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The Ethics of Masking During a Pandemic

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Contents

The COVID-19 pandemic has been disastrous, approaching a million deaths in the United States alone, and has demonstrated the world's lack of preparation for a severe airborne virus ("COVID Data"). Countermeasures to infection are important to implement in order to lessen loss of life, but also must be justified and shown to be ethical. A countermeasure which is especially viable is wearing masks because of their high efficacy in preventing disease transmission compared to their relatively low restriction of liberty; studies have shown that mask wearing effectively impairs the spread of airborne pathogens and creates little physical or social harm. I argue that mandates requiring masking in public spaces where social distancing is not possible during an airborne pandemic are reasonable and precedented. By mandate, I mean an enforceable statewide or federal requirement with a penalty of refusal of service or a fine, such as seat belt requirements or even environmental mandates like the Clean Air Act and Clean Water Act. To do this, I will examine philosophical arguments in favor of masking requirements such as a defense of mandatory vaccination, the clean hands principle for collective action problems, and acceptable risk according to moral theories such as contractualism and utilitarianism. I also compare masking requirements to other similar public issues such as seat belt laws, taxation, secondhand smoke regulations, and the prohibition of public nudity in order to demonstrate that mandatory masking is not unacceptably coercive. In preparation for future strains of COVID-19 as well as for future pandemics, demonstrating that mandatory masking is ethically justifiable is more important now than it has ever been.

The Benefits of Masking: Challenging Misinformation

While the goal of this paper is to examine the ethical usage of masks, in order to lay the foundation for discussion, a scientific basis for the value of mask-wearing must be established. For this purpose, it is relevant to summarize the most recent research on mask effectiveness. For logistical and ethical reasons, it is hard to conduct a randomized control trial on the effect of masks in the spread of infection in communities, and the majority of mask studies detail their effectiveness in filtering out SARS-CoV-2 virus-sized particles in a laboratory setting. In a typical study, a laboratory test chamber was constructed in which a mannequin head was deemed the 'spreader' and was connected to a compressor nebulizer which allowed it to exhale viral mist simulating a mild cough, while another mannequin head 50 cm away was deemed the 'receiver' and hooked to an artificial ventilator which simulated steady breathing and recorded viral uptake. Multiple types of masks were tested for virus filtering efficacy. When the receiver was masked and the spreader unmasked, cotton masks reduced viral transmission by 20% to 40%, surgical masks by around 50%, and N95 masks by 80% to 90%. When the spreader was masked and the receiver unmasked, cotton masks and surgical masks both reduced viral transmission by more than 50%, and N95 masks by more than 95%. When the N95 masks were fitted to the spreader's face, they reduced viral transmission by 99%. (Ueki et al.).

Although they are hard to conduct, there have been multiple well-designed real-world studies on COVID-19 masking that are worth mentioning. One real-world study was carried out with California residents from February to December 2021 and found that using a face mask is effective at preventing infection with SARS-CoV-2. The study was a test-negative design, meaning the participants consisted of a control group who had

received a negative COVID-19 test and a case group who had received a positive test. 648 or 86.5% of cases (those with a positive result) reported no mask usage, while only 101 or 13.5% of cases reported mask usage by either party. 168 or 65.9% of controls (those with a negative result) reported no mask usage, with 87 or 34.1% reporting mask usage by either party. These findings demonstrate the real-world effectiveness of mask usage in preventing SARS-CoV-2 transmission (Andrejko 12).

Another study of 124 households and 335 people in Beijing, in which each household had at least one person with a confirmed case of COVID-19, found that mask usage was 79% effective in reducing secondary infection to other members of the household (Wang et al.). In a study of 70 Massachusetts public schools, the SARS-CoV-2 secondary attack rate (a measure of the spread of disease in a community) was found to be 1.7% when both the infected person and the contact were masked, and 11.7% when neither were masked (Nelson et al.). A study conducted on the USS Theodore Roosevelt during an onboard COVID-19 outbreak found that mask usage reduced risk of infection by 70% (Payne et al.).

As for how it spreads, studies now show that COVID-19 is better viewed as "small, aerosol droplets that remain suspended for extended periods within closed, well-mixed indoor spaces," rather than droplets that remain in the air briefly (Bazant and Bush 2). This is significant because since "the liquid drops expelled by respiratory events are known to span a considerable range of scale," the six-foot rule recommended by the CDC is not a sufficient measure to decrease spread (Bazant and Bush 1). For this reason, masking is more important than previously realized, since masks stop particle transmission from the source. In a classroom case study, the safe time after an infected

person enters the classroom was 1.2 and 7.2 hours with natural and mechanical ventilation, respectively. With only cloth mask use, these numbers raise to 8 and 80 hours respectively. Therefore, "Assuming 6 h of indoor time per day, a school group wearing masks with adequate ventilation would thus be safe for longer than the recovery time for COVID-19 (7 d to 14 d), and school transmissions would be rare" (Bazant and Bush 7).

In order to examine the ethical considerations for mask usage more effectively, it is also important to address the potential harms that mask usage poses, both physically and socially. It is a common belief that mask usage reduces oxygen intake, and even individuals in support of masking often complain about breathing difficulty. However, studies have shown that in general, this belief is misplaced; masks produce little to no changes in oxygen levels during low and moderate exercise, even among adults with COPD (Shein et al.; Chan et al.; Samannan et al.; Hopkins et al.; Bar-On et al.). There is conflicting evidence for intense exercise, however; some studies have found an increase in breathing difficulty (Person et al.; Driver et al.; Lassing et al.; Fikenzer et al.), while others have found no difference (Epstein et al.). There is, however, discomfort in wearing a mask, especially if it is fitted and of a high quality. Even should oxygen levels remain the same, air inside a mask may be warm and stale in comparison to fresh air, and the feeling of a mask can be distracting or uncomfortable. This is the basis of some reasonable objections which will later be addressed.

There have been worries about the effect of mask usage on children's socialization, especially in recognizing emotions among peers and understanding teachers in the classroom. While masks do block the ability to read emotions to some extent, the effect of wearing a mask has been found to be similar to wearing a pair of sunglasses,

leading Ashley L. Ruba and Seth D. Pollak to conclude that masks are unlikely to significantly impair children's socialization, considering that "children may be able to use additional contextual cues to make reasonably accurate inferences about others' variable emotional cues, even if others are wearing masks" (9). There still remains the possibility of children associating school with the discomfort of masks, although this objection is relatively minor if masking is effective in decreasing infections in the classroom; in a pandemic, children could just as easily associate going to school with getting very sick.

Before moving on to discussion of masking ethics, there is a commonly cited position among those opposing mask mandates that deserves addressing: that is, if you are wearing a mask, you are well protected and thus others should not be required to wear masks themselves. This argument proposes that it is up to individual choice to wear a mask or not. There are flaws in this position, however: for one, masks are most effective when worn by the spreader, and display significantly lessened results when worn only by the receiver (Ueki et al.). Even if someone chooses to wear a mask for personal safety, they are not well protected if those around them are not themselves masked. Secondly, most people have never had a fit test done, and it is common to fidget or pull a mask down, increasing risk of transmission. Having two barriers in place, the spreader's mask and the receiver's mask, can therefore be vital in preventing transmission.

Vaccination and Masking: Similarities and Differences

Given the novelty of the issue, there is a lack of academic sources on the ethics of masking and mask mandates. However, compulsory vaccination has been a topic of philosophical debate for many years, and has many similarities with the mask debate.

Many of the arguments for compulsory vaccination can be adapted to argue for mask mandates, and in some cases are even more effective in supporting masking than vaccination. This is because masks have several benefits over vaccines that indicate their viability for mandating, which will be examined here before moving on to the examination of some arguments for mandatory vaccination. For one, vaccines take time to develop, approve, and roll out to the public. Although masks also take time to produce, they can be made much more quickly than vaccines, and can be stored in preparation for future pandemics. This allows for a quick and effective response to airborne viruses, as while vaccines need to be tailored to the virus, masks are effective against small particles in general. As such, masks will always be relevant in the early stages of pandemics, before vaccines have been made.

Secondly, masks are less invasive than vaccines. A commonly cited position holds that mandatory vaccines violate bodily integrity if they are required against one's will. Vaccination, even if it is a harmless vaccine, involves a medical procedure in which a foreign substance is injected into one's body, so as Giubilini et al. say, "the right to bodily integrity may imply that others are under a pro-tanto duty not to impose vaccination on an individual without their consent" ("Moral Obligation" 556). Masks do not face this problem, as they do not enter the body. Masks are better viewed as clothing, upon which laws are generally uncontested.

Masks also do not have the risk of harm that vaccines do: as shown before, studies show that masks do not cause the majority of the negative effects attributed to them. There can, however, be a real risk in vaccination. Since masks do not have the same risk, less work needs to be done to justify their mandating.

Vaccines primarily protect the vaccine recipient from infection, and only protect others against infection by extension—with the Omicron, Delta, and BA.2 COVID-19 variants, this is even more true, as vaccines help to avoid serious cases and hospitalization but are not as effective at stopping initial infection. Viruses can still be transmitted to others even if the spreader is vaccinated. Masks, on the other hand, primarily protect others from infection by stopping the physical spread of viral particles.

Another consideration is that viruses can mutate around vaccines, but not around masks. The only way for a virus to combat masking is to increase base effectiveness, whereas new strains can counter previous vaccines. Masks decrease the chance of mutation overall by decreasing transmission and stopping people from being infected in the first place.

Masks are also temporary insofar as they can be taken off when not in public. Vaccines, on the other hand, cannot simply be taken off; once someone has received a vaccination, they are protected, although second vaccinations and boosters present a minor commitment. Although the temporary nature of masks may be appealing to some who find issue with the permanent nature of vaccines (for example, those concerned with bodily integrity or long-term side effects), this may also be argued in favor of vaccines because masks require frequent donning and doffing. Asking this inconvenient mask micromanagement of somebody may not be as desirable as the ‘one-and-done’ nature of vaccinations. This inconvenience of masking is an obstacle to mask mandating, but the other benefits compared to vaccination make mandatory vaccination arguments effective, if not even more convincing, when applied to masking.

It is also worth noting that masks are useful in decreasing transmission even after vaccination, so the mask debate endures even after the majority of the population has been vaccinated. There is a case to be made for masking even among vaccinated populations because of the prevalence of breakthrough cases; vaccinated individuals can still transmit disease, and they are more likely to be asymptomatic, meaning they have less of a signal for when they ought to wear a mask. However, although still worthy of debate, the case for masking becomes less defensible once herd immunity is reached. For the purposes of this paper, it is assumed that herd immunity has not been reached, as is the case currently in the COVID-19 pandemic. In fact, experts doubt whether herd immunity for COVID-19 will ever be reached—it may instead become endemic (Anderson et al.)

A Risk-Based Argument for Mandatory Vaccination

Jessica Flanigan, an ethicist at the University of Richmond, argues for compulsory vaccination because the refusal to vaccinate imposes deadly risks on others and violates their rights to not be given an illness. Flanigan presents two cases: in the first, as you are sitting outside your house watching fireworks on Independence Day, your patriotic neighbors celebrate by shooting their guns into the air. A bullet falls and lodges in your shoulder as you seek shelter. In the second case, at a party with your children who are vaccinated and other families who may not be vaccinated, you notice a neighbor's child has whooping cough. You leave the party with your children, and ten days later, your son is diagnosed with pertussis and has a miserable two months of recovery; the pertussis vaccine is only 70-85% effective (Flanigan 7-8).

In the first case, it is obvious the patriotic neighbor has done wrong, and he would likely face charges of reckless endangerment. It would be reasonable, then, to place mandates on indiscriminate shooting to protect bystanders. The second case, Flanigan says, is analogous to the first:

> As in the case of celebratory gunfire, the non-vaccinators harm and impose risks on their neighbors. In both cases, the shooters and the non-vaccinators may never see the harm they cause to others. Both shooters and non-vaccinators may feel justified in exposing people to small risks of getting shot or infected with a contagious illness for the sake of their own freedom to fire guns or to refuse vaccination. Yet, neither shooters' nor non-vaccinators' rights entitle them to harm others, despite the fact that the risk of harm is of low-probability, their victims are unlikely to identify them, and they do not intend to injure their victims (Flanigan 8).

Therefore, vaccination should be required to protect others from infectious diseases in the same way that gun safety is required. When applied to masking, this argument has a similar conclusion: given the benefits of masking and the harms imposed by not masking, it is reasonable to mandate mask usage. Masking not only does not carry the risks that vaccination does, but is less invasive, so mandatory masking is more defensible than mandatory vaccination.

Alberto Giubilini, a bioethicist at the University of Oxford, points out in response to Flanigan that as vaccination rates grow, the risk imposed by someone who is unvaccinated lessens: "Where herd immunity exists, being non-vaccinated is more like firing a gun among people wearing good bulletproof jackets or firing a gun in a place

where it is very unlikely that vulnerable people will be within shooting distance" (Giubilini 448). However, the vaccine analogy does not face this problem in circumstances where herd immunity has not yet been reached, such as the COVID-19 pandemic and the early periods of possible future pandemics. The analogy with masking seems to hold strong as well; there is no herd immunity phenomenon for masking, so there seems to be a moral obligation for individuals to wear masks even if the majority of other people do the same. This is supported by the evidence that the 'spreader' being masked has greater effects than the receiver, with both being masked giving the greatest assurance (Ueki et al.). There is more room for debate as to whether masks are a moral obligation after herd immunity has been reached through vaccination. It may be argued that since there is still some disease transmission even after reaching herd immunity, which is especially harmful for immunocompromised groups and the elderly, there is still an obligation to mask.

Brennan's Response and the Clean Hands Principle

Philosopher Jason Brennan agrees with Flanigan's conclusion that mandatory vaccination is justified, but finds flaws in her reasoning to get there. He raises several objections to Flanigan's argument, starting with the point that "many times, those who carry and pass on infectious diseases are simply unaware they are doing so," as in asymptomatic cases (Brennan 39). They are not purposefully harming others. However, this does not invalidate the reasoning for mandatory vaccination; asymptomatic carriers can still infect others whether they meant to or not. There is a difference in whether they know they are imposing risk of harm on others; a reasonable person who shoots into the

air can recognize that they are risking harm to others in the vicinity. An asymptomatic carrier does not have such a recognizable risk of harm. However, it seems like someone who chooses not to get vaccinated should be aware of asymptomatic transmission in the first place, and therefore still bears the weight of risking harm to others even should they be asymptomatic. In fact, this objection only furthers the cause for compulsory vaccination: if someone is vaccinated, there is less chance of them being able to transmit diseases, since there is less chance of them contracting a disease in the first place. This is effective whether or not someone contracts an asymptomatic case or has symptoms.

Another objection Brennan raises is more compelling: vaccination is a collective action problem, meaning no one person in a group can really be blamed. “When a large group of people refuses vaccines, the group may impose a risk, but we cannot easily attribute the risk to any individual within the group” (Brennan 39). In “A Libertarian Case for Mandatory Vaccination,” Brennan presents an argument for compulsory vaccination that takes into account his objections of Flanigan’s argument. This argument is formulated from a libertarian point of view, which Brennan argues makes it even more convincing than other arguments, since libertarians are typically the most opposed to mandatory vaccination and other government intervention. Since they believe in strong rights against interference, “libertarians generally resist the view that individuals may be forced to work for the good of others” (Brennan 38). Instead, libertarians would be more likely to “hold that the state can use coercion to stop someone from actively spreading a dangerous disease. Doing so stops the individual from causing harm; it is not an instance of forcing an individual to help others” (Brennan 40). Considering this, Brennan introduces his ‘clean hands principle’, which states that there is a “(sometimes

enforceable) moral obligation not to participate in collectively harmful activities" (Brennan 40). The clean hands principle forbids not only participation in collectively harmful activities, but also in "the collective imposition of unacceptable risk" (Brennan 40). In other words, a collective action should be avoided if it has even a reasonable chance of causing harm.

Brennan argues that if an individual chooses not to get vaccinated or not to have their children vaccinated, they are participating in a collective action that is harmful to the public, and therefore the government should mandate vaccination. Lack of vaccination is a harmful collective action, because one person alone causes negligible harm (if any) by forgoing vaccinations; "We can rarely point to individual parents and say, 'Your refusal to vaccinate your kid caused other children to become sick.' In general, individual decisions to vaccinate or not have negligible effects on others. What matters is what most people do, not what individuals do" (Brennan 40). Many people together, however, can cause mass infection and a good deal of harm, making lack of vaccination a collective action problem.

To demonstrate the clean hands principle, Brennan uses the example of the firing squad, in which ten sharpshooters are about to kill a child. They will all shoot the child at the same time, and each shot will individually be fatal. Were they to ask you to join them and take an eleventh shot at the child, most people's moral intuition tells them that although taking the eleventh shot would have no effect at all on the outcome, it is a wrongful act. The clean hands principle supports this intuition. Furthermore, the clean hands principle forbids cases of unacceptable risk, which raises the question of what risks are unacceptable. Brennan says it is acceptable to expose someone to risk "if and only if

this exposure is part of an equitable social system of risk-taking that work to her advantage" (40). For example, there is risk of harming others while driving, but this is tolerated because being able to drive benefits us. Permitting the leaving of a bomb in the street that has a 1 in 10,000 chance of exploding, Brennan says, is unacceptable because there is no benefit, only risk of harm. Consider a variation of the firing squad example that takes into account the nature of unacceptable risk:

> The sharpshooters from FIRING SQUAD have captured a second child. They will roll 10 10-sided dice. If the resulting sum is exactly 21, they will shoot the child (with 10 simultaneously striking, fatal shots). Otherwise, they will let the child go. They offer to have you shoot with them if the roll results in a 21 (Brennan 40).

It is still wrong to join in, even though now there is only a chance that the child will be shot. There is one final variation that Brennan uses to better approximate the actions of unvaccinated people:

> Elon Musk has just invented instantaneous interplanetary teleportation, and the technology is widely available. Suppose a group of privately-funded astronauts plans to visit a newly discovered planet, a planet that, for all they know, contains a wide range of deadly bacteria and viruses. When they arrive, they drink the water, without sanitizing it. They also give the possibly contaminated water to their children. When they arrive back home a day later, they refuse quarantine. Some of them visit Disneyland, while others immediately place their (for all they know, infected) children in daycare centers or schools. They could have taken steps to sanitize the water samples and to prevent themselves from contracting

> any alien diseases, but they decided not to do so, because they get their health advice from Jenny McCarthy.
>
> In this case, by refusing to quarantine themselves and their children, the astronauts are not simply failing to help others. Rather, they are
>
> 1. actively exposing themselves to potentially dangerous diseases, and then
> 2. actively doing things that have a high likelihood of spreading these diseases to others, and
> 3. actively choosing not to take steps to reduce the risks they are imposing.
>
> Further, these conditions also obtain:
>
> 4. They are not epistemically justified in 3; they lack grounds for refusing to take precautions, though they mistakenly believe themselves to have such grounds.
> 5. The risk they impose on others cannot be justified as part of an equitable social system of risk-taking as it provides no advantage to others (Brennan 41).

To finalize his argument, Brennan states that anti-vaxxers are similar to the reckless astronauts. For the case of masking, it is relevant instead to compare the astronauts to anti-maskers. In this case, as with anti-vaxxers, points 1-5 hold true for anti-maskers as well—applied to mandatory face masks rather than mandatory vaccinations, the clean hands principle is no less effective and may even be more convincing. The absence of masks, like the absence of vaccinations, is a collective action problem; if one person

forgoes a mask in public, the effect could be negligible, whereas if a majority of people forgo masks, infection rates rise dramatically. Without a mask mandate, the small risks which people impose onto others each time they go out without a mask build up to a final consequence of massive harm to society because of disease transmission. In a pandemic like COVID-19, this risk is much more substantial; the BA.2 variant in particular is so contagious that it should be expected that if a person is unvaccinated and does not self-isolate, then they will at some point be infected and spread that infection to others. Therefore, if the clean hands principle succeeds in justifying mandatory vaccination at the time of Brennan's writing in 2016, then it moreso justifies mandatory masking in the COVID-19 pandemic.

I also want to call attention to one of Brennan's arguments which he labels a "false start" for mandatory vaccination, but which is convincing for mandatory mask usage for COVID-19. This is the "Avoiding Disaster Trumps Rights" argument which states that, although individuals have rights to refuse taking medication, these rights are not absolute and can be "overridden to prevent disaster" (Brennan 38). Since it would be a disaster if most people did not vaccinate, it is permissible for states to necessitate vaccination. Brennan rejects this argument because presumably, it would not be a disaster if the majority of people did not vaccinate. Although Brennan does not attempt to define "just where the line between bad and disastrously bad is," he gives an extreme example which everyone can agree upon to be disastrous: that is, if there were an outbreak of a zombie apocalypse virus that could only be stopped if vaccines were mandated, then the situation would be so disastrous that individual rights to refuse medication ought to be overridden (Brennan 38). It may be argued that the COVID-19 pandemic qualifies as a

disaster; at the time of writing, there have been more than 980,000 deaths in the United States alone and 5,600,000 deaths worldwide, with estimates that the true amount is many more ("COVID Data"). Three times as many Americans have died from COVID-19 than died in WWII, a war deemed disastrous in loss of life. There can also be lasting effects among those who were infected; COVID-19 can cause lasting brain, lung, and liver damage, along with any unforeseen effects which have not yet been observed due to time ("COVID-19: Long-term"). Although wearing masks is not a certain way to stop transmission completely, it is demonstrably effective according to the aforementioned studies, and therefore, this argument which falls short at compulsory vaccination may succeed for pandemics comparable in severity to COVID-19.

It may be objected that the deaths to COVID-19 are an acceptable price to pay for people exercising their freedom. For example, there are plenty of driving-related deaths each year, but we accept that this is a reasonable cost for the privilege of driving. In response to this objection, it can be argued that while driving is an acceptable risk, failing to wear a mask in public is a larger risk and one which is more easily remedied. As Flanigan says, "Not all small risks merit moral consideration. We impose small risks on people every day. Every driver risks killing an innocent person but I am not suggesting that driving should be prohibited" (12). Rather, what matters is the severity of those risks and the cost of avoiding them. It would be helpful in determining when masking mandates are justifiable if we were to better define a baseline for acceptable risk.

Views on Acceptable Risk: Contractualism

Several moral theories, such as utilitarianism and contractualism, give guidelines on determining what risks are acceptable and unacceptable such that a mandate would be justified. While these theories are demanding because they require subscription to a comprehensive framework, it is still helpful to examine some and their suggestions. At its core, contractualism is a theory which posits that we must conduct ourselves in society according to a contract with other people in order to enjoy the benefits of that society. This contract would reasonably hold that we avoid situations where avoidable harm is done to people. T.M. Scanlon's variety of contractualism is a theory that holds that "An act is wrong if its performance under the circumstances would be disallowed by any set of principles for the general regulation of behaviour that no one could reasonably reject as a basis for informed, unforced, general agreement" (Scanlon 153). In other words, it is wrong to treat someone according to principles which they could reasonably reject. Under this view, an action is wrong if it is unjustifiable. In order to make a decision according to contractualism, it is helpful for one to imagine themselves as someone without knowledge of their conditions such as young or old, healthy or immunocompromised, and so on, and asking themselves what such a person would do in a given situation. In making a decision like this, one is taking into account even the most vulnerable people in society. Giubilini et al. apply contractualism to vaccination with the position that "a person could not justify her decision not to be vaccinated to the vulnerable members of the community who are at risk of contagion, as contractualism would require" ("Moral Obligation" 553). In the same way, someone would have to be able to justify their decision to not wear a mask in a pandemic for that to be acceptable, which seems difficult; it is reasonable, on the other hand, for people at risk of infection to

require that others wear masks to mitigate transmission. Contractualism is very convincing, and as a deontological theory, contractualism has the benefit of avoiding some pitfalls of consequentialist theories, such as the permissibility of some people's rights being violated in favor of maximal well-being to the group, as well as maximization calculations. However, it may be unclear what can be considered a reasonable objection under this framework; although it works well for defending masks in a deadly pandemic which masking would effectively diminish, its effectiveness decreases as the severity of the pandemic lessens because of each individual's varying levels of risk tolerance. For the purpose of better delineating acceptable cost and benefit, it can be useful to look at a consequentialist perspective such as utilitarianism.

Utilitarianism and Dualist Consequentialism

Utilitarianism may be defined as a moral theory in which "maximizing what is good for all is all there is to morality" (Savulescu et al. 621). Utilitarianism eschews considerations of justice or fairness in favor of maximizing the good. Savulescu et al. even argue that because of the nature of responsibility in a utilitarian framework in which intentions are irrelevant, "*failing* to take a course of action that would bring about more good, or avert more harm, is equivalent to *intentionally causing* that harm" (Savulescu et al. 625). In this sense, if masking in a certain situation is something which brings about more good overall, and someone fails to wear a mask, then they have caused harm according to utilitarianism. Classical utilitarianism provides an answer to the problem of acceptable risk by giving clearcut guidelines, but it encounters a major problem because if the total good is increased, then some suffering to individuals becomes permissible.

The cost to these individuals would not be considered, only the overall benefit, which could be clearly objectionable in some circumstances.

In "Ethics of selective restriction of liberty in a pandemic," James Cameron et al. introduce a 'dualist consequentialist' approach to risk assessment which is derived from a utilitarian perspective and which seeks to address this problem. In the dualist consequentialist approach, the dual factors being considered are morality versus self-interest, or in other terms, good overall consequences to the group versus costs to individuals in that group. "At a population level, a measure will be justified if the comparative expected utility justifies the restriction of liberty" (Cameron et al. 556). Furthermore, they recognize the importance of choosing solutions that are not overly costly compared to the benefits, as "liberty-restricting measures are often justified on the basis they are necessary to prevent harm to others and the least restrictive option available—the so called 'least restrictive alternative'" (Cameron et al. 554).

The dualist consequentialist approach is useful in the justification of masking: "requiring everyone to wear masks might be a reasonable restriction for everyone, even if some are unlikely to become ill or pass on the virus. Such an intervention has the potential to reduce disease burden and is a small liberty restriction." (Cameron et al. 556). Because masking entails a low individual cost and has a large benefit to others, mask mandates are justifiable in this framework. However, there remains uncertainty in how much liberty may be restricted in return for how much benefit, as well as similar problems of accepting the suffering of some people without regard for fairness; dualist consequentialism does not seem to be well-defined enough to completely solve the problems of classical utilitarianism.

Let us return to the analogy of driving deaths being an acceptable risk. Cameron et al. note that compared to young, healthy people, "the risk of other groups dying in car accidents is much higher: those who are drunk, abusing drugs, have epilepsy or other underlying medical conditions, and the elderly. However, the response is not to ban all driving of cars because some groups have a higher chance of dying or being injured in a car accident. The response is to ban those at higher risk" (557). In this sense, selective liberty restriction for elderly people is supported based on the dualist consequentialist approach because the risks are different for older people. Comparing lockdowns for two different age groups, Cameron et al. conclude that "For those over 50, the large increment in well-being outweighs the modest loss of liberty. Lockdown is of overall value (utility) for them. For those under 50, the small increase in well-being (or expected well-being, more precisely) is offset by the modest restriction of liberty. Lockdown has net negative expected overall utility" (556). While this is logical for measures such as lockdowns, and even to some extent vaccination, selective liberty restriction is not practical for masks; both the spreader and the receiver need to wear masks for them to be fully effective, and the spreader's mask status is notably more important than the receiver's. Consider, though, that masks are seemingly much less liberty restricting than lockdowns. Thus, younger people being required to wear masks restricts their liberty in a minor way while providing large benefits, so the best solution is that masks are required for everyone, not only certain groups.

Easy Rescue

One problem with the contractualist and utilitarian approaches is that they belong to comprehensive and demanding moral theories that few people subscribe to. A principle similar to dualist consequentialism but which was not constructed under a utilitarian framework is 'easy rescue,' which Giubilini et al. formulate as the following: "If the cost (including foreseeable risk of significant disability or death) to someone of performing an action X (or of refraining from performing an action Y) is sufficiently small to be reasonably bearable, and the resulting benefit to other people (or harm that is prevented) is large relative to the cost, then the agent ought to do X (or not do Y)" ("Quarantine" 186).

Giubilini et al. suggest that the individual duty of easy rescue can be expanded into a collective duty, which can address the issue of vaccination and masking as a collective action problem: "the small individual cost of vaccination entails that the cost to the collective of fulfilling its duty is also very small, because it merely consists of the aggregate individual small costs of vaccination, and there is no additional cost that the collective has to bear; at the same time, the benefits of realising herd immunity are very large." ("Moral Obligation" 554-555). In other words, since the individual costs are distributed to each person, and the individual costs are low, the aggregate cost is also low.

This concept is supported by a principle of fairness which "requires that such burdens be distributed fairly across individuals, and therefore that each individual take on herself a fair share of the burdens entailed by the collective obligation" ("Moral Obligation" 555). Because of the principle of fairness, even if each person's contribution were imperceptible, each person still has a duty to contribute; there exists a collective obligation of the group such that failing to make a contribution is unfair to others in that

group. This is a major deviation from utilitarianism, as fairness is generally not considered under purely consequentialist frameworks. There is a possible objection to this, though, which concerns the compatibility of the principles of fairness and utility: that is, "Requiring everybody to be vaccinated regardless of how many people around them are vaccinated might sound implausible because a principle of utility conflicts with a principle of fairness: fairness would require to choose an option, namely vaccination, that has no utility net, and actually has a (small) cost for the individual" (Giubilini et al., "Moral Obligation" 557). In other words, if a collective action really has no benefit to the group if only one individual takes that action, are they still obligated to take that action even though it results in net negative utility? In response to this objection, there is in fact some utility in an individual wearing a mask, as this could prevent infection to others, especially considering the spreader's mask status is more important than the receiver's. While it is possible to view masking as a collective action problem, there remains individual reasons to mask—furthermore, these reasons are greater for masking than for vaccination because while the COVID-19 vaccine focuses more on lessening the severity of illness rather than stopping initial infection, masking effectively decreases transmission. Because of this individual benefit, the principles of utility and fairness may be reconciled. It may also be argued that the principle of fairness requires individual contribution even if no one else in a group participates because the principle of fairness does not rely upon other people doing their part, nor upon one's individual contribution being substantial. Although this is a harder response to defend, Giubilini et al. compare this duty to taxes, as even if most people did not pay their taxes, there would still exist an obligation to pay one's "fair share" because what is fair remains the same even if one is

primarily surrounded by tax evaders ("Moral Obligation" 558). A more detailed analogy to taxation will be examined later in this paper.

In essence, the duty of easy rescue has very similar conclusions to the dualist consequentialist approach, but can be more widely accepted because of its lack of a corresponding moral theory like utilitarianism. Masking is better considered an 'easy rescue' than a 'costly rescue' because the individual costs of wearing masks are small compared to the decrease in disease transmission, and is enforceable in collectives because any individual not masking is not fair to other people in that collective. Therefore, according to the duty of easy rescue, it can be concluded that a pandemic on the scale of COVID-19 entails an obligation to require masking. It may still be difficult to get a definite grasp on what risk is acceptable, but principles such as easy rescue can help guide us there.

Comparing Accepted Laws to a Mask Mandate: The Seat Belt Analogy

To demonstrate the viability of mandating masking, it is helpful to examine other comparable laws which themselves restrict individual liberty to ensure the safety of oneself or others. By showing that various other laws are (1) widely implemented and accepted and (2) restrict liberty for the safety of others in a way comparable to mandatory masking, and in certain cases for the safety of oneself alone, it can then be concluded that a mask mandate is precedented.

The first relevant comparison is seat belt laws, which Alberto Giubilini and Julian Savulescu address in "The Seat Belt Analogy." These are considered paternalistic laws because they restrict one's liberty for one's own safety instead of the safety of others;

when a person wears a seat belt while driving, they are primarily protecting themselves. There is some degree of benefit to others in roundabout ways, such as proper seat belt usage lessening the load on first responders, reducing medical costs, and ensuring the stability of people dependent on the driver. However, these are not concerns about physical harm to others. Comparatively, "catching an infectious disease is equivalent not simply to being victim of a car accident, but of being victim of a car accident in such a way as to become a lethal threat to others" (Giubilini and Savulescu 247). Seat belts are justifiable on a lower level of commitment than masks, since seat belts are paternalistic while masks protect the health of oneself and others; requiring the use of seat belts is then more invasive to personal liberty than mandatory masking. In fact, it may also be argued that refusing to wear a mask and going to the hospital for COVID-19 has a similar effect to seat belts in which protecting oneself directly benefits others; sick patients take up hospital beds, ventilators, and critical care which could be given to other people, and a hospital which is full of COVID-19 patients cannot take in people who need care for other emergencies. Therefore, since we accept seat belt laws, we ought to also accept mask mandates since the latter is less coercive than the former.

Seat belts hold a risk, however small, of bodily harm to the wearer. Seat belt syndrome can cause injuries more severe than a car wreck without the seat belt. Giubilini and Savulescu note that although there are risks associated with seat belts, people today are generally in favor of seat belt requirements, with upwards of 70% in favor of primary enforcement in the USA, showing that they are accepted even despite the risk (243). In comparison, the harmful effects of masks are smaller, and what effects they do have are not fatal.

It may be argued that masking is uncomfortable in a way that is incomparable to seat belts. Consider, though, the practical annoyances of wearing seat belts; they need to be buckled and unbuckled every time someone enters or exits their seat, and worn across the chest and lap. Although we are used to wearing them and may not attribute any discomfort to them, they still require some micromanagement. In a similar way, many people resist mask mandates on the grounds of discomfort and inconvenience. Even if it is concluded that masks are more uncomfortable than seat belts, it remains that masks are less coercive, so the cost to benefit analysis is positive overall. Seat belt laws are widely implemented and accepted today, indicating that mask mandates could follow the same path.

The Taxation Analogy

Alberto Giubilini likens vaccine refusal to tax evasion in an argument which can be adapted to masking. Giubilini approves of Flanigan's risk-based argument for compulsory vaccination, acknowledging that "According to Jessica Flanigan's effective analogy, the state should prohibit non-vaccination in the same way as it prohibits someone from randomly firing a gun in public space, since the two types of conduct equally put the health or even the life of vulnerable people at risk" (Giubilini 447). However, he notes that herd immunity presents a challenge for mandatory vaccination and formulates an argument that is effective even should herd immunity be reached. Taxation, Giubilini says, is both a moral and legal duty. It is a moral duty because there is a collective responsibility to pay taxes because it benefits the community at a small cost to any one individual, and because the means to accomplish this should be evenly

distributed among individuals to be fair. Taxation is a legal duty because "when the public and the collective goods at stake are important for the functioning and upkeep of society, it is reasonable to legally require individuals of a community to fulfil their moral obligations" (Giubilini 450).

Vaccination (and masking by the same token) can also be considered both a moral and legal duty, as they both promote "expected utility, by realising an important public good, and fairness, by ensuring that each individual makes her fair contribution to herd immunity" (Giubilini 453). Vaccine refusal, then, is comparable to tax evasion, as in both cases, the individual fails to make their fair contribution, however small that contribution may be. It is in one's self interest to be a free rider when it comes to taxes; the monetary cost of taxes may even preclude important events like crucial medical care for individuals (Savulescu 81). Even so, taxes are mandatory, and most of us would consider tax evasion to be wrong; as Giubilini et al. state, "one could plausibly argue that I have a duty of fairness to be vaccinated even if few people around me are vaccinated in the same way as I have a duty of fairness to pay my fair (but no more than my fair) share of taxes even if many people around me do not" ("Moral Obligation" 558). Masking is a smaller cost to individuals in comparison to taxes, and because of the principles of utility and fairness, there is reason to regard both as moral and legal duties.

Consider also that a legal obligation helps to alleviate the problem of assurance: one's sense of fairness depends on the contributions of others. If other people are not contributing comparably to a cause, it feels unfair to the individuals who do contribute, resulting in no one ultimately contributing. Being assured that other people will also contribute preserves the individual's willingness to contribute themselves. This is a

noteworthy aspect of masking: if an individual is the only one wearing a mask in a public space, it may not feel fair that the burden of stopping the spread of illness lies on them alone, whereas if masking is mandated, the collective contribution assures each individual of their effectiveness.

Many objections to the taxation analogy hinge on the dangers of vaccination and therefore fail at objecting to masking. For example, one objection holds that there may be negative side effects from vaccination, but not from taxation. These negative effects may even outweigh the risk of infection in a population with herd immunity. However, as shown by current studies, the negative risks of masking are all but nonexistent. One may also appeal to the violation of bodily integrity or other vaccine-specific criticisms, but these fail for masking as well.

The Secondhand Smoke Analogy

Another relevant example for comparison with mandatory masking is smoking regulations. There are restaurant, bar, and workplace smoking bans in effect in twenty-eight states in the U.S., and local smoking laws in other states ("Selected Laws"). These laws do not restrict people from smoking, only where they can smoke, as smoking is prohibited in many enclosed public spaces. Secondhand smoke laws are in effect to decrease harmful ETS (environmental tobacco smoke), and while they do decrease exposure, there are still harmful effects from ETS. Because people can smoke privately or in outdoor areas, exposure to others is still possible. Even with smoking laws in effect, the CDC estimates that ETS causes 41,000 deaths annually ("Tobacco-Related Mortality"). Mask usage, while effective in diminishing disease transmission, also does

not decrease the risk entirely. However, the COVID-19 pandemic seems to be more severe than the secondhand smoke problem in the U.S., indicating that masking should also be mandated if ETS laws are agreed upon to be defensible based on lives saved. In both cases, individual liberties are restricted because of the imposition of risk onto others. Coincidentally, new models of the spread of COVID-19 show that it acts as aerosol droplets which remain in the air in a similar way to cigarette smoke, which assists in the comparison of ETS harm to COVID-19 (Bazant and Bush 2). COVID-19 droplets also do not have a smell, so unlike smoke, exposure is undetectable and measures cannot be taken by individuals on a case-by-case basis to avoid exposure.

I would compare making someone leave to smoke and making someone leave if they refuse to wear a mask. The tension here is between the inconvenience of moving elsewhere and the inconvenience of wearing a mask. Leaving to smoke may even be more inconvenient than putting on a mask: take, for example, someone who is told they can't smoke on the premises. The urge to smoke is not a trivial matter, but rather something they probably feel the need to do and cannot reasonably be expected to abstain from a smoke break. In leaving or going outside to smoke, they have been caused a good deal of inconvenience, especially if they need to make frequent smoke breaks; while they are smoking, they cannot continue doing whatever it is they were doing inside. On the other hand, if someone is asked to wear a mask inside, they can continue to do anything they otherwise would, as they are not required to relocate. This is not to criticize smoking bans, but to illustrate that mandatory masking is similar in the relevant ways such that if we accept smoking bans, we ought also accept mask mandates.

One relevant criticism of this analogy is that there is a moral difference between asking someone to take a positive action such as masking and prohibiting them from taking some action, as in the case of smoking bans. If this is true, then making someone wear a mask is less justifiable than merely prohibiting someone from smoking. In response, this may be looked at through a cost-benefit analysis as given by the dualist consequentialist view or the duty of easy rescue; if a masking mandate restricts liberty to a larger degree than smoking bans, but also gives a larger benefit, then this restriction of liberty may justified. It may be concluded that masking is more beneficial and urgent then smoking bans in the COVID-19 pandemic, as shown by masking efficacy in current studies and the higher death toll of COVID-19. Therefore, although mandatory masking may impose more restriction on liberty than smoking bans because of its requirement for positive action, the larger provided utility of masking indicates that it is still defensible.

The Public Nudity Analogy

Finally, there is a comparison to be made between mandatory masking and laws prohibiting public nudity. In this endeavor, it is important to answer the question: how does mere offense to others compare to actual harm to others, and when is it appropriate to prohibit either? Joel Feinberg answers this question in his book, *Offense to Others.* Feinberg defines 'to offend' as "to cause another to experience a mental state of a universally disliked kind (e.g., disgust, shame)," and notes that one is offended if they suffer a disliked state caused by the "wrongful conduct" of someone else, and if they resent the offender for their offense (Feinberg 2). His "offense principle" states: "It is always a good reason in support of a proposed criminal prohibition that it would probably

be an effective way of preventing serious offense (as opposed to injury or harm) to persons other than the actor, and that it is probably a necessary means to that end" (Feinberg 1). However, he also finds it obvious that offense is less serious than harm. In fact, he argues that offense and harm are on different scales entirely, so ranking offense lower on the same scale as harm would be a misconception.

Public nudity, Feinberg says, is an offense, as "the temptations of voyeurism trigger the familiar mechanism of inhibition and punishment in the form of feelings and shame" (17). Nudity is something that inherently commands our attention and forces us to attend to the situation and the feelings caused by it, sometimes easily but sometimes quite unpleasantly. Either way, nudity is quite distracting and more often than not causes a kind of vicarious shame which Feinberg describes as a "near total confusion and disarray of feeling" (19). Simple public nudity, which is ordinarily illegal, is on the low end of possible offenses to others, according to Feinberg. This is because we can close our eyes or avert our attention from nudity quite easily, compared to offenses to our sense of smell or our personal space. Even given its relative innocuity, public nudity is still prohibited. On the other hand, refusing to wear a mask during a pandemic is something which risks real harm to others, not just offense (although it may well also cause offense). Therefore, if public nudity laws are commonly agreed upon to be beneficial to the public, then a mask mandate ought to be as well, given its purpose would be to protect others from harm rather than mere offense.

It may be argued that in contrast to clothing, wearing masks can be cumbersome and uncomfortable. Therefore, requiring the public to wear clothes is not as coercive and disruptive as requiring them to wear masks. However, because wearing masks prevents

harm to others rather than merely offense, masking does more good than clothing, so more discomfort is acceptable in return for greater benefit. It may also be argued that if clothing were not normalized, we would also find clothes to be quite obstructive and bothersome; the fact that we are used to wearing clothing and not used to wearing masks may alter our perception. It is possible that in a society like ours in which the only difference is the people there do not wear clothes, suddenly mandating clothing would elicit a similar response as mandating masking does now.

Another possible criticism holds that there is a personal incentive to wear clothes in order to protect one's privacy in public, whereas face masks lack a personal incentive to wear them. The upshot to this is that a mask mandate is coincidentally more urgent than a clothing mandate, if people are less likely to wear masks than to wear clothes when neither are required. Laws are most important where they are most needed, as demonstrated by the fact that vaccines are merely mandated for school and work via negative incentives, and not compulsory for everyone. This is because this amount of coercion is enough for people's safety and any more would be unnecessary, at least before COVID-19. Additionally, it is worth noting that there is some personal incentive in the protection of oneself against disease which masks provide, even if that protection is more effective for others.

Conclusion

Masking has been shown to be an effective countermeasure to airborne viruses, and holds few of the harms commonly cited against it, such as lowered oxygen intake and impeded socialization. There is much support to be found for mandatory masking in the

arguments that have been made for mandatory vaccination, and because masking is a safer, less invasive, and more readily available option than vaccinations, these arguments are even stronger when applied to masking, especially during a pandemic on the scale of COVID-19. There is also support for mandatory masking in the views of contractualism, utilitarianism, and the duty of easy rescue, all of which attempt to delimit acceptable risk. If masking has a cost as low as has been argued, and the benefit of masking has been accurately reflected by current studies and real-world examples, then there exists an individual moral obligation to mask in an airborne pandemic. This individual obligation can also be argued to be a collective obligation according not only to Brennan's clean hands principle in response to collective action problems, but also by a principle of fairness as in the duty of easy rescue. From this moral obligation to protect others and comparison to laws which are commonly agreed upon to be acceptable, it has been concluded that mandatory masking in an airborne pandemic is ethically justifiable. In future airborne pandemics, it is critical that the public respond with mask wearing more promptly and cooperatively to lessen the loss of life, and to this end, discussion on the ethics of mask mandates is more important now than ever.

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