

## ALLOCATION OF SCARCE LIFE-SAVING MEDICAL RESOURCES: WHY DOES AGE MATTER?

### ALOCAÇÃO DE RECURSOS MÉDICOS ESCASSOS PARA SALVAR VIDAS: POR QUE A IDADE IMPORTA?

**FELIPE DOSSENA<sup>1</sup>**  
(UFSC/Brazil)

**MILENE CONSENSO TONETTO<sup>2</sup>**  
(UFSC/Brazil)

#### ABSTRACT

In this paper, we address the moral justification problem concerning the use of age as a criterion for the allocation of scarce life-saving medical resources. We present and discuss four justifications that stand out in philosophical literature: efficiency, sufficiency, egalitarian, and prioritarian. We aim to demonstrate that all these justifications are unsatisfactory since they entail counterintuitive implications in cases involving fetuses and newborns. We then suggest another justification for the relevance of age based on the Time-Relative Interest Account of the harm of death. Finally, we evaluate an objection that could limit the scope of the defended justification, leading us to draw a distinction between justification of harm and strict justification of harm.

**Keywords:** Age; Scarce medical resources; Harm of death.

#### RESUMO

Neste artigo, abordamos o problema da justificação moral do uso da idade como critério para alocação de recursos médicos escassos para salvar vidas. Apresentamos e discutimos quatro justificações que se destacam na literatura filosófica: eficiência; suficiência; igualitária e prioritária. Procuramos demonstrar que todas elas são insatisfatórias uma vez que acarretam implicações contraintuitivas em casos que envolvem fetos e recém-nascidos. Sugerimos então outra justificativa para a relevância da idade com base no Enfoque do Interesse Temporalizado do dano causado pela morte. Por fim, avaliamos uma objeção que poderia limitar o alcance da justificação defendida, levando-nos a traçar uma distinção entre justificação do dano e justificação estrita do dano.

**Palavras-chave:** Idade; Recursos médicos escassos; Dano da morte.

#### Introduction

In contexts where the number of patients exceeds the availability of life-saving medical resources, empirical research indicates that the majority of people consider the age of patients a morally relevant factor in determining who should be prioritized. For instance, in one of the studies, 80% of the respondents indicated a preference to save the life of a 35-year-old over that of a 60-year-old in scenarios where only one of two individuals could be saved, while 94% asserted that between a 5-year-old and a 70-year-old patient, the child should be saved (Lewis; Charny, 1989). Another study comparing funding for health programs that save the lives of young versus elderly individuals concluded that, according to respondents, saving a young person's life is equivalent to saving the lives of seven elderly individuals (Cropper; Aydede; Portney, 1994). If it is the case that we should prioritize saving the lives of younger individuals, what is the moral justification for this prioritization?

There are many distinct answers in philosophical literature, but two lines of justification seem to be predominant: one that aims at maximizing benefits and another that aims at promoting equity. The aim of this work is twofold: (i) to argue that these two lines of justification are unsatisfactory because they have counterintuitive implications in cases involving fetuses and newborns; and (ii) to explore another line of justification focused on minimizing harm through the Time-Relative Interest Account of the harm of death (TRIA) (McMahan, 2002; DeGrazia, 2007). In order to achieve these goals, the article is divided into four sections and some subsections, in addition to our final considerations.

In the first section, we introduce the two predominant lines of justification and their development into four distinct justifications, which are the efficiency justification (Stein, 2002; Cubbon, 1991; Singer et al., 1995), the sufficiency justification (Harris, 2001), the egalitarian justification (Lockwood, 1988; Kappel; Sandøe, 1992; 1994), and the prioritarian justification (Bognar, 2014). Then, we present an objection to these justifications based on counterintuitive implications. In the third section, we propose what we call the harm justification. Subsequently, we discuss a possible objection to the proposed justification that may limit its scope of application, leading us to what we call the strict harm justification.

Finally, we conclude by reflecting on some questions that remain unanswered and which deserve further investigation.

### **Predominant Justifications for the Relevance of Age**

Consider the following case:

**Emergency Room I:** Two patients simultaneously arrive at the emergency room, both with life-threatening injuries. Due to a scarcity of resources, the attending physician can only treat one of the patients. Patient A is 20 years old, and Patient B is 75 years old. It's reasonable to expect that the person treated will live until they are 80 years old, but the patient who is not treated will die. All other relevant factors are equal<sup>3</sup>.

Should the doctor save Patient A? One way to support an affirmative response is through considerations of consequences: saving Patient A, who is younger and has more life ahead of them if rescued, would generate the best outcome by maximizing the benefits of the resources used. Another line of justification is based on considerations of equity: Patient A has lived less or has not yet lived sufficiently, making it fairer to prioritize them over Patient B. Both of these lines of reasoning encompass various interpretations. In the following subsection, we begin by introducing the efficiency justification rooted in consequentialism. Subsequently, we explore the sufficiency and egalitarian justifications based on principles of equity. Lastly, we examine the prioritarian justification, which in a sense, combines both consequentialism and equity.

### 1.1 The Efficiency Justification

When assessing cases like Emergency Room I, we can rely on the principle of benefit maximization. This is perhaps the most straightforward and intuitive justification for the case. From this perspective, it is argued that, while allocating scarce resources, the goal should be to generate the greatest possible benefit. In the context of allocating life-saving medical resources, the argument suggests that in order to maximize benefits, priority should either be given to those with the longest posttreatment life expectancy (Stein, 2002) or to maximize Quality Adjusted Life Years (QALYs) (Cubbon, 1991; Singer et al., 1995). In both cases, the conclusion is that we should treat Patient A, as they will have 60 more years of life if saved, while Patient B would only have 5 more years (assuming that, in the examples in this section and the next, the quality of life for each additional year is equivalent). This rationale for prioritizing Patient A is referred to as *the efficiency justification*.

In this line of reasoning, the efficiency justification underlies the use of age as a criterion in the allocation of life-saving medical resources. Generally, younger individuals have a greater posttreatment life expectancy than older individuals, so saving them tends to produce the greatest benefit. However, the relevance of age is indirect and limited, as this justification is

concerned only with maximizing benefits. Therefore, if posttreatment life expectancy is similar, it implies that we should be indifferent to age. Consider the following case to illustrate.

**Emergency Room II:** Two patients arrive simultaneously at the emergency room, both with life-threatening injuries. Due to the scarcity of resources, the attending physician can only treat one of the patients. Patient C is 20 years old, and Patient D is 75 years old. It can be reasonably expected that the treated patient will live for an additional 10 years, but the untreated patient will die. All other relevant factors are equal.

In this scenario, the efficiency justification is indifferent to the fact that Patient C is a young adult and Patient D is an older individual, as the benefits derived from saving either one of them are similar. Furthermore, in cases where saving the older patient tends to produce the greatest benefit, even if it's only by a slight difference, the efficiency justification, taken in isolation, implies that we should save the older person, regardless of the patients' ages. Some scholars (Lockwood, 1988; Bogner, 2014) consider this a limitation of the efficiency justification as it fails to account for the actual relevance of age, because in Emergency Room II, it still seems that we would have reasons to prioritize Patient C.

## 1.2 Equity-based Justifications

A distinct approach to argue for prioritizing younger patients relies on considerations of equity: we should strive for a more equitable distribution of goods. In the context of allocating life-saving medical resources, we should take into account the fact that younger patients have lived for a shorter period of time, and giving them priority over older patients is a way to seek equity. This line of justification unfolds into two views: *the sufficientist* and *the egalitarian*.

The sufficientist view argues for the consideration of a threshold at which an individual has received enough of life's relevant goods. This means that younger lives, which would be considered below that threshold, should be prioritized. For instance, John Harris (2001) suggests marking this threshold at 70 years of age. According to this perspective, those who have not yet reached this age have not experienced enough "fair innings" of life, while those above this age have. Therefore, the sufficientist view establishes that age is relevant only in specific cases: when faced with a choice between a patient below the threshold and one above it. However, in other cases, age should not be considered.

The eEgalitarian view includes considerations of equity, prioritizing younger individuals based on the age difference between the considered patients, regardless of a specified threshold (Lockwood, 1988; Kappel; Sandøe, 1992; 1994). Under this framework, given that all else is equal, saving the life of the older patient at the expense of the younger would exacerbate the disparity in years lived and access to what life has to offer. When addressing an organ transplant case, Kappel and Sandøe (1992, p. 314) emphasize: "To give the liver to the older person rather than to the younger is like giving money to the rich rather than to the poor".

In both scenarios of the *Emergency Room* presented, both the sufficientist view (if we consider the threshold at 70 years) and the egalitarian view imply that we should save patients A and C. In both cases, a choice between a patient below the threshold and another above it is evident, leading the sufficientist justification to prioritize the patient below the threshold. On the other hand, the egalitarian justification mandates prioritizing the younger patient in each case to reduce inequality. However, since they justify differently, the sufficientist and egalitarian views may differ in other cases. To illustrate, consider the following case:

**Emergency Room III:** Two patients arrive at the emergency room simultaneously, both with life-threatening injuries. Due to the scarcity of resources, the attending physician can only treat one of the patients. Patient E is 20 years old, and Patient F is 60 years old. It is reasonable to expect that the patient who receives treatment will live until 80 years of age, while the untreated patient will succumb. All other relevant factors remain the same.

In this scenario, the sufficiency-based justification for saving Patients A and C in the prior cases implies that we should be indifferent to the age difference between Patients E and F, as both are below the sufficiency threshold. On the other hand, the egalitarian justification indicates that we should save Patient E, as they have lived less than Patient F. Therefore, equity dictates prioritizing the younger patient.

### 1.3 The Prioritarian Justification

Another approach to address these cases combines consequentialist and equity considerations. The prioritarian justification, as proposed by Bogner (2014), is a consequentialist view seeking to maximize benefits but considers it more important to distribute these benefits to those in worse situations, which can be understood as those who have lived less up until that point. In this sense, the prioritarian justification considers both

posttreatment life expectancy and the patients' ages, and assigns greater weight to the addition of years to those who have lived less. "This is still a consequentialist and maximizing view, except that what we maximize in allocating resources for life extension is not the sum of life years. It is the weighted sum of life years" (Bognar, 2014, p. 259).

By being sensitive to both age (giving priority to younger individuals) and to the expected years saved in seeking to maximize benefits, the prioritarian justification appears to explain our intuitions more adequately than previous justifications. In Emergency Rooms I and III, the prioritarian argument is to save Patient A and Patient E, respectively, as they are younger and have a greater future ahead of them. Therefore, in Emergency Room II, although both have an equivalent future in terms of years, the prioritarian justification implies that there is more reason to save Patient C, as being younger adds more weight to the years gained by that individual. All else being equal, it is more valuable to extend the life of a younger person than that of an older one. However, unlike the egalitarian justification<sup>4</sup>, the prioritarian justification may imply that we should prioritize saving an older person if the expected years gained by that individual are significantly higher than those expected for a younger person. To illustrate, consider the following case:

**Emergency Room IV:** Two patients arrive simultaneously in the emergency room, both with life-threatening injuries. Due to scarce resources, the attending physician can only treat one of the patients. Patient G is 20 years old, and Patient H is 50 years old. If G is treated, we can reasonably expect that they will only live for 5 more years and then succumb to an incurable disease. If H is treated, we can reasonably expect that they will live until the age of 80. The patient not treated will die. All other relevant factors are equal.

In this case, the prioritarian justification allows for the conclusion that we should save Patient H, and even though each year lived is more weighted for Patient G due to the fact that they are younger, the 30 years gained by Patient H may outweigh the 5 years gained by Patient G, making it preferable to save the older patient in this case. On the other hand, the egalitarian justification on its own would still imply saving the younger patient, as saving them would reduce the inequality between the two, while saving the older patient would further increase this inequality in the number of years lived.

### **Counterintuitive Implications**

Consider the following case formulated by Jeff McMahan (2002, p. 185):

**Choice Between Lives I:** A thirty-five-year-old woman is due to give birth the next day but there are complications with the pregnancy. If nothing is done, the fetus will die, and the woman can reasonably expect to live another thirty-five years. The doctor can, however, administer a treatment that will save the fetus. But if the fetus lives, the continuation of the pregnancy will be unavoidably fatal to the woman. Moreover, because of an incurable congenital condition, the fetus will later die around the age of thirty-five.

Just like McMahan, and presumably most people, our intuition is that it would be morally wrong to perform the treatment to save the fetus and allow the 35-year-old woman to die. However, given the plausible assumption that we come into existence at some point during gestation, the justifications for the relevance of age explored in the previous section not only fail to explain the judgment that we should save the older person, but actually point towards the opposite direction. The prioritarian justification (Bognar, 2014) maintains that the fewer years someone has lived, the greater the weight of each additional year that individual may live. In *Choice Between Lives I*, both would live the same number of future years if saved, but the fetus has lived very little and would be in a worse situation in terms of acquired goods if it were to die. Thus, the prioritarian justification leads us to the conclusion that it would be preferable to save the life of the fetus, all else being equal. Similarly, the egalitarian justification has the same implication, as saving the fetus would ensure a more egalitarian outcome: both would live for 35 years. If we allowed the fetus to die, we would be greatly increasing the inequality between the two: the fetus would die having barely lived at all while the woman would go on to live a long life.

The efficiency and sufficiency justifications manage to avoid the counterintuitive implication that we should save the fetus but only at the cost of being indifferent to whom we save between the two. For example, contextualizing the efficiency justification, the benefit generated by saving the fetus or the woman is the same (assuming that the 35 additional years are equal in quality), so it does not imply reasons to prioritize one over the other. The sufficiency justification, considering that both are below the sufficient threshold of life, as suggested by Harris (2001), seems to imply that saving either life would be of equal value. (Other versions of this justification, such as the one suggested, though not exactly supported, by Davies (2023), may imply reasons to save the fetus).

However, as Ole Frithjof Norheim (2019) notes, our intuition of which life to save in *Choice Between Lives I* might be influenced by other

considerations arising from the relationship between the fetus and the mother. For example, if the fetus is saved it would grow up without its mother. Likewise, it also may be said that the fetus and the mother aren't two separate and independent individuals in the same sense that the individuals in the cases of Emergency Room are and that this raises different aspects that may influence our moral judgment of these cases. To avoid these considerations, we can think of a more generalized version of the case proposed by Norheim (2019, p. 34):

**Choice Between Lives II:** A 35-year-old woman is about to die, and in the same hospital a newborn [day 1] is about to die. Due to resource scarcity, the doctor can save only one of them. Should the doctor save the newborn or the woman? The woman can live another 35 years, while the newborn will die at age 35 (due to an incurable congenital condition).

Are there any morally relevant differences between the two cases? Just like Norheim, we believe that there is no significant difference between the value of the life of a fetus one day before birth and that of a newborn one day after birth. Furthermore, the newborn and the woman have no relationship other than being in the same hospital. Do these differences in the case alter who should be prioritized? We still believe that the 35-year-old woman should be saved and that it would be morally wrong to prioritize the newborn. However, the prioritarian, egalitarian, efficiency, and sufficiency justifications continue to have the same unsatisfactory implications as the previous case. Consider now an even more generalized version of the case.

**Choice Between Lives III:** A 15-year-old teenager is about to die in the same hospital where a newborn is about to die. Due to resource scarcity, the doctor on duty can save only one of them. We can reasonably expect that whoever is saved will live until 70 years, but whoever is left untreated will die.

Whom should the doctor save? Just like in the previous cases, the prioritarian and egalitarian justifications imply reasons to save the newborn, while the sufficiency justification implies that saving either one is of equal value. In this case, however, the efficiency justification also implies reasons to save the newborn since the expected number of future years the newborn will live is greater than that of the teenager. That being said, we believe that this case is similar in relevant aspects to the previous cases and that in all three versions of the *Choice Between Lives* we should prioritize saving the older patient. Therefore, we need to find another justification for the

relevance of age, which is our goal in the following section. However, our argument does not require that all three cases be similar in all relevant aspects. So far, the justifications explored for the relevance of age in the allocation of scarce life-saving medical resources have not provided reason to prioritize saving the older patient in any of the three *Choice Between Lives* cases. Therefore, if we believe that in at least one of these three cases we should save the older patient, it is sufficient to consider the four justifications discussed (efficiency, sufficiency, egalitarian, and prioritarian) as unsatisfactory.

### **The Harm Justification**

Let us go back for a moment to *Emergency Room I*. In the choice between Patient A (20 years old) and Patient B (75 years old), we explored the prevailing justifications for prioritizing Patient A. These justifications aim at maximizing benefits or promoting equity. However, there's another possible justification: avoiding the greatest harm, which in life-or-death situations should be understood as the harm resulting from death for the individual who dies. In *Emergency Room I*, for example, we can argue that death (for reasons we will explain shortly) produces more harm for Patient A than for Patient B, and therefore, we should prioritize Patient A to avoid greater harm. We will call this the *harm justification*. It is also a consequentialist justification, but one that focuses on minimizing harm rather than maximizing benefits (Gamlund, 2019).

This justification has two fundamental assumptions. The first is that death can be considered a harm to the deceased individual. The second is that the magnitude of this harm can vary. There are various accounts that aim to explain why and to what extent death is a harm, that is, an evil for the one who dies. Following authors like Joseph Millum (2015), we can draw a distinction between comparativist and gradualist accounts of the harm of death. According to comparativist accounts (Nagel, 1970; Feldman, 1992; Bradley, 2009), the harm of death depends on the amount of goods the individual is deprived of experiencing by dying. So, the earlier death occurs in one's life, the greater the harm. In other words, if we believe that we come into existence at some point during gestation, it is at this point that death can deprive us of a greater quantity of goods. On the contrary, according to gradualist accounts (McMahan, 2002; Belshaw, 2012; Millum, 2015; Broome, 2019; Bradley, 2019), the harm resulting from death gradually increases over the first few years of our existence. If we adopt a comparativist account of the harm of death, the principle of harm minimization will align with the principle of benefit maximization, as the

harm of death will always be greater for those with more goods to be obtained, making the distinction between the two principles irrelevant in practice. However, if we adopt a gradualist view, not always does someone who loses a greater quantity of goods suffer greater harm from death, and in these cases, harm minimization diverges from benefit maximization. It is from a gradualist understanding of the harm of death that we propose the harm justification, particularly from the view we consider to be the most influential and robust among gradualist views, the Time-Relative Interest Account, as formulated by Jeff McMahan (2002)<sup>5</sup>.

According to this account, what fundamentally makes death a harm to an individual is the loss of future goods upon dying. However, the value of such goods needs to be considered together with what McMahan (2002) calls prudential unity relations. The approach is characterized by evaluating the harm of death as proportional to the strength of the time-relative interest in continuing to live that is frustrated. The strength of that interest is the extent to which continuing to live matters for the individual from their point of view at the present moment.

In general terms, the strength of the individual's time-relative interest in continuing to live is determined by a function between two factors: (a) the net amount of goods the individual's future would contain, and (b) the extent to which the individual would be bound to themselves in the future through prudential unity relations, which vary according to the degree of the individual's psychological unity over time. Psychological unity is comprised of three factors: the proportion of the individual's mental life that remains over time; the richness and density of the individual's mental life; and the degree of internal reference between past and future mental states (McMahan, 2002). Thus, all else being equal, the lower the degree of psychological unity of an individual over time, the weaker their time-relative interest to continue living, and hence, the smaller the harm resulting from death.

The degree of psychological unity gradually strengthens over the first years of life until it reaches its peak. From adolescence and into early adulthood, we have a high degree of psychological unity, so our time-relative interest to continue living will be entirely determined by the value of the future, i.e., by the net amount of goods our future contains (McMahan, 2002). Conversely, in the initial years of our lives, our psychological unity is weak. Therefore, although the value of the future that a fetus loses from dying can be significant, the psychological unity at this moment is very weak because they are lacking self-awareness or future-directed mental states, and they have a less dense mental life. Weak psychological unity makes future goods less important for the individual. In

other words, the relative interest in time to continue living for fetuses and newborns is significantly weaker than the corresponding interest of young adults, and therefore, the harm resulting from death is less. In McMahan's words:

Consider again the death of a newborn infant. Intuitively, it is the vast psychological distance that there would have been between the infant and itself later as a person that explains our sense that their death is a less serious misfortune than the death of an older child or adult - despite the greater magnitude of the good it loses. An infant is unaware of itself, unaware that it has a future; it therefore has no future directed mental states: no desires or intentions for its future. Because its mental life is so limited, there would be very few continuities of character or belief between itself now and itself as a person. And if it had lived to become a person, it would then remember nothing of its life as an infant. It is, in short, almost completely severed psychologically from itself as it would have been in the future. This is the principal reason why its time-relative interest in continuing to live is so weak. It is almost as if the future it loses might just as well have belonged to someone else (2002, p. 170).

Therefore, according to the Time-Relative Interest Account, death is a greater harm at certain periods of life than in others, thereby providing a foundation for the relevance of age in the allocation of scarce life-saving medical resources. In the case of *Emergency Room I*, Patient A suffers greater harm from death because, while the degree of psychological unity between the two patients may be considered similar, the value of the future that Patient A would lose if they died is much greater, thus justifying prioritizing Patient A. However, in the *Choices Between Lives I and II* cases, although the value of the future is the same for both, the degree of psychological unity for the 35-year-old woman is much higher, making her relative interest in time to continue living stronger and the harm resulting from her death greater. Thus, the harm justification can explain why she should be prioritized.

In the *Choice Between Lives III* case, although the value of the future for the newborn is greater than the value of the future for the teenager, the degree of psychological unity of the adolescent patient is sufficiently higher, which means their relative interest in time to continue living is stronger. Thus, in the context of the allocation of scarce medical resources, the harm justification can support the adoption of what has been called the *modified youngest-first principle* (Persad; Wertheimer; Emanuel, 2009). According

to this principle, we should generally prioritize the youngest, but adolescents and young adults take precedence over newborns.

### **Is age a good indicator of the harm of death?**

In a recent article, Ben Davies (2023) argued against equity-based justifications, claiming they rely on a false assumption: that age is a good proxy of the amount of goods people have enjoyed throughout life, which therefore allows us to assume that younger people have had a smaller share of goods than older individuals. According to the author, this assumption is inaccurate because various factors, particularly those related to injustices and privileges, significantly influence people's life experiences and access to goods throughout their lives, regardless of whether we understand these goods in terms of well-being, access to opportunities, or resource utilization. Therefore, when comparing a young adult and an older person at random, it might be the case that the younger individual has already enjoyed a greater amount of goods throughout their life than the older person. As Davies exemplifies:

For instance, if I died today at the age of 34, I would not have had a worse lifetime overall than some people aged 70 or older. Thus, if a health system had to choose between extending my life and some randomly chosen 70-year-old, we cannot know whether saving the 70-year-old would increase inequality, and it might not be true that the younger patient (me) would be noncomparatively worse off in lifetime terms than the older patient. [...] There are 34-year-olds who have had more total lifetime welfare than some much older people. They have had more opportunities already, and they have enjoyed the use of a greater total amount of resources (2023, p. 178).

Let us return once again to *Emergency Room I* to illustrate Davies's objection. In that case, we have Patient A, 20 years old, and Patient B, 75 years old. As presented in the first section, equity-based justifications claim that we should prioritize Patient A to promote equity. These justifications assume that because Patient A is younger, we should presume that they have received fewer relevant life goods than Patient B, so saving them would promote equity. Davies's objection (2023) is that this is a mistake: it might be the case that Patient A has already enjoyed a greater quantity of goods than Patient B, who, for example, might have been a victim of structural injustices (or other misfortunes) throughout their life that hindered access to opportunities and/or affected their well-being.

Although Davies (2023) directs his criticism toward equity-based justifications, we believe his argument also challenges consequentialist justifications, including the one suggested in the previous section. While equity-based justifications assume that younger people have enjoyed fewer relevant life goods until then, consequentialist justifications presuppose that younger people will enjoy a greater quantity of goods in the future given that they have more years of life ahead of them. However, if Davies is correct that the number of years a person has lived is not a good indicator of the quantity of goods they have enjoyed, it seems that the number of future years is not an appropriate indicator of the quantity of goods a person will have. For example, it might be the case that an older person will have a greater quantity of goods if saved than a younger person, even if he has fewer years of life ahead.

In the case of the harm justification from the Time-Relative Interest Account, the relevant good to be considered is well-being. In *Emergency Room I*, this justification holds that the harm of death for Patient A is greater because it assumes that the quantity of future well-being they lose upon death is greater than what Patient B would lose. In thought experiments, we can assume, as we have done in all of the cases discussed, that the well-being of each additional year is equivalent. But can we make such an assumption in real cases? While we concur with Davies regarding the impact of injustices and privileges on impeding access to opportunities or essential goods and their influence on overall well-being, it remains less evident whether these factors directly affect the average well-being, particularly under subjective theories of well-being like hedonism or preference satisfaction.

Consider the case involving populations from different countries, for example, Brazil and the United Kingdom. The British population is, on average, significantly wealthier and in some ways more privileged compared to the Brazilian population. If we consider access to opportunities or the use of resources (regardless of how precisely we define these concepts), it seems reasonably clear that the British population tends to have more access to these goods. However, if we consider well-being in terms of pleasure or preference satisfaction, can we say that the British have, on average, higher levels of well-being? Can we say they are happier? It seems not. This example suggests that at least the relationship between well-being and privilege is not as direct as the relationship between well-being and other goods. Nevertheless, even if that is the case, there are still many other factors that interfere with well-being and can make age an inappropriate indicator of the quantity of past or future well-being.

The extent to which we can associate time lived or time to live with the quantity of well-being is a difficult question that remains unanswered. However, if we agree with Davies (2023) that age is not a good proxy of the amount of well-being someone has enjoyed, and similarly acknowledge that future life expectancy is not a good indicator of future well-being, what are the implications for the harm justification? We suggest that these considerations lead us to what we call a *strict harm justification*, according to which we should prioritize the patient who would suffer greater harm from death, remembering that age and life expectancy are not generally appropriate indicators of the quantity of well-being that a person has lived or will live. From this perspective, the scope of the harm justification is limited, but it still provides a basis for using age as a criterion in the allocation of scarce life-saving medical resources in some situations.

For example, in all the *Choice Between Lives* cases, the strict harm justification, based on the Time-Relative Interest Account, still supports the prioritization of older patients. This happens because, in these cases, the assumption that the harm of death is greater for adult and adolescent patients than for fetuses and newborns is based on the degree of psychological unity and not on well-being assumptions. According to the Time-Relative Interest Account, fetuses and newborns suffer less harm from death due to their low degree of psychological unity, regardless of future well-being. Thus, the strict harm justification supports a higher priority for children, adolescents, and young adults over fetuses and newborns.

In addition to these cases, the strict harm justification also provides a basis for prioritizing young people over very old patients with very short life expectancies. For example, in *Emergency Room I*, Patient B, who is 75 years old, would only have 5 years ahead of them if saved, while Patient A, who is 20 years old, would have another 60 years. Even if we assume that the well-being of each year for Patient B might be greater than the well-being of each year for Patient A, the difference in future life expectancy is significantly large enough for us to presume that Patient A would lose more if they were to die. Therefore, the harm from his death is greater. In other words, even assuming that future life expectancy is not generally a good proxy of the quantity of future goods, it is still reasonable to presume that in cases where the patient is very old and has a very short life expectancy, the harm resulting from their death is smaller, given that the short remaining lifespan significantly constrains the amount of future well-being.

Thus, even if we consider that age is not an appropriate indicator for the magnitude of the harm of death in most cases, it is still relevant when considering fetuses, newborns, and those who, due to old age, have very few years of life ahead of them. In this line, the strict harm justification

substantiates the relevance of age only in specific cases: we can give higher priority to children, adolescents, and young adults over fetuses, newborns, and the very old, but age would not be relevant in other cases. We could conclude that, for example, in *Emergency Room III* where one patient is 20 years old and the other is 60 years old, age should not be considered because we wouldn't be able to presume the younger patient would suffer greater harm from death. By justifying the relevance of age only in more extreme cases, this perspective presents itself as a plausible alternative and can to some extent please both those more sympathetic to the use of age as a criterion in the allocation of life-saving medical resources and those who are more resistant to this practice.

### **Final Considerations**

In this paper, we have addressed the moral justifiability of using age as a criterion in the allocation of scarce life-saving medical resources. Our investigation involved an assessment of the prevailing justifications found in philosophical literature, encompassing the concepts of efficiency, sufficiency, egalitarianism, and prioritarianism. Subsequently, we have argued that all of these justifications are unsatisfactory because they entail counterintuitive implications in cases involving fetuses and newborns. We argue that in such cases, it is not sufficient to focus on benefit maximization or equity promotion, and we must also pay attention to harm minimization. In matters of life and death, we suggest that the relevant harm to consider is the harm resulting from death that the individual who dies will experience, and that this harm can be understood through the Time-Relative Interest Account. These considerations lead us to what we call the harm justification for the relevance of age in the allocation of scarce life-saving medical resources.

However, the scope of the harm justification is potentially limited by the objection that age and life expectancy are not appropriate indicators of past or future well-being. We discussed this objection but have left the question open as we believe that further investigation on the relationship between well-being and the duration of life is needed, especially regarding the possible correlation between the average level of well-being and injustices or privileges. If we accept this objection, it leads us to the strict harm justification, which establishes the relevance of age only insofar as it offers reasons to prioritize children, adolescents, or adults over fetuses, newborns, and the elderly, with age being irrelevant in other scenarios (such as between a teenager and an adult, for instance). However, if we reject the objection, the harm justification supports the modified youngest-

first principle, according to which we should generally prioritize the youngest, but children, adolescents, and young adults have greater priority over fetuses and newborns.

Beyond the relationship between well-being and the duration of life, a series of questions remain open and merit investigation in future works. For instance, if we should prioritize children over newborns, at what age does an individual transition to being considered a child? Is there an intermediate stage between babies and children? Who qualifies as the "very old"? Is the relevance of age reduced to harm from death, or should the harm justification be combined with other considerations, such as equity? Additionally, what are the implications of the harm justification for the relevance of age in macro cases, such as financing health programs or public policies that tend to save more lives at certain ages than others? All of these questions are as relevant as they are difficult and will need to be further investigated in subsequent works.<sup>6</sup>

## Notes

<sup>1</sup> Master's student in the Postgraduate Program in Philosophy (PPGFil) at the Federal University of Santa Catarina (UFSC), Florianópolis, Santa Catarina (S.C.), Brazil. Founded by CAPES scholarship. E-mail: [dossenafelipe@gmail.com](mailto:dossenafelipe@gmail.com). Orcid: <https://orcid.org/0000-0003-2748-3519>.

<sup>2</sup> Associate Professor III in the Department of Philosophy and in the Postgraduate Program in Philosophy (PPGFil) at the Federal University of Santa Catarina (UFSC), Florianópolis, Santa Catarina (S.C.), Brazil. She is a Research Productivity Fellow at CNPq. E-mail: [milene.consenso.tonetto@ufsc.br](mailto:milene.consenso.tonetto@ufsc.br). Orcid: <https://orcid.org/0000-0003-2712-7119>.

<sup>3</sup> This and the other cases presented in this section are modified versions of the Emergency Room scenario discussed by Greaves (2019) and share similarities in some aspects with the cases discussed by Bognar (2014).

<sup>4</sup> To differentiate between these two arguments, we are examining a basic egalitarian standpoint that predominantly hinges on egalitarian principles. Nonetheless, scholars such as Kappel and Sandøe (1994), despite supporting egalitarian justifications, recognize the importance of additional considerations that extend beyond purely egalitarian ideals.

<sup>5</sup> Although McMahan never refers to this account as an account for "the harm of death" and instead utilizes "the badness of death" or "the misfortune of death", we utilize these expressions as exchangeable because we are considering the same problem: how death can be bad for the one who dies.

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