

Unnecessary Risk to Soldiers and the Duty to Enhance

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1. Introduction

Recent years have witnessed a rapid increase in the development of various kinds of human enhancement. As with most technological and pharmacological innovations, many of these developments have been either driven by, or are of particular interest to, the military. My focus in this chapter is on *soldier enhancements*.¹ Roughly, this refers to a wide range of interventions to a soldier's body—whether internally, such as via embedded technologies, or via pharmaceuticals; externally, as in the case of various kinds of exoskeleton or other forms of wearable technologies; or in hybrid form. The central promise of these enhancements is that they will improve or restore the soldier's physical, mental, or emotional state, in order to increase their prospects for success across a range of military objectives.

Both the efficacy of these enhancements and the feasibility of their implementation are increasing at a rapid pace. Not surprisingly, this has raised their appeal within the military—particularly in the United States (which is where I will focus my attention here). But it has also piqued the interest of ethicists, many of whom have expressed serious concerns about both the general use of certain of these enhancements at all, as well as the specific ways they are likely to be implemented. These concerns are broad and varied, but many of them focus on ensuring safety,

¹ I use the term 'soldier' here in a broad, inclusive sense to include not only those in the Army, but also the many other branches in which these technologies are used. For reasons that will become clearer later on, the term 'warfighter' may perhaps be a better fit, though it is in some ways unhelpfully narrow.

standards for implementation, standards for de-enhancement, among other things. In general, a consensus view has emerged that holds that, in light of these and many other concerns, a more cautious approach is needed. The development of certain of these enhancements raises novel ethical issues, and we should not move too quickly without fully understanding their risks.

I am broadly in agreement with this view. Nothing I say in what follows is intended to suggest that the military should permit—much less require—soldier enhancements when doing so would be overly risky, insufficiently safe, not rooted in robust scientific evidence, or when it risks other unacceptable moral costs. Rather, my focus here is on an important ethical question that is in a certain sense downstream from this one. So, let us assume, in what follows, that the enhancement in question is in fact sufficiently safe and that its ethical costs are broadly acceptable, or at least potentially so.² That is, assume that, in general, it is *pro tanto* morally permissible for a soldier to accept a given enhancement. In other words, we will set aside any views that hold that enhancements are categorically or in-principle impermissible; we limit our scope to only those views on which, subject to certain reasonable criteria, enhancements *could be* at least permitted.

Were this the case, I suspect many people (including most soldiers) would hold that whether a soldier accepts a given enhancement is, or perhaps should be, simply a matter of personal choice—that is, that accepting an enhancement is merely permissible, and not morally required. In what follows, I lay out an argument for a more restrictive view. I argue that, in many cases, soldiers in fact have a strong *pro tanto* moral duty to accept certain enhancements. This duty follows from the more foundational duty soldiers have, by virtue of distinctive features of their role, to mitigate

² Admittedly, this is too vague: precisely how we measure the costs is central to the puzzles that follow. So by assuming that we have found them to be ‘acceptable’, I might be reasonably accused of stipulating away the problem I’m aiming to resolve. But I think the only way to make progress on the issue is to begin by assuming that the ethical challenges are not insurmountable or categorically prohibitive. And in doing so, we open up the space for an inquiry about how to assess trade-offs across various moral goods.

risks of serious harm, primarily to their teammates, as much as possible, even when doing so comes at great cost to themselves. Much like how it would be (pro tanto) wrong for a soldier to expose others in his unit to unnecessary risk due to his deliberate lack of preparation for battle, or not arming himself with the relevant available tools necessary to defend himself and them, it is also (pro tanto) wrong for soldiers to forgo the relevant enhancements that make them more capable of defending their teammates.

Importantly, however, this duty is not absolute. Moral agents possess the power to waive (in part or in whole) the duties others have to us. So, the duty to accept an enhancement can in principle be overcome by enough of one's teammates waiving their right against the increased risk that comes with one forgoing a relevant enhancement. Interestingly, then, the role of a given soldier's consent to *their own* intervention has little moral significance, since they have a (pro tanto) moral duty to accept it regardless. But a soldier's consent is quite significant when it comes to the risks others in their unit impose on them by refusing an enhancement.

In section 2, I lay out the moral value of soldier enhancements. In section 3, I explore the role of risk acceptance for soldiers, and argue that while soldiers accept a great deal of risk in becoming soldiers, subjecting them to unnecessary risk is still pro tanto wrongful. In section 4, I bring the arguments of the previous two sections together: I argue that by not accept a relevant enhancement, soldiers wrongfully expose their teammates to unnecessary risks. I then argue that the role of soldiers' bodily autonomy is generally insufficient to override this pro tanto duty. Finally, in section 5, I discuss the idea that soldiers have a power to waive the duty their teammates have to them to accept enhancements so as to enable these teammates to better protect them. In section 6, I conclude.

Before going further, let me issue a few brief caveats and clarifications. First, in what follows, when I speak of a *duty* or something being *wrong* (and other related concepts), I mean this as shorthand for *pro tanto moral duty* or *pro tanto morally wrong*, unless otherwise specified. I will also speak generically about *enhancements*, often without specifying the details of any given enhancement, though of course the specifics of the enhancement will be of great consequence to the strength of the duty—namely, the extent of the costs a soldier would incur from a given enhancement, and the level of risk to which a soldier and their teammates would otherwise be exposed. Finally, my focus here is primarily on the underlying ethical issues, which may (or may not) be of relevance to operationalizing these enhancements.

2. The Value of Soldier Enhancement

The most widely discussed soldier enhancements promise to improve a soldier's prospects of accomplishing relevant military objectives. Sometimes the relevant military objective is somewhat remote, or otherwise of lower immediate value to the soldier himself. For example, certain enhancements center on gathering large swaths of data about the soldier, his surroundings, and those with whom he engages. Over time, military leadership can use this data to aid in improving their planning, intelligence, management of soldiers' health, and so on.

But many other enhancements focus on military objectives that can be of more immediate salience to the enhanced soldier himself. For example, certain enhancements—such as those centered on the soldier's health, attention, alertness, or external protection—improve his prospects for survival or avoiding serious injury while engaging the enemy. Of course, many enhancements serve multiple functions, including both of these just mentioned. Our focus here, however, will be

on the enhancements—or the particular dimension of certain enhancements—that aim at improving a soldier’s prospects for success during violent engagement with enemy forces.

Notice that the value of soldier survival—i.e., preventing unnecessary harm and death—stands independent of success of the mission. Indeed, unlike the value of success in a mission, which may ultimately be negative, there is value in protecting all soldiers—even those fighting for unjust causes—from unnecessary harms. Further, given the structure and responsibilities of most military units, one’s avoiding harm oneself is instrumental in providing security to others in one’s unit. That is, my enhancement protects me, but it also enables me to better protect my teammates. This is true in an obvious way: I cannot protect them if I am dead. But it is also true inasmuch as the enhancement enables or strengthens our security in various ways—e.g. through better communication, understanding of our surroundings, and preventing harms, and so on. And of course, many enhancements enable greater precision and care with respect to other harms, such as those that impact civilians. In this way, enhancements have the potential to promote many different moral values at once.

In a sense, then, soldier enhancements have much in common with other significant technological advances, such as improvements to weaponry and armor, more sophisticated intelligence systems and data analytics, and unmanned aerial vehicles (UAVs), among others. Much like these technologies, enhancements promise to generate improvements to capabilities, while reducing risk of harm. Again, these improvements not only aid in achieving the goals of the mission; they also aid in preventing unnecessary harm to combatants and civilians. Of course, one notable difference is that many (though not all) enhancements involve substantial, and sometimes essentially irreversible, intrusions into one’s body, whereas most other technological advances, such as those just noted, typically do not. This feature raises significant issues concerning the

nature and extent of the costs of these enhancements to individuals, particularly concerning their right to bodily autonomy. Specifically, these costs weigh against the benefits in the moral assessment of enhancements, which has important implications for moral and practical requirements. Issues surrounding bodily autonomy, particularly as it concerns trade-offs for other morally relevant goods, are complex—even more so due to features specific to the case of soldiers. We will explore these issues in greater depth later on. However, let me note here, to forestall a potential worry, that the fact that certain enhancements are intrusive does not preclude the possibility of their being morally required. Infringing on bodily autonomy is a very important cost, to be sure; but it is not insurmountable, particularly in the case of soldiers.

3. Risk Acceptance, Risk Imposition, Unnecessary Risk

Being a soldier means accepting a significant risk of harm and death.³ Soldiers know and accept that they may be put in harm's way, typically without having much information or consideration of their specific preferences. In general, that soldiers have accepted these risks is a significant part of why the state is justified, when it is, in putting them in harm's way. Indeed, many soldiers—particularly those who are most likely to be candidates for the particular sorts of enhancements we are interested in here—are drawn to these roles precisely because of this elevated risk of harm, and receive much more extensive training than conventional units to ensure they are prepared for the full range of risky scenarios in which they may someday be asked to serve.

³ There are obvious differences, in terms of risk acceptance, between volunteer and conscripted soldiers. What I say is most applicable to volunteer soldiers, especially if we assume that those in the units on which I am primarily focused—e.g. special forces units, etc.—are to a large extent self-selecting (as opposed to pressured or coerced). I also think that even conscripted soldiers accept risks to a certain extent, though the coercive features of their conscription severely mitigate such acceptance

That soldiers accept such risks has been widely acknowledged by scholars writing on the ethics of war. As Jeff McMahan puts it:

The reason why combatants are required to expose themselves to risk in the course of defending those who are threatened with wrongful harm is simply that it is their *job* to do that: it is what they have pledged to do and are paid to do. It is part of their professional role. In this respect they are like other paid professional defenders or rescuers, such as police, fire-fighters, bodyguards, and lifeguards. All such people have professional role-based duties to take risks and even on occasion to allow themselves to be harmed when that is necessary to fulfill the functions of their role.⁴

But what does the fact that a soldier accepts certain risks mean for the moral status of the harms they face?⁵ First, notice that *accepting a risk* of harm is quite different from *consenting to the harm*. To borrow an example from McMahan, by voluntarily walking through a dangerous neighborhood at night, I certainly accept the risk of my being mugged: I know the area is dangerous, and that being mugged is a possibility, and yet I do not take an alternate route. Still, I clearly do not consent to being mugged, or waive my rights against being mugged; the mugger still wrongs me. Or consider driving: I accept the risk of serious harm or death by driving on roads with others—even as a result of their negligence or carelessness. And yet, clearly I do not consent to these harms. Drivers may wrong me by harming me, even when they do not do so intentionally. They may owe me compensation, for example, which is inapplicable if I had consented to the harm.

By contrast, consider a boxing match: I do more than merely accept a risk of harm by entering the ring. I consent—implicitly, if not explicitly—to being punched, subject to the rules. My boxing opponent therefore does not wrong me by punching me in the face during our bout. He

⁴ Jeff McMahan, “The Just Distribution of Harm Between Combatants and Noncombatants,” *Philosophy and Public Affairs* 38, no. 4 (2010): 366–67.

⁵ Much of the argument in this section borrows heavily from arguments in section 3 of my “The Ethics of Killing in a Pandemic: Unintentional Virus Transmission, Reciprocal Risk Imposition, and Standards of Blame,” *Journal of Applied Philosophy* 39, no. 3 (2022): 471–86.

does not owe me compensation for the pain he inflicts. Consent alters what others are permitted to do to me—indeed, this is often the very purpose of giving consent. Merely accepting risks, however, does not itself change what others may permissibly do to me.⁶

Soldiers accept a broad range of risks, and this is importantly distinct from consenting to the ensuing harms, which they do not in general do. And yet, the case of soldiers is clearly different from other cases, like those involving muggers and drivers. Unlike these other cases, soldiers generally not only accept risks, but have broadly consented to being subjected to these risks, particularly by those with command authority over them. As we saw in the McMahan quote above, this risk exposure is not an incidental factor in their lives; it is part of their professional role, and their duties *qua* soldier. Again, this is not consent to the harms themselves; rather, it is consenting to being put in harm's way.

But while soldiers have accepted risks in general, and even given broad consent to being subjected to significant risks of harm, it does not follow that all risk imposition on soldiers is justified. Subjecting soldiers to risks that are grossly disproportionate, inappropriate to their role, or otherwise extreme is very difficult to justify. Indeed, doing so is often wrong. For example,

⁶ Some philosophers think that soldiers are quite like boxers—i.e. soldiers not only accept the risks of war, but consent away their rights against being harmed or killed. (See: Thomas Hurka, "Proportionality in the Morality of War," *Philosophy and Public Affairs* 33, no. 1 (2005): 34–66; Michael Walzer, *Just and Unjust Wars* (Basic Books, 1977). But I think this view is mistaken. Ukrainian soldiers defending their country and co-nationals against unjust Russian aggression certainly accept that Russian soldiers will try to kill them, and that many of them will unfortunately succeed. But surely they do not consent to being killed by Russian soldiers. I recognize that fighting back against my mugger in defense of my property risks serious harm or worse; but while I accept that risk by fighting back, this does not constitute consent to these harms. Indeed, were that true, it would be unclear how we could ever hold aggressors to account for their wrongdoing in cases like this. After all, on this view, they did nothing wrong, since the victim of their harms had consented to them. But surely this is implausible. I do not claim to have refuted the so-called 'boxing analogy' here; attempting this lies well beyond the scope of the paper. I have aimed only to articulate the view that soldiers accept risks of harm, but do not consent to that harm. Some of what I say below is broadly compatible with the view that soldiers do indeed consent to being killed; however, I will proceed on the assumption that what soldiers actually do is merely accept these risks, rather than consenting to them.

while soldiers accept the risk of being killed in battle, and broadly consent to being sent on missions where this is a possibility, it is nevertheless quite difficult to justify sending them on suicide missions—that is, missions where the risk is extraordinary and the expected upside is not sufficiently high. It is similarly difficult to justify putting soldiers in harm’s way when they are not sufficiently well trained for that type of encounter; do not have the proper equipment, including weapons, armor, communications equipment, and other relevant technologies; have not engaged in adequate planning or received relevant intelligence; have not communicated and coordinated with other units in the area for support; and so on. Put differently, soldiers do not have legitimate grounds for complaint when they are placed in dangerous scenarios in general; this is what they signed up for. But they *do* have legitimate grounds for complaint when the risks to which they are subjected are, in some sense, unnecessary.

Many philosophers writing on the ethics of war have been drawn to the idea that subjecting others to unnecessary risk is wrong. Bradley Strawser calls this the *Principle of Unnecessary Risk* (PUR). Strawser’s version of this idea holds that it is wrong to command a soldier to take on unnecessary risk in an effort to carry out a just action. If there is a way of avoiding a risk of harm that doesn’t yield a comparably significant cost, it is wrong to expose soldiers to that additional risk. Strawser is interested in employing this idea to justify the use of unmanned aerial vehicles (UAVs), but the implications of this principle are much broader. For example, suppose I can send my team into an area to engage the enemy now, though it would be less risky overall to do so tomorrow, since delaying will enable us to better prepare, or collaborate with neighboring forces, or incorporate useful intelligence in our planning before the mission. Further, assume there are no, or only negligible, costs associated with waiting: our prospects for achieving the ends of the mission are essentially unchanged. In this case, sending a team in to engage now seems wrong.

Strawser's PUR focuses on the relationship between commanders and subordinates. But again, the principle applies more broadly. Suppose we out are on a mission, and for no mission-related reason—perhaps I am just feeling enthusiastic and ready for a fight—I decide to scream loudly, which predictably draws attention to our unit and makes us an unwanted target for violence by the opposition's forces. Clearly, this imposes unnecessary risk on my teammates, and does so without a sufficiently important countervailing rationale. This example focuses on introducing unnecessary risk; but, as we have already seen, the principle also applies to cases where risks can be mitigated and the option is declined without sufficiently overriding reasons. Suppose I am the communications lead in my unit, and we are preparing to depart for an operation. I decide against bringing our communications equipment, though not for morally overriding reasons: I just would prefer to not have the extra weight in my pack, which will slow me down a bit, and I (mistakenly) predict it won't be required anyhow. Later, when we are pinned down, we cannot call for support due to my choice, and men in our unit are killed as a result. Clearly, in this case, I have subjected my teammates to unnecessary risk, and my doing so was wrong.

This example shows that some unnecessary risks are the result of choices that occurred well before the harm itself. But temporal distance itself does not eliminate the principle of necessity. As Daniel Schwartz has argued in the context of the general necessity principle in self-defense:

One cannot determine whether a person meets the requirement of necessity merely by looking at the defensive means available to her at the time of dealing with a threat. One must look at the earlier decisions that made it the fact that the options available are only those and not others.⁷

⁷ Daniel Schwartz, "Necessity Historically Considered," *Journal of Moral Philosophy* 17, no. 6 (2020): 591–605.

For example, suppose that I am preparing to walk through a dark alley, and I have both a pistol and a taser I can take with me. Suppose that I decide not to take both—I only take the pistol. Later, when I am attacked by a lethal assailant, it would seem it is necessary to use my gun to thwart his attack; using only my hands, for example, would be futile. Indeed, viewed only at the local level, using my gun *is* necessary: given the options available to me at the time, using my gun was the only opportunity for successful self-defense. And yet, when we inspect the case more broadly, we see that there is an important sense in which using my gun was unnecessary: I could have successfully defended against this threat in a less-than-lethal way by using my taser, thereby achieving the same result (protecting my life) at much less cost.

Schwartz notes that viewing necessity this way might seem to entail that, since each of us may one day be victimized by an unjust attacker, we all therefore have an obligation, grounded in necessity, to become proficient in every potential less-than-lethal alternative—that is, to become martial arts masters. This, of course, would be incredibly demanding, and would therefore count substantially against this reading of necessity. Fortunately, we need not draw this conclusion in general: on Schwartz’s view, one is only required to bear a *reasonable* cost to acquire the relevant means of thwarting future threats in less-lethal ways. One is not, he argues, required to become proficient in every relevant less-than-lethal skill, since doing so would be a significant cost to one’s autonomy in pursuing their own life plans.

This point rings true when applied to people in general, but it is substantially less persuasive when applied to those in roles where the risks of encountering harm are significantly higher than they are for the average person—namely, soldiers, who are not only likely to encounter threatening scenarios in the course of carrying out their professional duties, but are tasked specifically with this obligation. In these cases, what we can reasonably expect of them, in

terms of costs to their autonomy and life plans, is significantly greater than ordinary people. They have chosen not only this career path, but also—particularly in the case of those most likely to encounter violent conflict head-on—the specific roles within this profession that are extremely risky. It would be unreasonable, of course, to expect that soldiers are maximally competent in *everything* in this domain. But the threshold for what can be demanded of them is significantly higher than others, in light of these facts about their distinctive roles.

4. Enhancement and Bodily Autonomy

Let us take stock of the argument so far. In section 2, I argued that many soldier enhancements promote soldiers' prospects for survival and their ability to protect others in their unit, both of which are significant moral values. In section 3, I argued that while soldiers accept significant risks of harm, this does not entail that all risks are justifiably imposed. In particular, it is wrong to impose unnecessary risks on soldiers. This can happen in many ways, including through creating higher risks or forgoing opportunities to mitigate risk. And this can happen over time, in addition to at a specific point in time.

We can now bring these two points together. Given that soldier enhancements mitigate risks not only to the enhanced soldier, but also to their teammates, forgoing an enhancement amounts to imposing an unnecessary risk on one's teammates. In other words, to decline an enhancement without overriding or sufficiently compensating moral reasons is morally equivalent (structurally speaking) to declining to properly train, or integrate relevant intelligence, or wear appropriate armor. Given that soldiers have a duty to avoid imposing unnecessary risk on their teammates, it follows that soldiers have a *pro tanto* duty to accept enhancements.

Now, one might grant that soldiers have a *pro tanto* duty to enhance, but deny that this yields an all-things-considered duty to enhance, due to some factor that overrides or outweighs the *pro tanto* duty. One argument of this form centers on a point we mentioned earlier—namely, the soldier’s right to bodily autonomy. Our bodies are not simply instruments for the realization of other values; what is done with and to them is a matter that, in general, we are permitted to decide for ourselves. Most who defend this view will grant that the right to bodily autonomy can be outweighed in some cases. This right, like most others, is *pro tanto*; and when other values conflict with it, the right to autonomy sometimes loses out. However, this right is of considerably greater weight than most other rights, and thus requires a significant amount and particular type of value to outweigh it.

And so, the argument goes, while soldiers do have a duty to my teammates not to impose unnecessary risk on them, this right is not sufficiently weighty to override a soldier’s right to bodily autonomy. In other words, while soldiers do have a *pro tanto* duty to enhance, they do not have an *all-things-considered* duty to enhance. Further, this argument pinpoints a relevant disanalogy between enhancements and certain other risk mitigation methods, such as acquiring the proper training, wearing appropriate armor, and so on. Enhancements generally involve substantial costs to bodily autonomy; these other methods typically do not. Accordingly, one might argue that such costs suffice outweigh the duty to enhance, while also maintaining that the duty to mitigate risk still applies in these other cases.

It is true, of course, that the analogy with other risk mitigation methods is imperfect, in that many of these methods do not involve significant costs to important rights like bodily autonomy. However, it is worth noting that *some* of these methods *do* raise significant questions of bodily autonomy: training practices involve non-trivial costs to one’s body, including risks of serious

injury or death. Thus, the difference in many cases between enhancement and these other methods is one of degree, not kind. More to the point, consider the wider range of ways the military is justified in interfering with the bodily autonomy of its members. The military justifiably mandates vaccines for soldier health and the well-being of the unit; they place many different kinds of restrictions on what soldiers can do to their bodies and how their bodies are maintained—e.g. drug use (both narcotics and pharmaceuticals), body modifications, and various health-related metrics; and, most importantly, the military can demand soldiers take significant risks with their bodies by justifiably exposing them to risks of violence by enemy forces. These points demonstrate that the extent of a soldier's right to bodily autonomy is substantially limited by virtue of certain specific features of their professional role. As Michael Gross puts it, “the hallmark principles that drive bioethical decision-making in ordinary clinical settings are largely absent. Military personnel do not enjoy a right to life, personal autonomy, or a right of self-determination to any degree approaching that of ordinary patients.”⁸

To be sure, this right is not waived altogether: it would still be a violation of a soldier's bodily autonomy to, say, to sexually assault them, forcibly use their bodies for medical or military research, and so on. In general, however, this right is substantially less weighty for soldiers than for ordinary citizens. Thus, while it is true that, unlike other risk mitigation methods, enhancements invoke significant concerns about bodily autonomy, this particular right has less force in this case than it may have initially seemed.

We have been speaking generically throughout about enhancements, but the question of how the right to bodily autonomy weighs against the duty to enhance requires that we get more

⁸ Michael Gross, “Bioethics and Armed Conflict: Mapping the Moral Dimensions of Medicine and War,” *Hastings Center Report* 34, no. 6 (2004): 15.

specific about the types of enhancements under consideration. It matters significantly just how risky the particular enhancement in question is in determining the extent of the costs to one's bodily autonomy—even once we have accounted for the fact that this right counts for somewhat less with soldiers. In many cases, soldiers are not under a duty to enhance when doing so poses a significant risk to them in the short-term that is not compensated by substantial lowering of risks to others. And this is for a familiar reason: soldiers do not have a duty to enhance when doing so poses an unnecessary risk to them—particularly when doing so would also increase risks to their teammates by making these soldiers less effective or incapable of assisting in their teammates' security.

However, many other enhancements pose risks on a broader scale. For example, enhancements that fundamentally and irreversibly alter one's body in significant ways, such as certain neuro-enhancements, introduce risk of harm to the soldier that can be both significant and lifelong. By contrast, certain other enhancements—e.g. those that are temporary, like certain pharmaceuticals, or wearable technologies—pose minimal risk to the soldier, and thus do not raise the same level of concern. Are soldiers obligated to enhance when doing so poses significant risks of harm to them down the road?

Perhaps when the risks to the soldier are truly extreme—a lifetime of suffering, pain, depression, loss of cognitive function, loss of identity, etc.—then the duty is outweighed. But again, notice that the enhancement typically promises not only greater safety to the soldier—and thus, better enables them to avoid some of these and other serious harms—but also enables them to prevent serious harms to their teammates. And given that a typical unit comprises many soldiers, these positive effects in aggregate are likely to be great. Thus, only when the costs are tremendously high—as well as somewhat remote—and the benefits per soldier are negligible,

would the soldier not have a duty to enhance.⁹ This seems likely to be a rare combination; the vast majority of enhancement opportunities, presumably, do not have this particular structure—particularly when we restrict to those we think would be *permissible* for soldiers to use in the first place.

The upshot, then, is that the vast majority of enhancements seem to survive the challenge from the appeal to bodily autonomy. It is true that soldiers have not completely waived their right to bodily autonomy, though this right is significantly less weighty than that of ordinary civilians. Moreover, they have a set of weighty positive duties to others—particularly, as I have emphasized, their teammates. This combination of factors suggests that in general and in most cases, soldiers have a duty to enhance.

5. Can Rights-Waiver By One's Teammates Override the Duty to Enhance?

Thus far, we have seen that soldiers have a strong *pro tanto* duty to enhance. In most cases, this duty is not outweighed by either the riskiness of the enhancement or the soldier's right to bodily autonomy.

There is, however, another factor that seems capable of overriding this duty, in at least principle—namely, a soldier's partial waiver of the duty his teammates have to him to accept certain costs to themselves to protect him. To see this, consider the following example:

Attacker: An unjust attacker credibly threatens to break your arm. You cannot defend yourself; however, I am nearby and can thwart the attacker by punching him in the face. The risk to me of interceding and preventing the attack is minimal—at most, a sore hand. Further, there are no additional risks or any other morally relevant downstream effects.

⁹ What if soldiers are fearful of these high risks?

In this case, given the low cost to me, I have a positive duty to intercede and protect you. However, suppose that just before I do so, you shout: “Please, whatever you do, do not help me: I would rather you not get involved, even if it means I break my arm!” Assuming this request is appropriately informed, your request effectively eliminates the duty I have to rescue you in this scenario. At a minimum, it renders my aid permissible, but not required; however, some have argued that your refusing my aid actually renders it *impermissible* for me to rescue you in this case—though I won’t explore this latter point deeper here.

This example highlights an important fact: it is a central feature of our status as moral agents that we have the power to weaken the duties others have to us. For example, I can absolve you of your debts to me; I can consent to things that would be seriously harmful to me absent this consent; and I can weaken particular duties to aid from duties to mere permissions, among other things. In other words, what you owe me is, at least in some sense, up to me: while I am not able to strengthen your duties to me through my consent or waiver, I can weaken them this way.

We have already explored the idea that the duty to enhance is rooted in the obligation a soldier has to their teammates to protect them from unnecessary risk. When considering certain enhancements, declining them poses unnecessary risk to one’s teammates. Thus, it would appear that by declining an enhancement, one fails to fulfill a duty one has to them. But as we just saw, one’s teammates also have the moral power to weaken the obligation that one has to them. In other words, you have a duty to avoid posing unnecessary risk to me, unless I consent to that unnecessary risk. In effect, my saying to you, “It’s okay: you don’t need to enhance for my benefit” weakens your duty to me. To be sure, this does not mean I waive the duty altogether. By waiving only the part of your duty that requires enhancing—that is, the particular duty to accept a particular cost to avoid increasing risks to me—I do not thereby absolve you of your broader duty to protect, aid,

and rescue me in general. In other words, I have given we can call a *partial waiver*—i.e., a waiver of certain, tightly circumscribed costs that you would otherwise be required to bear to protect me.

The enhancement case is therefore similar in some respects to the case of *Attacker* above: in both cases, my duty to you weakens in light of your (partial) waiver of that duty. There is, however, a key difference between the two cases: in *Attacker*, the only relevant moral rights-holder is the victim—i.e. you. There is no reason for me to harm the attacker other than to protect you; your good is the only relevant moral factor. And your removing that good, through your demand that I not intervene, is what explains how intervening could be not only not required but even impermissible. The same is not true for enhancements: I have reason to enhance independently of my duties to you, since enhancement affords me distinct personal benefits. (Thus, your waiving my duty to you to enhance does not count on its own count much at all toward it being impermissible for me to enhance; provided it does not involve any increase in risks or harms to you, I am permitted to enhance regardless of whether you want me to.)

Relatedly, notice that in the enhancement case, you are not the only one to whom I have a duty to enhance. I also have a duty to each of my other unit-mates individually—and indeed, to all those to whom I would otherwise pose an unnecessarily elevated risk (e.g. civilians). And of course, you do not have the power to waive my duties to them; those remain unchanged by your waiver of my duty to you. Now, if we were the only two in the unit, and no one else was at risk, then your waiving this duty would absolve me of my duty to enhance. But given that I have this duty toward several of my teammates (and others) at once, your waiver of that duty alone does not absolve me of my duty to enhance.

What impact, then, does your partial waiver actually have? There are different views on offer that aim to explain how waiving duties to aid affect the duty-bearer's overall duty—in this

case, the overall duty I have to enhance. The most plausible approach, in my view, is based on an idea from Jonathan Parry, which he applies to the context of humanitarian intervention. Adapting his view to fit our context, the idea, roughly, is that I have a set of reasons that count toward the duty to enhance; these reasons are rooted primarily in the good that will be done. But as we have seen, agents have the power to waive duties to them—what Parry calls the *Power of Prudential Exclusion*.¹⁰ By (partially) waiving my duty to you, you essentially remove your good from the pool of reasons I have for the action in question. Since there are many others to whom I have this duty, your removal of your good is unlikely to tip the scales. But the same principle applies to everyone else. If other teammates similarly waive this duty, then the strength of my overall duty weakens. If enough of my teammates waive my duty to them, this duty might be downgraded to a mere permission (or perhaps even become impermissible). Where exactly to locate this threshold is a complex function of:

- (1) the number of waivers among my teammates, relative to the overall number of agents to whom I have such a duty (and the combined weight of these duties);
- (2) the overall reduction in risk to third parties, relative to the costs that I am required to bear in that domain;
- (3) the significance given to my autonomy, which involves a closer examination of the specific costs of the enhancement in question; and so on.

In most cases, enhancements will provide sufficiently high benefit in aggregate to civilian groups, many of whom have not explicitly—and cannot be said to have implicitly—waived their rights vis-à-vis soldiers against being harmed or aided by them.¹¹ Thus, it may be that, even if many in

¹⁰ Jonathan Parry, “Defensive Harm, Consent, and Intervention,” *Philosophy & Public Affairs* 45, no. 4 (2017): 356–96.

¹¹ This is to say nothing of the particularly high obligations soldiers have towards civilians specifically. See: Walzer.

my unit have waived my duty to them, enhancement might still be obligatory. But it is not in principle impossible that, for certain enhancements, the duty to enhance can be downgraded to a mere permission on the basis of one's teammates partial waiver of the increased risk that would come from my not enhancing.

An interesting upshot of this view is that an individual soldier's consent to an enhancement carries little moral weight: they still have a duty to enhance, even if they do not wish to. And yet, due to the basis for this duty in general, an individual soldier's consent apparently *does* matter—in rare cases, even decisively—in whether *another* soldier has the duty to enhance. Thus, peculiarly, soldiers have power that impacts others' duties to enhance, but not their own duty to others.

The view just sketched assumes that, like everyone else, soldiers too have the power to waive the duties others have to them. But is that true? After all, part of the argument for why soldiers have a duty to enhance in the first place, despite the costs to their bodily autonomy, is that some of their rights are weakened due to certain features inherent to their role. Why shouldn't we think that their moral *power* to waive others' duties to them is similarly weakened, and for the same general sorts of reasons? If it turns out this power is indeed weakened, then, in essence, the duty to enhance is strengthened, since the main route toward overriding it would be essentially foreclosed.

First, notice that it does not follow from the fact that some of a soldier's rights are limited in specific ways that this is true for other rights. As we have seen, by virtue of certain features of their role, some of a soldier's rights are weakened, but in very specific ways; many of their other rights are unaffected. So, to understand whether a given right—such as the power to waive duties—is changed, we have to consider the underlying explanation for why their rights are subject to this

weakening at all, and what explains the scope of the rights that remain. As we have already seen, the explanation for why soldiers' rights against bodily autonomy are weakened—why, for example, it is permissible for their commanding officers to place them in harm's way, or order them to get vaccinated, and so on—is that soldiers are, and have essentially agreed to be, a means for the achievement of the state's military aims. Again, that does not mean that these rights have been fully waived: the state still wrongs them when it sends them to die without good reason, or without adequate support, and so on. The rights-waiver, in other words, is constrained by military and moral necessity, among other things. But this rights waiver *does* mean that soldiers are not wronged merely by being forced to go on risky missions, and they are not wronged by the state or their commanders if the risk of harm eventuates. Soldiers know that they will be used in this way, and that this requires that they waive certain rights in certain contexts to allow for the achievement of these ends through them.

Does this argument suggest that soldiers' rights to waive others' duties to them are weakened as well?¹² On one hand, soldiers have this duty to one another in part because their continued survival and fitness to fight is essential for achieving the military aim. For individual soldiers to waive other soldiers' duties to them, without a sufficiently countervailing moral reason, appears tantamount to allowing for higher risk to the unit without good reason. On the other hand, this would seem to suggest that soldiers are required to refrain from accepting *any* extra risk to themselves. But it is not clear that this is true. Soldiers are generally permitted to engage in all sorts of activities, many of which bring on an elevated risk to themselves. They are not required to

¹² Notice that it will not work to say that this is what they do by accepting the role as soldier. Since this waiver happens *prior* to their being a soldier, it is technically a right that a civilian has, the waiver of which *makes him* a soldier.

accept only the risks that the military imposes on them. This is particularly true when it is a risk imposed by a teammate, to whom they (by hypothesis) specifically waive the duty.

Suppose we find both the points for and against roughly equally compelling. What conclusion should we draw? In my view, when there is genuine uncertainty whether a right has been waived, we should assume it remains in place. This seems particularly true when the issue concerns something of distinct relational value, and of special importance to both of the relevant parties—namely, the reasonably informed desire that a teammate not alter their body for one’s own benefit.

I am not claiming that the above arguments decisively prove that soldiers retain the power to waive others’ duties to them, though I think they do point us in that direction. More work must be done to articulate the precise scope of the duties soldiers have toward one another, particularly given the broad framework I have relied upon here. If the view sketched here is right, however, then we have a possible route for soldiers to overcome the *pro tanto* duty to enhance—namely, to secure a sufficient amount of relevant rights waivers from their teammates. Again, this may not suffice to override the duty; there are many other factors at play.

6. Conclusion

This chapter has argued that soldiers have a *pro tanto* duty to enhance, rooted in the duty they have to avoid imposing unnecessary risk on others—particularly those to whom they have special obligations. I have focused here on one’s teammates, in part because, as we have seen, one’s teammates are in a special position: they have the power to waive their teammate’s duty to them to avoid unnecessary risk. In principle, if enough of one’s teammates waive this duty, this could

suffice to override that duty altogether. There is perhaps some reason for skepticism that soldiers retain this power: if they do not have this power, then the duty to enhance remains.

The central takeaway from this discussion is that, in general, soldiers' relationship with enhancements ought to be viewed in a way that is broadly continuous with other technologies and moral duties we impose on them, and thus, does not require a wholly new approach or framework. And yet, as we have seen, the issue of enhancement raises questions that have thus far been largely ignored in the literature. As the literature on soldier enhancements continues to grow, these issues must be attended to.

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