COVID-19 Pandemic: the Situation in South Korea

Sungjin Park<sup>1</sup>

Received: 20 July 2022 / Revised: 8 September 2022 / Accepted: 8 September 2022  
© National University of Singapore and Springer Nature Singapore Pte Ltd. 2022

## Abstract

In response to the COVID-19 pandemic, Korean society has sought to vaccinate most of its population. Consequently, the Korean government has attempted to make vaccination compulsory by promoting awareness of its benefits. The administration has pushed for mandatory vaccination by claiming that vaccination is more beneficial than harmful, based on a utilitarian view. However, this view is difficult to justify based on the two levels of utilitarianism presented by R. M. Hare. Compulsory vaccination cannot satisfy the universalizability, nor the satisfaction of preference, and exposes the difficulties of utilitarianism. In addition, mandatory vaccination is difficult to justify based on the perspective of fairness theory, that is, “justice as the fairness” of John Rawls and H. L. A. Hart’s principle of fairness. From the point of view of Hare’s utilitarianism and fairness theory, it has been shown that mandatory vaccination is not easily justified. In reality, the power of the state continues to strengthen, and we should examine this situation from a critical point of view.

**Keywords** COVID-19 · Public health · Compulsory vaccination · Utilitarianism · Fairness theory · South Korea

## Introduction

The COVID-19 crisis that began in late 2019 took a new turn with the development of vaccines. Considered a pandemic “game-changer,” vaccines were expected to incite a public health breakthrough (Felter 2020). It was also believed that consensus on how to distribute the vaccine would soon bring the pandemic to an end. However, other issues arose with the development of the vaccine, such as compulsory

---

✉ Sungjin Park  
philo79@hanmail.net

<sup>1</sup> Department of Ethics Education, Gwangju National University of Education, Gwangju, Republic of Korea

vaccination and the right to enforce it. Of course, this problem pre-dated the COVID-19 crisis, impacting existing vaccinations and raising the question in medical ethics of whether the state or society can force children to be vaccinated (Kim 2021).

However, in the current COVID-19-driven crisis, this dissent over vaccination has become more extreme. In South Korea, the ongoing pandemic situation caused cumulative harm and citizen fatigue was at its peak. Consequently, a conflict arose between those who argue that voluntary vaccination is the realization of civic consciousness and those who refuse vaccination as a basic human right due to potential side effects. Of course, the inviolability of human life and body is the fundamental basis for human autonomy and it is difficult to implement vaccinations in liberal cultures that emphasize constitutional rights (Kim 2021). In a situation where liberalism and rights-oriented political philosophy are the mainstream, it is difficult to justify forced vaccinations against COVID-19. Therefore, not even the highest authority in a country can force a vaccine that would cause changes in the body of the individual.

However, in the case of the COVID-19 situation, which has persisted for more than two years, forced vaccination seemed essential to overcoming it. Furthermore, due to the multiple new variations of the rapidly mutating virus, it appeared to be the only way to prevent the situation from worsening. Hence, administrators promoted the argument that the civil duty of getting vaccinated should be emphasized and induced through various policy directions (Hasbullah and Kheng 2020). Specifically, the Korean government and media have been promoting the effectiveness of the vaccine and emphasizing the sense of duty as democratic citizens to accept it, creating an impression that people who oppose vaccines are irresponsible. The Korea Disease Control and Prevention Agency (KDCA) and the government have stressed the rationale that getting vaccinated is much more financially profitable and shared statistical estimates of the likelihood of side effects from vaccination compared to severity of infection or death due to COVID-19. The Korean government's claim is based on utilitarianism and the prediction that vaccination will promote more benefits and happiness.

However, it is doubtful whether the Korean government's utilitarian argument corresponds with Hare's utilitarian theory or can be justified in terms of the fair theory of J. Rawls and H. L. A. Hart. A moral philosopher, Hare was known for the development of prescriptivism as a meta-ethical theory—the analysis of formal features of moral discourse justifying preference utilitarianism. Therefore, focusing on the situation in South Korea in this paper, I will explore Hare's utilitarian theory and Rawls and Hart's theories to determine if the vaccine mandate declared by the Korean quarantine authorities can be justified.

## **South Korea's quarantine policy and two-level utilitarianism**

As the pandemic caused by COVID-19 persisted, the desire to return to pre-pandemic life gradually amplified. The new information system incited by the COVID-19 era has led people to understand public health care and infectious

diseases at the national security level (Kallberg et al. 2020) and with the development of the vaccines, even more information has begun to circulate. Therefore, the Korean government's approach that social interests and well-being take priority over personal rights or freedom, and that the basis for this civil obligation is profit, justifies the expansion of inoculation (Savulescu et al. 2020). This argument is based on the utilitarian value, "the greatest happiness of the greatest number," and targets the moral responsibility of people to fulfill their vaccination obligations to benefit the overall population. Scholars argue that, amid this crisis, medical systems and ethical values should shift from patient-centered deontological ethics to population-centric utilitarianism (Michalsen et al. 2020). In other words, infectious diseases such as COVID-19, which affect society and threaten the safety and security of the entire community, should be approached from a utilitarian point of view. Therefore, the KDCA emphasized vaccination to achieve herd immunity to protect the entire population<sup>1</sup> and implemented a vaccine pass policy. Of course, herd immunity is merely an illusion due to the constant mutation of the virus. Nevertheless, the KDCA promoted the possibility of herd immunity and achieving it through the spread of vaccination. The following conveys part of an article (Lee 2022b) that details the claims of the quarantine authorities regarding the benefits of vaccination:

The benefits are evident. According to KDCA figures regarding COVID-19 vaccination and infection, the probability of someone becoming severely ill or dying within 28 days of contracting COVID-19 is only 0.28% among those who received three doses of the vaccine. This is 93.6% lower than the severity rate among unvaccinated individuals (4.37%). The head of social strategy at the Central Disaster Management Headquarters said, "Currently, only 7% of adults over the age of 18 are unvaccinated, but they account for 30% of all confirmed cases and 53% of serious cases and fatalities. Even in the comparative data per 100,000 population, unvaccinated people showed five times the rate of severity and four times the mortality rate of those who were fully vaccinated.

Quarantine authorities are promoting the obvious scientific benefits while indirectly advocating mandatory vaccination, suggesting that this is the only way to regain normal lives. The most important point in the policy of the Korean quarantine authorities is not individual rights or normative propositions, but economic recovery and scientific benefits. Restaurants and small businesses in and around the capital city of Seoul have had a curfew of 21:00 since December 2021 and several have closed. Therefore, the Korean quarantine authorities' motive in making vaccination mandatory is the resultant economic benefits and social efficiency. This policy of

---

<sup>1</sup> Even though Korea's quarantine authorities now recognize that it is impossible to achieve herd immunity because of the virus variants, they still list "herd immunity" as an important outcome of mandatory vaccination. The following is a translation of what appears on the main screen of the KDCA website. "With safe inoculations based on scientific evidence, we will ensure herd immunity to protect the lives and health of the entire population as well as to restore their daily lives." Evidence against herd immunity can be found in the following article: Grover 2021.

the South Korean government, that is, the direct and indirect mandating of vaccines, such as the vaccine pass, is based on a utilitarian idea that puts social good first. This utilitarian point of view of infectious diseases is an ethical model that determines right and wrong according to the outcome and has strong convincing power. Upon implementation of the policy, people accepted this utilitarian point of view without much criticism and actively participated in vaccination. Recently, questions have been raised about whether the vaccination mandating policy is valid. “The Korean government has recently faced a series of lawsuits over its decision to implement the vaccine pass, with local courts deciding to suspend the implementation of some related regulations” (Lee 2022a). Moreover, this view is difficult to justify within the framework of Hare’s two-level utilitarianism.

Hare advocates two levels of utilitarianism and emphasizes the rational verification of moral emotions. Two-level utilitarianism is a moral theory developed by Hare that recommends that people should follow one set of moral rules in most cases, but in certain exceptional circumstances when appropriate, they should engage in “critical” moral reasoning. Two-level utilitarianism does not reduce the concept of utility to simple pleasures or psychological states, but takes into account the meaning of moral language and the facts of preference satisfaction introduced from logic (Kang 2014). Furthermore, this concept comprises a strategy to find connections to essential values that cannot be accepted under the concept of the utility by expanding its schema in classical utilitarianism (Kang 2011). Hare’s utilitarianism, which includes satisfaction derived from meaning and logic, divides moral thinking into “intuition level” and “critical level” and compensates for the limitations of classical utilitarianism (Lyou 2012). Therefore, Hare explains that utilitarianism, which requires moral judgment at a critical level, corresponds with Kant’s theory (Hare 1993) and that “critical thinking” can present new solutions in conflicting situations where different moral intuitions are needed.

The intuitive level of moral thinking certainly exists and is (humanly speaking) an essential part of the whole structure; but however well-equipped we are with these relatively simple, *prima facie*, intuitive principles or dispositions, we are bound to find ourselves in situations in which they conflict and in which, therefore, some other, non-intuitive kind of thinking is called for, to resolve the conflict (Hare 1981).

The critical level requires the “prescription” and “universalizability” of moral language which, unlike general commands, must be prescribed in specific situations, and because it is related to morality, requires universally defining moral principles for all cases where the attributes are the same (Lyou 2004). In other words, in terms of critical thinking, moral principles should apply to everyone, not just to a particular individual or group; at the same time, there should be consistency in prescription in similar cases. It follows proven laws of experience and principles rather than the process of identifying which actions would bring maximum happiness or pleasure (MacAskill 2020). For example, the intuitive principle that we should not use

physical violence against others is a generally acceptable moral statement. However, while this principle is general, it is difficult for it to have universality (Hare 1989). This is because the police or military can and do use physical violence as needed. Therefore, the proposition that “we should not use physical violence on others” is unlikely to guarantee universality, making it difficult to accept as a reasonable moral proposition. In other words, critical thinking is a logical process that selects the best set of intuitive principles and examines the possibility of universalization.

To critically approach the issue of mandatory vaccination, we first consider what the intuitive principles are and derive two. The first principle is that vaccination should be mandated for the safety and defense of the community and to end the pandemic. This is based on the rationale that the government should act when harm to the community is unavoidable, and can demand and regulate collective action to encourage socially beneficial behavior. The second principle is that individuals have the right to refuse vaccination, even if it defies public interest. This is based on the concept that human beings have autonomy as a means to exercise control over one’s body. A critical level of thinking must be adopted to determine which of these two conflicting intuitive principles is dominant and to resolve this conflict. The logical properties of moral concepts, such as “universalizability” and “prescription,” must be examined (Hare 1981).

The first intuitive principle, that “vaccination should be mandatory for the community even if it causes a small amount of damage,” is a somewhat scientifically consistent argument that vaccination is more beneficial than harmful. However, this principle is indeed lacking in universality. This is because, in a situation where the damage caused by the side effects of the vaccination continues to be revealed, we cannot force the sacrifice of an innocent minority for social safety. Furthermore, this is a principle of utility that is difficult to accept because we cannot help but consider this as a preference of majority that cannot be justified. If this is justified, similar cases can be justified, such as the claim that the abandonment of physical rights can be forced to overcome a social crisis event. Additionally, it does not conform to the strategy of Hare’s utilitarianism, which broadens the outline of the classical utilitarian concept and discovers a link with essential values that would not be accepted under normal circumstances.

The second intuitive principle is similar to what R. Dworkin refers to as “equal respect and concern,” which relies on the inherent rights of the individual.<sup>2</sup> The natural right of the individual has been recognized and accepted as a universal value by the international community since the United Nations adopted the Universal Declaration of Human Rights in 1948 (Global Citizenship Commission 2016), and most countries adapt these contents to their constitutions. Therefore, per the second principle, it can be said that “human beings have the right to bodily integrity which cannot be infringed upon,” which guarantees the possibility of universalization. Thus, we can say that the

<sup>2</sup> Ronald Dworkin (1977) says, “Modern utilitarians reinterpret the principle of utility in terms of maximizing people’s preferences, but even in this case, it is not easy to measure the strength of preferences in the same person or compare them between different individuals”.

second intuitive principle is more consistent at the critical level than the first and that mandatory vaccination is difficult to justify at this level.

According to Hare, an individual's rights selected by critical thinking can be treated as the best acceptance-utility, as a principle operating at an intuitive level. Indeed, attempts to expand a target demographic and form a mandatory system for compulsory vaccination are difficult to justify. The argument of the Korean quarantine authorities, that the vaccination has more benefits, has already been invalidated through critical arguments of classical utilitarianism, including Rawls and others, and is difficult to justify from the preference utilitarian perspective. Of course, a few still argue that approaching COVID-19 from a utilitarian attitude makes more sense. In the *American Journal of Bioethics*, Lynch presents a remarkable exegesis of the COVID-19 pandemic for designing responses to non-pandemic diseases (Browning and Veit 2021). However, it is problematic to associate this utilitarian view with the issue of mandatory vaccination. In terms of medical policy, utilitarian thinking based on an egalitarian perspective may be of great help, but there is a limitation in applying it to the issue of mandatory vaccination, which presupposes coercion to suppress individual physical rights.

The KDCA's attempts, based on utilitarian arguments to mandate vaccination, do not align with Hare's Two-Level Utilitarianism. Thus, it is difficult to afford them status as a moral proposition. We must then examine this from a different point of view—whether the issue of mandatory vaccination by the Korean quarantine authorities aligns with the principle of fairness between Rawls and Hart.

## The principle of fairness and compulsory vaccination

The KDCA implemented a vaccination pass policy for COVID-19. People who were within 180 days of receiving their second vaccination against COVID-19, or who had not received their booster (third) vaccination, were not allowed to visit public places. The South Korean government's policy of indirectly mandating vaccination, which benefited the vaccinated and punished the unvaccinated, was perceived as fair. The general impression of Koreans, that the system that penalizes unvaccinated people is fair, dramatically raised the country's vaccination rate. Under political and social pressure, South Korea announced a COVID-19 vaccination plan in January 2021, establishing its first target that 70% of the population should be fully vaccinated by November 2021. The program was finally launched on February 26, 2021, and Korea had fully vaccinated 80% of the population by the end of November 2021 (Kwon and Oh 2022). However, the Koreans' view that compulsory vaccination is fair needs to be reviewed. This is because it could have been caused by fear of the disease and fatigue from the ongoing pandemic. Therefore, in this chapter, I will examine whether mandatory vaccination is "fair" based on the theories of Rawls and Hart.

In *The Theory of Justice* (Rawls 1971), Rawls suggests that "each person is to have an equal right to the most extensive scheme of equal basic liberty compatible with a similar scheme of liberties for others" as the first of two

principles of justice (Rawls 1971). However, in his later *Justice as Fairness*, he modifies this principle as follows:

Each person has the same indefeasible claim to a fully adequate scheme of equal basic liberties, which scheme is compatible with the same scheme of liberties for all (Rawls 2001).

Rawls modified one of the two principles of justice to the version above to embody the list of equal basic liberties. He explains that the existing principle used the singular term “basic liberty” in *The Theory of Justice*, obscuring important features of these liberties (Rawls 2001). Rawls also presents a list of specific “equal basic freedoms” as follows:

- 
- ① Freedom of thought and conscience
  - ② The rights and freedoms that are embodied by the body’s freedom and the body’s (physical/psychological) perfection
  - ③ Political freedom (voting rights and suffrage, etc.) and association
  - ④ Rights and freedoms covered by the Rule of Law
- 

The lists of basic freedoms presented above are rights that cannot be infringed upon in a reasonable pluralist society. According to Rawls, these rights are organized in two ways. First, these freedoms are common in various democratic systems, and have been secured in historically successful systems. A second way of compiling a list of basic rights and liberties is analytical: we consider which of the liberties provide political and social conditions essential for the adequate development and full exercise of the two moral powers of free and equal persons (Rawls 2001). We then examine whether the conditions of Rawls’ theory, “Justice as Fairness,” can be met by mandatory vaccination.

First, the rights of bodily freedom and the perfection of the body (②) have been recognized in various democratic systems. As evidenced in the Universal Declaration of Human Rights, the right to bodily integrity has been treated as one of the oldest basic rights of human beings since the Magna Carta (Dinstein 1981). The Declaration also provides that in addition to the freedom of the body, one has the “right to safety.” Human beings have the right to enjoy a safe environment and conditions to maintain the integrity of the body. This regulation aims to impose an active obligation on the State and the community to protect bodily integrity from being violated. Therefore, we seem to be able to force the state to vaccinate for the safety of many individuals and the wholeness of the body. Further, it seems that the state or government can force vaccination to ensure the integrity of each individual’s body, thereby creating a safe environment away from the threat of infection. However, this argument is difficult to justify from two perspectives. First, forced mandatory vaccines can infringe on the other basic rights of freedom. Mandatory vaccination infringes on the first right (①), that is, the freedom of thought and conscience. It can also violate the rights to freedom of conscience of people who refuse vaccination for religious reasons or personal beliefs. The argument for mandatory vaccination, that it has a greater probabilistic benefit than otherwise, could harm Rawls’ social conditions for proper development and safe exercise of moral capabilities. This is



because determining behavior according to “probability” based on “interest” is to fix the moral thinking method in an Act Utilitarianism way, which is an obstacle to the development of other moral thought. Therefore, it seems difficult to construct a justification for forcing vaccination even with the process theory shown in Rawls’ *Justice as Fairness*. Furthermore, Rawls constitutes political liberalism on the premise of the following facts:

The idea of political liberalism arises as follows. We start from two facts: first, from the fact of reasonable pluralism, the fact that a diversity of reasonable comprehensive doctrines is a permanent feature of a democratic society; and second, from the fact that in a democratic regime political power is regarded as the power of free and equal citizens as a collective body (Rawls 2001).

It is true that under Rawls theory, which presupposes the above facts, it is difficult to configure the legitimacy of vaccination to cope with the crisis, that is, to find a justification to enforce vaccination.

Hart’s principles of fairness considered the obligation to comply with the law as a legal philosopher in Oxford. In his thesis, “Are There Any Natural Rights?” published in 1955, he states that the only grounds for compliance with the law are fairness (Hart 1955). Hart argues that society should fairly distribute the burden of restricting freedom, and at the same time, this principle of fair distribution can be a sufficient basis for limiting individual freedom. In other words, if X member of society complies with the rules that limit their freedom and benefits society, then X has the right to ask for cooperation from beneficiary Y. These rights are based on the principle that all members of a cooperative society should face a fairly distributed restriction of freedom, and the rights of X and the obligation of Y are moral. This process principle proposed by Hart is based on the following.

Several persons conduct any joint enterprise according to rules and thus restrict their liberty, those who have submitted to these restrictions when required have a right to a similar submission from those who have benefited by their submission (Hart 1955).

I then apply Hart’s principle of fairness to the issue of mandatory vaccination. First, I assume that X is the person who is vaccinated according to government policy, limiting their physical freedom despite the risk of side effects. The person who has refused vaccination is assumed to be Y, claiming that the freedom of the body should not be limited. In a cooperative system, if X cooperated with the quarantine, with voluntary restrictions of freedom and vaccination, and Y, who was not vaccinated, benefited from this, we could say, “X has the right to demand an obligation from Y to vaccinate.” This discussion is consistent with Rawls’ statement when he adopted the “Principle of Fairness” as individual accountability: we must not take advantage of the cooperative efforts of others without doing our part (Rawls 1971), and it also has an intuitive appeal. Thus, it seems that mandatory vaccination can be justified through Hart’s “Principle of Fairness.”



However, we should consider something carefully here. Aside from the fact that many philosophers distinguish between the problems posed to Hart, namely the problem of rule adoption and rule-following, it is true that a problem exists in justifying vaccination based on Hart's "Principle of Fairness."<sup>3</sup> This is because it is not clear that the person who refuses to get vaccinated, Y, is the beneficiary of the cooperative system. It also raises the question of whether the benefits were produced by X, who is voluntarily vaccinated. Hart's "Principle of Fairness" has conditions to be applied: a group of cooperatives, a cooperative system with fair rules, the benefits created by the system, and beneficiaries. In other words, this principle can be applied to the existence of voluntary participant X, the person Y who benefited, and profit Z.

Regarding the question of whether benefit Z exists, in Hart's theory, the conditions of the benefits are defined as benefiting the community as a whole, while being public, essential, and non-competitive (Kim 2014). In a pandemic state, the benefit is a healthy and safe society, where "herd immunity" has been acquired and the system maintained without going to extremes. It can be seen that "herd immunity" or maintaining the status quo in society is of a public nature and non-competitive character and can be linked to beneficiaries. However, it is doubtful whether this structure aligns with facts. Currently, quarantine authorities seek to increase the vaccination rate by mandating vaccines to achieve "herd immunity" rather than moral demands to fulfill the obligations of those who benefited from "herd immunity" or community maintenance. However, as mentioned above, "herd immunity" itself is practically impossible, and even if this is possible, a logical error occurs within Hart's theory. This is because even if we assume that "herd immunity" is possible, it does not conform to the benefit Z in Hart's theory. In Hart's theory, Y (the individual rejecting the vaccine) should benefit from the already existing benefit Z (herd immunity), but in reality, Y did not receive any benefit and is rather the final puzzle to complete benefit Z.

This means that the herd immunity assumed to be a benefit has not yet been accomplished, and therefore, does not meet the conditions of Hart's benefits. In other words, the reason for making vaccination mandatory is for the attainment of "herd immunity"; those who are not vaccinated are not the beneficiaries of Hart's theory, and instead are necessary to achieve the benefits. Therefore, the issue of mandatory vaccination does not conform to Hart's theory, and it is difficult to apply moral obligations to unvaccinated people to complete "herd immunity." In summary, unvaccinated people are not free riders, but are key to completing "herd immunity," maintaining social systems, and achieving profits. Therefore, they cannot be given compulsory and moral obligations to inoculate.

---

<sup>3</sup> Hart believes that the question of why we should follow rules or laws and the legitimacy of the law are different issues. In other words, Hart distinguishes between problems that appear in the enactment of the law and why we should follow the law after the law is enacted, with a focus on the latter. Therefore, Hart's fairness principles can answer why we should follow the law; however, it is difficult to answer whether the law itself is legitimate.

As discussed above, it is indeed difficult to construct a justification for mandatory vaccination within the current structure of fairness principles based on the theory of rights. Based on the theory of Rawls' *Justice as Fairness* or Hart's "The Principle of Fairness," it is difficult to justify forcibly inoculating an individual and no moral obligation to vaccination exists.

## Conclusion

Korean society seeks to end the pandemic. Towards this effort, quarantine authorities in South Korea have simultaneously attempted to expand vaccination figures and make vaccinations mandatory. Hence, the Korean government has attempted to expand the scope of vaccine pass obligations to all people over 12 years old.<sup>4</sup> Korean quarantine authorities implemented vaccine policies based only on age without considering those who have not been vaccinated for medical reasons, and are encouraging vaccination for those who are immunocompromised, have underlying diseases, and are elderly.

With the vaccine monopoly focused on developed countries, it is difficult to hope for a better situation, but the vaccine is still recognized as a "game-changer." Therefore, the quarantine authorities are promoting the idea that democratic citizens should be vaccinated by emphasizing the utilitarian principle—that vaccination is much more profitable than harmful. However, these utilitarian claims conflict with individuals' freedom of the body and do not meet Hare's two-level utilitarianism. In other words, the proposition that "everyone should be vaccinated for public safety" cannot secure universalizability and, therefore, lacks legitimacy as a moral language. In addition, based on the perspective of the principle of fairness by Rawls and Hart, mandatory vaccination does not guarantee fairness. In other words, mandatory vaccination cannot be said to be a fair policy. However, this does not prove that the policy of mandatory vaccination is both unjust and immoral; it merely indicates that we have not yet established an appropriate political philosophy to respond to the current changes and crises.

Many scientists expect new infectious diseases after COVID-19 and people all over the world have experienced how much the pandemic restricts their lives. The pandemic has strengthened the hand of governments, eroding already shaky support for globalization and prompting a reassessment of the social value of mundane tasks. The small government, free market model suddenly seems outdated. It is no wonder that sociologists and philosophers are concerned about the post-pandemic society, because the social crisis is declaring the triumph of the state in the conflict between state and individual rights. If the power of the state continues to strengthen, we should examine this situation from a critical point of view.

<sup>4</sup> The South Korean government's attempt to extend the vaccine pass to those over the age of 12 has not been implemented due to an issue raised by a court in South Korea. The court ruled that large shops and teenagers should be temporarily excluded from COVID-19 vaccine pass mandates in the capital of Seoul, part of an intensifying legal fight over one of Asia's strictest vaccination policies (Shin 2022).

**Funding** This work was supported by the Ministry of Education of the Republic of Korea and the National Research Foundation of Korea NRF-2019S1A5B5A02043093).

## Declarations

**Ethics Approval** This paper does not include research involving human subjects.

**Consent to Participate** NA

**Consent for Publication** NA

**Conflicts of Interest/Competing Interests** This study does not have any interests or competitive relationships.

## References

- Browning, Heather, and Walter Veit. 2021. Utilitarian lessons from the COVID-19 pandemic for non-pandemic diseases. *American Journal of Bioethics* 21 (12): 39–42. <https://doi.org/10.1080/15265161.2021.1991035>.
- Dinsein, Yoram. 1981. Right to life, physical integrity, and liberty. In *The international bill of rights: the Covenant on Civil and Political Rights*, ed. Louis Henkin. New York: Columbia University Press.
- Dworkin, Ronald. 1977. *Taking rights seriously*. Cambridge, MA: Harvard University Press.
- Felter, Claire. 2020. COVID-19: Why vaccination coverage is important. *Council on Foreign Relations*, 22 December 2020. <https://www.jstor.org/stable/resrep29829>. Accessed 17 Sept 2022.
- Global Citizenship Commission. 2016. Implementation of human rights. In *The universal declaration of human rights in the 21st century: a living document in a changing world*, ed. Gordon Brown, 1st ed., vol. 2, 81–104. Cambridge: Open Book Publishers.
- Grover, Natalie. 2021. Delta variant renders herd immunity from Covid ‘mythical’. *The Guardian*, 10 August 2021. <https://www.theguardian.com/world/2021/aug/10/delta-variant-renders-herd-immunity-from-covid-mythical>. Accessed 3 Aug 2022.
- Hare, Richard M. 1981. *Moral thinking*. Oxford: Clarendon Press.
- Hare, Richard M. 1989. *Essays in ethical theory*. Oxford: Clarendon Press.
- Hare, Richard M. 1993. Could Kant have been a utilitarian? *Utilitas* 5(1): 1–16. <https://doi.org/10.1017/S095382080005501>.
- Hart, Herbert L. A. 1955. Are there any natural rights? *Philosophical Review* 64(2): 175–191. <https://doi.org/10.2307/2182586>.
- Hasbullah, Nurul Ezzaty, and Khor Swee Kheng. 2020. Should COVID-19 vaccines be mandatory? *Institute of Strategic and International Studies*, 22 December 2020. <https://www.isis.org.my/2020/12/22/should-covid-19-vaccines-be-mandatory/>. Accessed 17 Sept 2022.
- Kallberg, Jan, Rosemary A. Burk, and Bhavani Thuraisingham. 2020. COVID-19: The information warfare paradigm shift. *Cyber Defense Review* 5(3): 161–167.
- Kang, Joon Ho [강준호]. 2011. Studies on the contemporary trends of utilitarianism [현대功利주의 동향에 대한 연구]. *Journal of the Society of Philosophical Studies* [철학연구] 93: 175–199.
- Kang, Moon Seok. 2014. The rational of morals in R. M. Hare’s universal prescriptivism. Doctoral Thesis, Inha University, Department of Philosophy.
- Kim, Dong-il [김동일]. 2014. Conditions for the principle of fairness [공정원리의 적용 조건]. *Journal of the New Korean Philosophical Association* [철학논총] 76(2): 231–254.
- Kim, Jin Gon [김진곤]. 2021. Relationship between vaccination and basic human rights [예방접종과 기본권의 관계]. *Public Law* [공법연구] 49(3): 59–83. <https://doi.org/10.38176/PublicLaw.2021.02.49.3.59>.
- Kwon, Seunghyun Lewis, and Juhwan Oh. 2022. COVID-19 vaccination program in South Korea: A long journey toward a new normal. *Health Policy and Technology* 11 (2): 100601. <https://doi.org/10.1016/j.hlpt.2022.100601>.

- Lee, Han-soo. 2022a. Korea to halt vaccine mandate from March. *Korea Biomedical Review*, 28 February 2022. <http://www.koreabiomed.com/news/articleView.html?idxno=13210>. Accessed 9 Aug 2022.
- Lee, Jae-ho. 2022b. “The benefits are evident”: S. Korean health authorities respond to vaccine pass backlash. *Hankyoreh*, 4 January 2022. [https://english.hani.co.kr/arti/english\\_edition/e\\_national/1025966.html](https://english.hani.co.kr/arti/english_edition/e_national/1025966.html). Accessed 3 Aug 2022.
- Lyoo, Jihan [류지한]. 2004. A study on two-level utilitarianism [두 수준 공리주의에 관한 연구]. *Journal of Ethics [윤리연구]* 1(55): 201–233.
- Lyoo, Jihan [류지한]. 2012. The two-level utilitarianism and the rights [두 수준 공리주의와 권리]. *Journal of the Daedong Philosophical Association [대동철학]* 58: 63–85.
- MacAskill, William. 2020. Elements and types of utilitarianism: Multi-level utilitarianism. In *Introduction to utilitarianism: An online textbook*. Oxford.
- Michalsen, Andrej, Marco Vergano, Michael Quintel, Nicholas Sadovnikoff, and Robert D. Truog. 2020. Epilogue: critical care during a pandemic – A shift from deontology to utilitarianism? In *Compelling ethical challenges in critical care and emergency medicine*, ed. Andrej Michalsen, and Nicholas Sadovnikoff, 157–166. Cham: Springer.
- Rawls, John. 1971. *A theory of justice*. Cambridge, MA: Harvard University Press.
- Rawls, John. 2001. *Justice as fairness: A restatement*. Cambridge, MA: Belknap Press.
- Savulescu, Julian, Ingmar Persson, and Dominic Wilkinson. 2020. Utilitarianism and the pandemic. *Bioethics* 34 (6): 620–632. <https://doi.org/10.1111/bioe.12771>.
- Shin, Hyonhee. 2022. South Korea court exempts teens, supermarkets from vaccine passes. *Reuters*, 14 January 2022. <https://www.reuters.com/business/healthcare-pharmaceuticals/skorea-extends-distancing-curbs-ahead-holidays-omicron-wave-2022-01-14/>. Accessed 30 Aug 2022.

**Publisher’s Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Springer Nature or its licensor holds exclusive rights to this article under a publishing agreement with the author(s) or other rightsholder(s); author self-archiving of the accepted manuscript version of this article is solely governed by the terms of such publishing agreement and applicable law.