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Transgender Inclusion in Sports: An Ethical-Political and Biological Analysis

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1. Introduction

The inclusion of transgender women in female sports categories has emerged as a highly debated issue, sparking discussion on whether they should participate based on their gender identity or be assigned to male categories according to their birth sex. While transgender men's participation in sports has not raised significant controversy, concerns are centered around the potential advantages retained by transgender women, particularly those who experienced male puberty. This advantage may manifest in increased strength, speed, and overall athletic performance.

Considering the complexity of the issue, this thesis aims to conduct an analysis of the multifaceted debate surrounding transgender women's participation in sports. By exploring viewpoints both in favor of inclusion and those advocating exclusion, as well as delving into the nuanced context surrounding the issue, this work seeks to provide a thorough understanding of the intricacies involved.

The debate on transgender women's participation is ongoing and is not close to a resolute answer or solution. Indeed, while the authorities, namely the International Olympic Committee, have decided to solve the issue by letting the single sports federations decide their own rules, the controversy surrounding what then the federations decide, rekindles the issue. On the one hand, advocates for inclusion argue that transgender women are women and as such should be included in women's sports. Therefore, they highlight the importance of gender identity over biological sex. On the other hand, those favoring exclusion emphasize that transgender women were born male and as such should be excluded from the female category, as they think they would have unfair advantages. Hence, they stress the importance of biology over gender identity. This fierce debate stems from two branches of feminism, that embody two fundamental principles. One branch rejects biological essentialism, with some even arguing that not only gender but also sex itself is socially constructed; the other branch highlights the importance of embodiment, that is, of the political and social experiences that derive from being born with a certain sex.

The former, by rejecting biological essentialism, also rejects the entire concept of binary sex. The latter, instead, stresses that sex matters in some instances, including sports. They fear that

such inclusion might exacerbate the existing disadvantages that cisgender women face compared to men, raising apprehensions about safety and overall fairness in certain contexts (Chambers, 2022) (Stock, 2021).

From this philosophical and political context has arisen the debate on transgender women's inclusion or exclusion in sports alongside cisgender women.

Instead, from a scientific perspective, the research done until now seems to agree with those who regard it unfair for transgender women to compete alongside cisgender women without restrictions, highlighting that advantages persist in transgender women who transitioned after puberty, though the research on the subject is still limited (Hilton et al., 2020). More in-depth scientific and biological research is needed to definitively address whether transgender women in sports have unfair advantages against cisgender women, or if these are not mitigated in other ways. Furthermore, should it be found that they indeed unquestionably retain some advantages gained during puberty, segregating them in the male category is not an obvious solution, since this choice would overlook the importance of recognizing not only their biological sex but also their gender identity. Studies have therefore proposed potential solutions, such as the "luck scale", which would consider performance only based on skill, excluding all advantages gained from "luck" or, in this case, biological advantages, and the implementation of a handicap system, which is already used in golf to even the performance of the players. This would equalize the performance between transgender women and cisgender women in sporting competitions (Bianchi, 2017).

Those advocating for transgender women's exclusion from women's sports, often highlight the persistence of these unfair advantages. They argue that this imbalance could potentially undermine the integrity of women's sports, deterring cisgender women from pursuing athletic endeavors. The mere presence of transgender women, they contend, might impact the fairness of competition, resulting in some women experiencing worse positions.

According to this perspective, categorical distinctions exist to preserve the integrity of women's sports, they prevent a scenario where only adult males would ever win. Moreover, while acknowledging that advantages exist within categories, for instance, a tall woman might have an advantage against a small woman, proponents argue that these advantages are significantly smaller within categories compared the disparities that exist across categories.

Therefore, to preserve women's sports, which are already less prioritized than men's sports, proponents argue that transgender women should not be allowed unrestricted participation in the female category, or they should not be allowed at all (Yamauchi Mara, personal communication, 2023).

According to this perspective, even as gender identity is respected, the individual's birth sex must be taken into account too.

Conversely, those in favor of transgender women's inclusion in women's sports, stress that the limited number of transgender women in sports, coupled with their infrequent triumphs, dispels the notion of inherent advantages. They challenge the idea that sports are only fair when trans women lose. If competition is on an equal playing field, it is reasonable to assume that transgender women sometimes win too (Williams, 2019).

In addition, the inclusion of transgender women is viewed as promoting non-discrimination values, while their exclusion is seen as potentially harming an already vulnerable group, particularly trans youth (Strangio et al., 2020).

Advocates of inclusion also highlight that some people in power, with the slogan "protect women's sports", take advantage of feminists, and of all those people who care about women and women's sports. If these people really cared about women's sports, they would address genuine issues, like the imbalances in resources, compensation, media attention, harassment, and abuse, rather than fixating on transgender women in sports. Those, they argue, are the real threat to women's sport, transgender women's inclusion in the female category is not one of them (Human Rights Campaign, 2022).

These considerations are detailed in the rest of the thesis.

- Chapter 2 (Understanding transgender identity and inclusion in sports: the political context), will delve into the political, philosophical, and ethical context in which the debate is immersed, exploring the tension between the two fundamental feminist principles as seen above: the rejection of biological essentialism and the importance of embodiment.
- Chapter 3 (Scientific and biological research on transgender athlete's performance and data comparison), will shift the focus to the scientific context, examining research suggesting advantages retained by transgender women post-puberty, as well as data comparison, showing that males during and after puberty surpass in sports the top

performances of elite female athletes. This analysis showcases the importance of categories within sports. Consequently, alternative solutions, such as the previously mentioned “luck scale” or a handicap system are proposed. However, further research is needed to explore alternative solutions too.

- Chapter 4 (Case studies, perspectives, and arguments for and against transgender women’s participation in competitions), an in-depth analysis of the diverse arguments and positions within the debate will be undertaken through the presentation of case studies and firsthand insights. Specifically, for proponents of transgender women’s exclusion, a personal communication with a former athlete and expert on the subject will be featured. Conversely, supporters of transgender women’s inclusion will be represented through the perspectives of trans athletes, offering valuable insights based on their personal experiences. These firsthand accounts aim to provide a nuanced representation of the varying viewpoints present in the debate.
- Finally, Chapter 5, will conclude the work by drawing some final considerations and future developments.

2. Understanding transgender identity and inclusion in sports: the political context

The debate surrounding transgender women's participation in sports can be framed as a philosophy vs physiology debate, which sets in opposition those who emphasize the former to those who stress the importance of the latter. Considering how physiology (i.e., biology) plays an important part in the debate, the next chapter will focus on scientific research, to ascertain if according to biology transgender women's participation in sports is fair. The research at the moment points to the fact that they retain most of the advantage gained during puberty even after many years of cross-hormone therapy, hereby some solutions will be put forward that, according to experts, would allow transgender athletes to participate in sports while still maintaining fairness. These solutions are not perfect, and further research is warranted to potentially identify more satisfactory approaches. Nonetheless, it is argued by many that transgender women should just be allowed to participate in sports alongside their cisgender counterparts without these types of solutions, rendering the finding of them unnecessary.

To dive into the debate, though, which opposes those who are against transgender women participating in sports with cisgender women to those who fight for the former's right to do so, it is important to first step back and consider the broader political context in which this discussion is immersed. While the next chapter will scrutinize the physiological and scientific context, attention must now turn to the political and philosophical one. In particular, this discourse must be linked with another highly sensitive debate found within feminist theories. Namely, the tension between two important claims: the rejection of essentialism and the importance of embodiment.

First of all, it must be considered that gendered behavior become habitual for all of us. As stated by social theorist Foucault, power in modern societies operates through discipline: through the enforced repetition of bodily movements and deportment that eventually become subconscious. He illustrates this phenomenon with the example of a child who is thought to raise a hand before speaking and subsequently does so instinctively even at the dinner table (Chambers, 2022).

Sociologist Pierre Bourdieu expands Foucault's idea and introduces the concept of "habitus", which refers to the way that our bodies adopt a form that reflects our position within social hierarchies.

Preceding him, feminist theorist Iris Marion Young describes how girls are thought from childhood to use their bodies with restriction: to take up less space, to close their legs while sitting, to limit their bodily functions, whereas men are afforded the freedom to move freely, look directly, speak loudly. These stark differences between the way men and women use their bodies exist even in liberal societies in which formal equality between the sexes exists (Chambers, 2022). Journalist Jenny Nordberg, who analyses the interesting sociological phenomenon of the "bacha posh", which in Afghanistan are girls that, following a parental decision, dress as boys and operate in society exactly as boys do, retaining this privilege until puberty, states that: what is "natural", in the sense of presumably being innate, is not the same as what might *feel* natural. Acts or behaviour can feel "natural" to us after many years of performing them, because the brain has physically adjusted or developed in one particular direction. In other words: With time, nurture can *become* nature (Nordberg, 2014).

Considering all this, in a highly gendered context, what may appear as the innate behaviors of women and men actually stems from the societal conditioning they have undergone. Therefore, one strategy for feminism is to work to destroy nature. At its simplest, this strategy means pointing out that what is often called "nature" is not natural at all, and is instead a social construct. Consequently, feminism grapples with the following two key claims.

On the one hand, biological essentialism, i.e., the idea that biology is destiny, and therefore explains our actions, and determines our roles, is rejected. According to biological determinism, behavioral and psychological traits such as submissiveness, modesty, and domesticity are caused by female biology and are "natural". In rejecting this, some feminists contend that all binary theories of sex must imply determinism. In their opinion, these theories always make assertions about the fundamental individual "natures" of males, in terms of dominance, and of females, in terms of passivity and submission. Consequently, they conclude that, since biological determinism is unfounded, the entire concept of binary sex too must be a fallacy (Chambers, 2022)(Stock, 2021).

On the other hand, feminism insists on the political significance of embodied experience. It rejects the philosophical dualism that separates mind from body, and states that the physical

reality of womanhood has implications for women's lives and status. Women are subjugated as a group because and by way of their sexed bodies (Chambers, 2022).

These two claims, the rejection of essentialism and the significance of embodiment are both crucial to feminism. However, they are in tension, as evidenced by the debates surrounding trans identity and rights.

Transgender individuals want to be recognized by their gender identity. This aligns well with the first claim, i.e., the rejection of biological determinism. However, since, according to the second claim, embodiment matters, some feminists find it challenging to accept the idea that there is no difference between being a trans woman or a trans man and being biologically female or male from birth. This tension between the rejection of essentialism and the significance of embodiment has created a vicious debate that puts in contrast two fundamental principles of feminism (Chambers, 2022).

Many feminists, as seen above, reject "nature", as the latter is employed to rationalize the subjugation of women. They believe that there is no nature at all, except as viewed through the lens of human eyes, human societies, and human norms. Therefore, they advocate for the complete abandonment of the sex / gender distinction in favor of the view that everything is, in some sense, culture. Feminist and queer theorist, Judith Butler, claims that the sex / gender divide is unsustainable because sex itself does not exist as a natural phenomenon. This idea creates a challenge for feminism, which is grounded on the idea that there is such a thing as being a woman and that there are women's interests. At the same time, feminism's critical analysis of gender inequality hinges on the rejection of the idea that women are naturally different from men. The sex / gender distinction is important for feminism because it allows to say that biological sex differences do not account for or legitimize gender disparities, as the latter are not inherent. However, Butler not only argues that gender is not natural, but that sex is not either. It is not just whether you are masculine or feminine that is caused by culture rather than nature, but also whether you are a male or a female. Even identifying people as female or male is inherently social (Chambers, 2022).

In light of these complexities, it is evident that contemporary feminism finds itself grappling and debating whether women actually exist, and if they do who are they. These questions have been brought forth by the issue of trans identity, particularly whether trans women are women.

As previously discussed, the longstanding tradition of feminist resistance to biological and natural explanations of women's position fits well with the assertion that trans women are, indeed, women. Using biology to define women means "reducing them to their genitals", an unacceptable perspective. Women can't be defined by their genitals therefore another way of defining women must be found. For instance, philosopher Katharine Jenkins proposes a definition that dispenses entirely with bodies and biology, and instead emphasizes a combination of social positioning and subjective identity. Her definition must include even someone for whom it is true to say not only that she does not have a female body (in terms of chromosomes and reproductive organs) but also that "no one around her is observing or imagining her to have a female gender identity" (Jenkins, 2016) (Chambers, 2022). This view conceptualizes "woman" as a highly individualistic notion, rooted in self-identification.

In the book "Intact: A Defence of the Unmodified Body", Chambers holds that when someone expresses their gender, they want others to relate to them in a certain way. It becomes a significant ethical claim, and respecting it becomes an important part of respecting the person who makes it. However, she argues that whenever any sort of exclusion is warranted, self-identification is inadequate (Chambers, 2022). Clearly, this applies to the debate of whether transgender women should participate in sports alongside cisgender women. Is self-identification enough? Is exclusion warranted?

According to Chambers, therefore, the concept of "woman" may need to be different depending on whether it is going to be used for the purposes of prescribing medical treatment, or recording crime, or allocating scholarships, or creating solidarity, or including, or excluding, or understanding, or overthrowing. Sometimes biology matters, others it does not. Elevating a way of considering the sex / gender distinction above the other ways in all contexts makes as little sense as eliminating any of them from view (Chambers, 2022).

As observed earlier, the tension between the rejection of essentialism and the importance of embodiment gives rise to a spectrum of viewpoints on this subject. These perspectives range from those who disregard biology completely to those who propose intermediate positions in which its significance varies, as exemplified by Chamber's stance, and to those who highlight the vital role of embodiment. While the former group usually advocates a transfeminist perspective, the latter comprises not solely right-wing voters, contrary to common assumption. It also encompasses some liberal feminists, who, with regards to the debate of this thesis, find common ground with some right-wing voters on the belief that biological factors are relevant

when considering situations involving the inclusion of transgender women alongside cisgender women. Accordingly, the physical reality of women matters, and as a result sex matters. Advocates of this perspective point to various situations where biological sex, as opposed to the sex in which one identifies indeed does have relevance.

In this regard, in her work “Material Girls: Why Reality Matters for Feminism”, Kathleen Stock highlights numerous trends associated with biological sex. For instance, suicide is more common in males, while self-harm is more prevalent in females. Males are more likely to have an alcohol problem, whereas females are more likely to grapple with eating disorders and depression. And so on. Stock therefore argues that sex should be discussed, though not everyone is of the same opinion. Expanding on this discussion, she mentions the so-called “blank-slate” feminists who assume that by identifying and discussing socially produced inequalities, the latter further consolidate. This approach finds its extreme point in an argument made by academic Chloë Taylor, according to which rape-crisis centers for women rather than addressing the problem, inadvertently reinforce gendered notions of male sexuality as dangerous and of women’s bodies as sexually vulnerable. In response, Stock argues that attempting to alleviate a socially produced phenomenon does not cause it (Stock, 2021).

Contrary to the notion that biology can be ignored, some feminists instead argue that discussions about sex are essential because biology in some areas does indeed contribute to sex-based differences. This does not imply an endorsement of biological determinism, but rather an acknowledgment that ignoring these differences does not eliminate them. Whatever people think about the idea of gender or gender identity, it does not change a person’s sex, either biologically or in law (Stock, 2021) (Sex Matters, 2022). Some people identify as transgender or non-binary. This means that they prefer to refer to themselves in a different way, rather than using ordinary words for their sex, and they may change their appearance and prefer that other people do not refer to their sex, some or all the time. Some people who identify as transgender change their name or have surgery to look more like the opposite sex or wear clothing associated with the opposite sex. All this though does not change their biological sex (Sex Matters, 2022).

This branch of feminism identifies different areas in which biological sex matters.

Firstly, sex makes a difference in medicine. Health and disease can be directly affected by sex characteristics; therefore, sex is highly relevant to medicine. Sex can affect disease

susceptibility, progression, and outcomes. Pain sensitivity also varies between the sexes; indeed, females generally experience a higher prevalence. Additionally, there are discernible disparities in drug responses based on sex. Some drugs are absorbed and excreted at different rates by females and males and / or require different dosages. Some drugs are more effective for one sex than another in tackling a particular disease or have more significant side effects. These differences stem from biological fact. That does not mean that social factors cannot sometimes play a role. For instance, males have tended to be systematically treated as the default kind of body in drug trials and experimental medical studies. Moreover, female-associated diseases have historically tended to be dismissed by some doctors as “women’s problems”. These are social problems that require social solutions, but they don’t establish that sex itself is wholly social (Stock, 2021).

In the realm of medicine, endogenous features count as important baselines for defining human health standards. They provide insights about what is statistically “normal” at a certain stage. This is then used as a source of information in understanding what health for that sort of organism looks like. All of this proves that sex matters in medicine.

In light of these considerations, advocates of gender identity focus instead on reframing the language used to describe bodily parts and diseases in a way that does not explicitly reference sex. An example of this is using the term “people with a cervix” instead of “females”. These linguistic changes aim to provide greater comfort and inclusivity for transgender individuals, with the intention of avoiding psychological discomfort. However, some also argue that such changes are rooted in a belief that references to biology are “dehumanizing”. Stock argues against this notion, questioning why it should be considered dehumanizing to refer to one’s sex or biological basis. This acknowledgment does not diminish the complexity of human beings. It does not mean that humans are *only* biological organisms. Indeed, what makes human beings different from other animal species is a relatively advanced rationality. Therefore, humans are not only biological organisms but are *also* biological organisms. And denying it is detrimental (Stock, 2021).

Secondly, sex makes a difference in sexual orientation. Sexual orientation is defined in terms of specific patterns of attraction. Strictly speaking, it should be understood in terms of the sex(es) you are sexually attracted to under relatively self-aware, uncoerced, uninhibited circumstances (Stock, 2021).

Most widely accepted models posit that sexual orientations develop due to factors beyond individual control. While there is ongoing debate about whether these factors are genetic, or environmental, or a combination of both, it is universally recognized that they are not conscious choices. According to Stock, in explaining why someone has the sexual orientation they have, the concept of biological sex inevitably comes into play. However, trans activist organizations reject this notion, asserting that it is gender identity, not biological sex, that defines sexual orientations. This perspective is assumed to have consequences for sexual orientation concepts such as gay, straight, lesbian, and so forth. In this view, a lesbian is understood as anyone with a female gender identity attracted to others with female gender identities. The same goes for a gay man, which is defined as someone with a male gender identity attracted to others with a male gender identity. A heterosexual, meanwhile, is a person with a given gender identity who is attracted to someone with an opposite gender identity. The result is that according to this perspective, biological sex is irrelevant to sexual orientation (Stock, 2021).

Nevertheless, a recent survey indicates that sex holds some significance. 12.5 percent of participants expressed openness to dating a trans person. Notably, of these respondents, nearly half of them stated preferences about whom they would date that were “incongruent”. For instance, roughly two-thirds of the self-described lesbians said they would only date trans men and not trans women or would at least date trans men as well as trans women. To be consistent with lesbianism understood in terms of gender identity, lesbians should exclude trans men and include only trans women (Stock, 2021).

In 2019, Oxford philosopher Professor Amia Srinivasan, characterized “transphobia” as an oppressive system that makes its way into the bedroom through the seemingly innocuous mechanism of “personal preference”. The implication here is that the main reason a lesbian may not experience desire towards a trans woman, or a gay man towards a trans man, could only be attributed to bigotry and disgust for trans individuals. This perspective overlooks the possibility that biological sex may also hold some weight in sexual orientation (Stock, 2021).

Thirdly, sex makes a difference in the social effects of heterosexuality. Social consequences of sex are “multifactorial”, but that does not negate the input of biology as one explanatory factor amongst many. The background biological facts about physical differences between sexes count as part of an overall explanation for whatever present effects exist. To exemplify, pregnancy and breastfeeding take many females out of the workplace, at least temporarily, and

may limit their ability to engage in certain types of physical labor while employed. These factors can affect chances of career progression, either because females get pregnant or because it is anticipated by employers that they might. Dedicated legislation has been put in place to address these social effects. However, in recent times, the efforts of trans activism have challenged and reshaped these measures. As a result, resources and support once exclusively designated for females in the workplace are now generally accessible to anyone identifying with a female gender identity. Stock contends that there should be a differentiation between the measures made to help biological females and those made for trans women, as the former were made to address the adverse social effects stemming from biology, and do not apply to all who identify as women. They are contingent on biological sex rather than gender identity. She states: “Clearly, males with female gender identity do not share the same career or socio-economic challenges as females simply by having a misaligned gender identity, because they do not share the reproductive capacity that give rise to them” (Stock, 2021).

Biological differences plus heterosexuality make a social difference in assault statistics too. Significant disparities exist in sexual assault prevalence between males and females. Over their lifetimes, approximately 20 percent of woman compared to 4 percent of men experience some form of sexual assault. Generally speaking, males are responsible for the majority of sexual and domestic assaults committed upon females. As a result, women-only spaces such as changing rooms, bathrooms, dormitories, and prisons have been established to provide safety. However, many places have adopted policies allowing anyone who identifies as a woman to access these spaces. This shift can pose risks for women, as gender identity is not visibly discernible, potentially allowing any male, even if they have bad intentions, to enter a space claiming alignment with gender identity. There have already been documented cases demonstrating this risk, such as the instance of trans woman Karen White, who was placed in a woman’s prison based solely on gender identity and subsequently sexually assaulted female prisoners (Stock, 2021).

A potential solution would be to introduce sex-neutral “third spaces” alongside single-sex ones for those who feel more comfortable there, rather than completely abandon the latter altogether (Stock, 2021).

Fourthly, another area in which this branch of feminists asserts the significance of sex is sport. The arguments that “sex matters” advocates bring about regarding this point are paramount for the debate analyzed in this work and will be explored in Chapter 3.

This fourth area brings the discourse full circle, as the entire debate examined in this work comes from the political context just analyzed. Indeed, the tension observed in modern feminism between those who disregard biology and those who emphasize its importance is the basis on which the debate around transgender women’s participation in sports is founded. Therefore, there are on the one hand some who argue that they should be allowed to participate as biology is considered unimportant or less important as compared to other factors. On the other hand, some stress the importance of biology and think transgender women should not compete in sports with cisgender women.

Having considered the political and philosophical context which, as seen, is strictly linked to feminism, attention must now turn to scientific and biological facts. The next chapter will focus on research and analyses made by experts to learn whether transgender women retain some advantage in their performance compared to cisgender women.

3. Scientific and biological research on transgender athletes' performance and data comparison

As was seen earlier, the debate analyzed here can be framed as a philosophy vs physiology discussion, and, as such, it is important to evaluate the context surrounding it.

Considering the former, i.e., the “philosophical” part of the debate, the preceding chapter has examined the political context, hereby finding a great divide within feminism. This split is caused by the existing tension between the rejection of essentialism and the importance of embodiment. On the one hand, the former idea seems to “side” with those who reject nature and biology and therefore think that being female or male at birth should not play any role, and, in particular, when talking about sports, this would mean that being a transgender woman should not pose any problem when competing alongside cisgender women. On the other hand, the latter idea places great importance on embodiment and therefore on biology. Those who follow this logic, with the motto “sex matters”, list various situations in which, according to them, biological sex plays a vital role, including sports. As it shall be seen later, this branch of feminism thinks that allowing transgender women to participate in sports might have consequences that most of all disadvantage women and might, as a final and extreme consequence, cancel women’s sports altogether.

As regards the second part of the debate, i.e., the strictly “physiological” part, this chapter will dive into the scientific research that has been done on the matter, in order to understand if, biologically speaking, being a transgender woman plays a difference in sports, and provides an advantage that a cisgender woman cannot have.

For decades, sports governing bodies have aimed to establish a single biological criterion by which to categorize and exclude some women from the female category, i.e., gonads, but the situation is much more complex than that. Over time, scientists have identified no less than six distinct markers of sex: gonads, chromosomes, hormones, secondary sex characteristics, external genitalia and internal genitalia. While these markers often align with either a female typical or male typical path, this is not universally the case. For instance, the common assumption is that individuals possess either XX or XY chromosomes, yet some are born with an extra X chromosome, among other variations. Consequently, the spectrum of human physical diversity exceeds the confines of binary categorization. Considering these variations,

some argue against using a single factor as a determining criterion for eligibility in sports competitions (Karkazis, 2019).

In view of the evolving landscape of gender inclusivity, there has been a notable surge in the debate surrounding the fairness of transgender participation in sports. Therefore, it has become paramount to analyze scientific research on this subject. Indeed, those who argue against transgender individuals, particularly transgender women, competing in sporting events often appeal to the idea that transgender women have an unfair advantage against their cisgender counterparts as the formers can benefit from their puberty years, given the fact that they grew up with biologically male attributes. In this context, it is necessary to resort to scientific analyses to ascertain whether transgender women athletes when participating in sports do indeed hold an advantage over female competitors or if this assumption is unfounded.

It must be noted that sports organizations around the world have implemented policies and guidelines regarding the eligibility of transgender participation in sports. These regulations, for instance, can require a period of hormone therapy and specific criteria to be met, to ensure a level playing field. Nonetheless, the question remains whether these measures are enough to be able to consider the competition fair. Firstly, it is important to take a step back and conduct a comprehensive analysis of the performance differences between male and female competition in sports, therefore assessing if sex-based segregation should even exist in the first place. Regarding this, scientific consensus generally affirms that males exhibit superior performance than females in sporting competitions. Investigating the performance of elite athletes, it can be noted that the smallest performance gaps can be seen in rowing, swimming and running (11-13%), while the performance gap increases to an average of 16% in track cycling. The gap grows further, reaching 20% and more, when considering sports and activities that involve extensive upper-body contributions, for instance, the gaps between fastest recorded baseball pitches and field hockey drag flicks exceed 50%. The translation of these advantages, assessed as performance disparities between the very best males and very best females, remains substantial when extended and applied to larger populations. Indeed, there exists an 11% typical disparity in population-wide comparisons between the sexes. As evidence of this, in running events, the male-female gap stands indeed at 11%. It follows that many thousands of males are faster than the very best females. For instance, approximately 10,000 males have personal best times that are faster than the Olympic 100 m female champion. Furthermore,

upon examination of selected junior male records, it is revealed that they surpass adult elite female performances by the age of 14-15 years (Hilton et al., 2020).

The physiological advantages conferred by biological sex appear, by assessing these data, insurmountable. The reason for this overwhelming disparity can be attributed to testosterone-driven puberty, which affects strength, speed, and recovery and provides sporting advantages of such magnitude that no female could reasonably hope to succeed without sex segregation in most sporting competitions (Hilton et al., 2020), (Knox et al. 2019). Therefore, to ensure that females can be included in a safe and fair manner in sporting competitions, the establishment of a distinct female category is considered imperative (Hilton et al., 2020). Importantly, giving up the sex segregation would mean that women nearly always lose, which would be discouraging for women generally and female athletes particularly (Coggon et al, 2008). Consequently, considering the above analysis, it is evident that certain sports would become inaccessible and unsafe for women if both males and females were to compete in the same category. Hence, the separation of sexes into distinct categories is essential to enable women to participate in sports competitions.

Having established that males and females should indeed compete in different categories, attention must shift towards trans individuals' participation in sports. A key point in this regard is the fact that sport is for everybody and participating in sports is a human right according to the IOC's Olympic Charter. Therefore, to exclude trans people from them would be an unacceptable violation of their legitimate rights (Williams, 2019). Indeed, the International Olympic Committee (IOC) policy on transgender athletes states: "it is necessary to ensure insofar as possible that trans athletes are not excluded from the opportunity to participate in sporting competition". At the same time, the policy states that "the overriding sporting objective is and remains the guarantee of fair competition". These objectives may appear to be at odds, given the considerable performance gap between males and females in sports, as highlighted earlier. In order to reconcile both statements, the IOC in 2015 had established specific criteria that transgender women had to meet to be considered eligible to compete in the female category (Hilton et al., 2020). Upon close examination of the 2015 IOC guidelines, two underlying assumptions emerge. The first assumption posits that high testosterone levels provide an all-purpose benefit in sport; the second assumption, as just mentioned, is contingent upon meeting specific criteria so as to allow transgender women to compete in the female category. These prerequisites include a solemn declaration that her gender identity is female

and the maintenance of total serum testosterone levels below 10 nmol/L for at least 12 months prior to competing and during competition. Therefore, the second assumption holds that adhering to these criteria effectively mitigates the performance advantage stemming from their former male physiology (Hilton et al., 2020), (Knox et al. 2019).

Importantly, in 2021, there has been an important shift in the IOC guidelines, as will be elaborated upon later. This change now grants individual federations the autonomy to determine the degree of restrictiveness or inclusivity they think is best for their sports. However, for the sake of this analysis, comparisons will be drawn using the 2015 guidelines, as they offered standardized rules that are no longer available.

Having already confirmed, as seen above, the validity of the first assumption contained in the IOC guidelines, attention must be turned to the second assumption. This examination will determine whether, by adhering to these criteria, transgender women can indeed compete fairly alongside cisgender females.

According to scientific studies, given the maintenance of bone mineral density even after many years of testosterone suppression, and given the lack of a plausible biological mechanism by which testosterone suppression might affect skeletal measurements such as bone length and hip width, the sporting advantage conferred by skeletal size and bone density would be retained even following the IOC guidelines. Scientific studies indicate that even after many years of testosterone suppression, bone mineral density is maintained. Additionally, there is no discernible biological mechanism through which testosterone suppression could impact skeletal measurements such as bone length and hip width. As a result, the sporting advantage derived from skeletal size and bone density is likely to be retained, even in adherence to the IOC guidelines (Hilton et al., 2020).

In the context of muscle mass and strength, longitudinal analyses suggest that transgender women maintain an advantage in both cases. While there may be some reduction in lean body mass or muscle size, testosterone suppression does not bring it down to the levels observed in cisgender females. The same principle applies to muscle strength (Hilton et al., 2020).

Endurance and cardiovascular parameters represent equally significant factors contributing to male performance advantages over females. Research indicates that cross-hormone treatment can mitigate running performance by an amount approximately equivalent to the typical male advantage. However, the effects in this domain remain insufficiently explored. Conversely, the

negative effect on hemoglobin concentration is well documented. Nevertheless, crucial determinants of endurance performance, namely the effects on VO₂max (the maximum amount of oxygen the body can absorb and use during exercise), left ventricular size, stroke volume, blood volume, cardiac output lactate threshold, and exercise economy remain unknown (Hilton et al., 2020).

Based on the preceding analyses, it can be posited that the balance between inclusion and fairness is likely more attainable in endurance-based sports as opposed to strength-based sports. However, it appears that, generally speaking, performance advantage gained during puberty by males remains substantial in transgender women.

Importantly, the studies conducted by Hilton et al. assert that the effects of cross-hormone therapy can be counteracted by consistent training, and, in addition, it was found that even suppression down to around 1 nmol/L fails to significantly erode this advantage and even extending the treatment period beyond the mandated 12 months would not diminish the male advantage to a tolerable degree. Given these observations, coupled with the earlier analyses, it seems implausible that athletic transgender women would achieve final muscle mass and strength metrics that are on par with reference cisgender females at comparable athletic levels (Hilton et al., 2020). Consequently, these studies challenge the validity of the second assumption found within the 2015 IOC guidelines.

The data analysed reveals that strength, lean body mass, muscle size, and bone density are only trivially affected. The reductions observed are very small compared to the baseline differences between males and females in these variables, and thus, there are major performance and safety implications in sports where these attributes are important. However, it is evident that different sports exhibit stark differences in terms of physiological determinants of success, which may alter the importance of retained performance advantages. Hence, certain experts advocate against universal guidelines for transgender athletes in sports and instead propose tailored criteria depending on the sport in question (Hilton et al.,2020).

Importantly, other studies suggest different solutions. A significant notion to consider is the “skill thesis”, which suggests that sports are meant to discern the most skillful participant by maintaining a fair starting point. Hence, a person’s success in sports should be based solely on skill and not on unequal advantages or starting points between competitors (Bianchi, 2019). The skill thesis is a guiding principle for fairness in sports and, by accepting it, it can be claimed

that transgender women are unfairly advantaged and should not be permitted to compete in female categories. However, there exist several ways to refute this argument.

Accordingly, there are two possibilities. On the one hand, the skill thesis can be deemed as the guiding principle in sports. On the other hand, another approach can be to dismiss the importance of the skill thesis by showing that there are many genetic attributes that are potentially unfair in accordance with gender-segregated standards (Bianchi, 2017). According to this last argument, the mere existence of physiological differences does not automatically render competition unfair. For instance, a tall man may hold a distinct advantage in basketball compared to a short man, yet this does not mean that it would be inherently unfair for the former to compete (Williams, 2019). There are several examples in which successful athletes have unique features that are based on genetics, as opposed to pure skill. To give a real-life illustration, the athlete Michael Phelps is an incredible swimmer; however, it is plausible that his success in swimming is at least partially influenced by his “wingspan”, the fact that he is double jointed, and his size 14 feet (Bianchi, 2017). This suggests that certain traits may be potentially unequal or unnatural in comparison to other competitors in gender-segregated categories in a similar way as the argument that trans women have an unequal advantage. Consequently, it follows that a transgender woman should be permitted to compete in female categories, considering that natural genetic endowments are already a part of sports, and the skill thesis results incorrect since genetic advantages already contribute to success in sports. This reasoning is linked to the natural lottery argument, which argues that “because of the luck of the initial draw of talents, skills, and abilities, overall outcomes in sports ultimately are more the result of luck than we might think” (Bianchi, 2017). However, the distinction between certain types of advantages is important to consider. The kind of advantage possessed by transgender women may be interpreted as unfair, because there is no possibility for other cisgender competitors to naturally possess those same advantages (Bianchi, 2017).

If instead of dismissing the skill thesis, it is argued that this ought to be the guiding principle in sports, a different approach must be taken. In order to maintain the skill thesis while taking into account the aforementioned genetic advantages, it is possible to use the theory of luck and credit, according to which the amount of credit that persons deserve should be altered as a result of their luck. A successful athlete should only be credited in relation to their skill. In the article *Getting Luck Properly Under Control*, McKinnon illustrates a scenario involving a participant named Bill. Bill participates in a basketball contest with a million-dollar prize for making a

full-court shot. Despite the fact that he has never played before, Bill successfully makes the shot and claims the prize. Subsequently, McKinnon considers how much credit Bill deserves. Considering that he made the shot without any previous expertise, she posits that Bill, on average, would make such a shot only 1% of the time. Therefore, she suggests attributing 1% of the credit to skill and the remainder amount to luck (McKinnon, 2013). This approach, as presented by McKinnon, offers a means to uphold the skill thesis while still allowing transgender women to participate in female categories, even in light of their potential advantages.

Taking into consideration McKinnon's proposal, the article *Transgender women in sport* suggests the implementation of a "luck scale" in sports, a metric which would be developed by geneticists, physiologists, kinesiologists, and related fields. This scale would assess any unfair advantage that a transgender woman might have in comparison to cisgender competitors. If this type of scale were implemented, then a transgender woman would only be credited on skillfulness as opposed to any luck or unfair genetic advantages, thereby upholding the principle of skill thesis. The article presents a scenario in which it is supposed that Jamie, a transgender woman, wants to compete in female categories in running. Jamie easily defeats Kelly, one of her cisgender competitors. According to the above account, Jamie would be credited less since her performance was influenced by unfair genetic attributes. However, if it were discovered that, for any reason, Kelly possessed more advantages than Jamie, the opposite scenario would unfold (Bianchi, 2017).

The paper suggests that the only pertinent genetic attribute to address in mitigating unfair advantages would be the levels of effective testosterone, that is, the testosterone that can be effectively used by one's body in order to benefit or enhance one's performance. However, considering that the preceding analysis demonstrates that advantages are retained even after cross-hormone therapy, the luck scale should also be applied to mitigate the variety of genetic endowments that contribute to unfair advantages in sports.

Though the luck scale could be a good solution, many argue against it. The problem with the luck scale is that it might be noted that it does not modify sports in any way other than encouraging athletic onlookers to be less impressed by some athletic achievements. In light of this, as outlined in Bianchi's aforementioned paper, an alternative approach is proposed: the implementation of a handicap system. Its purpose would be to assist athletes to play on somewhat equal terms so that the results accurately reflect the player's skill (Bianchi, 2017).

This system can already be observed in amateur golf. If someone is an exceptional golfer, then their handicap will be low, which means that they are required to complete the course in a fewer number of golf swings than other players. On the other hand, a poor golfer will have a high handicap, thereby enabling them to take more golf swings to complete the course. Given that each player's handicap is determined by their skill, the players are able to measure 'one's performance and progress and to enable golfers of differing abilities to compete on an equitable basis' (Golf Canada, 2016). This method does not require individuals to be credited less, but rather proactively mitigates any initial disadvantages at the start of each event. This inclusive handicap system, applicable to all competitors in female categories, appropriately recognizes and responds to transgender women's legitimate desire to be treated equally in gender-segregated sports. For instance, this method could be used by adjusting a transgender woman's final race time or requiring a head start for the other competitors (Bianchi, 2017).

It is crucial to note that many scientists express the view that current research lacks sufficient depth to definitively ascertain whether transgender women retain a considerable advantage in sports. Insufficient data availability remains a significant limitation in drawing firm conclusions. Indeed, according to geneticist Eric Vilain, who is specialized in sexual development, "we know very little, and there is no valid evidence about the advantages of transgender women and athletes compared to their cisgender counterparts". Moreover, James Barrett, director of the Adult Gender Identity Clinic in London, who is also collaborating on a study for the IOC, asserted that in some cases transgender women may even be disadvantaged due to their heavier musculature (Ferrari, 2023).

This underscores the complexity of the ongoing discourse. While current findings suggest advantages for transgender women in sports against cisgender counterparts, the need for more extensive research and studies remains imperative to establish a clearer understanding of this complex issue.

Now that scientific research has provided insights, attention must turn to the data gathered on athletic performance. This entails comparing numerical findings to understand the disparities between men's and women's performance and what they would mean for the issue at hand.

As previously observed, there exists a substantial performance disparity between elite male and elite female athletes, with an average gap of 10-12%. Interestingly though, even between elite females and non-elite male counterparts, there persists a noteworthy, albeit smaller, insurmountable gap. To exemplify, in just a single year, 2017, Olympic, World, and U.S.

Champion Tori Bowie’s 100 meters lifetime best of 10.78 was surpassed in performance no less than 15,000 times by men and boys. Similarly, in the same year Olympic, World, and U.S. Champion Allyson Felix’s 400 meters lifetime best of 49.26. was beaten by the same number of men and boys (Coleman et al., n.d.). This pattern holds true for ex-athlete Mara Yamauchi, whose first-hand insights are featured in this work (refer to Chapter 4).

The instances of men and boys surpassing the top performances of women in the 100 and 400 meters are not isolated cases, they are the rule. This substantiates the assertions previously highlighted by the scientific research examined here.

Presented below are tables, which taking into consideration a single year, i.e., the year 2017, delineate the outcomes of the top women in contrast to the results achieved by boys and men (Coleman et al., n.d.).

Table 1 – World’s Best Woman v. Under 18 Boys

Event	Best Women’s Result	Best Boy’s Result	# of Boys Outperforming
100 Meters	10.71	10.15	124+
200 Meters	21.77	20.51	182
400 Meters	49.46	45.38	285
800 Meters	1:55.16	1:46.3	201+
1500 Meters	3:56.14	3:37.43	101+
3000 Meters	8:23.14	7:38.90	30
5000 Meters	14:18.37	12:55.58	15
High Jump	2.06 meters	2.25 meters	28
Pole Vault	4.91 meters	5.31 meters	10
Long Jump	7.13 meters	7.88 meters	74
Triple Jump	14.96 meters	17.30 meters	47

Table 2 – World’s Best Woman v. Number of Men Outperforming

Event	Best Women’s Result	Best Men’s Result	# of Men Outperforming
100 Meters	10.71	9.69	2,474
200 Meters	21.77	19.77	2,920

400 Meters	49.46	43.62	4,341
800 Meters	1:55.16	1:43.10	3,992+
1500 Meters	3:56.14	3:28.80	3,216+
3000 Meters	8:23.14	7:28.73	1307+
5000 Meters	14:18.37	12:55.23	1,243
High Jump	2.06 meters	2.40 meters	777
Pole Vault	4.91 meters	6.00 meters	684
Long Jump	7.13 meters	8.65 meters	1,652
Triple Jump	14.96 meters	18.11 meters	969

Table 3 – World’s Best Woman v. Instances of Men Outperforming

Event	Best Women’s Result	Best Men’s Result	Instances of Men Outperforming
100 Meters	10.71	9.69	10,009
200 Meters	21.77	19.77	8,993
400 Meters	49.46	43.62	13,898
800 Meters	1:55.16	1:43.10	12,285
1500 Meters	3:56.14	3:28.80	8,251
3000 Meters	8:23.14	7:28.73	1,784
5000 Meters	14:18.37	12:55.23	2,140
High Jump	2.06 meters	2.40 meters	2,741
Pole Vault	4.91 meters	6.00 meters	2,981
Long Jump	7.13 meters	8.65 meters	4,801
Triple Jump	14.96 meters	18.11 meters	3,440

Also in other sports, there can be found similar results. For instance, in swimming, in the year 2016, it was found that high school boys consistently outperformed Olympic women’s finalists (boysvswomen, n.d.).

These tables are proof of what was already found in the scientific research here reported. By providing real-life instances, they underscore the rationale behind the traditional division between male and female categories in sports. This logic follows the same logic according to which children do not compete in sports with adults. Indeed, the establishment of separate

categories serves the essential purpose of maintaining fairness and equity in sports competitions. To put both children and adults in the same category would mean that only the latter would ever result as winners, the same goes with females and males. The tables above show that in a unified category of men and women, only male competitors would emerge victorious, leaving no room for female winners. This demonstrates the significance of understanding whether transgender women should be permitted to participate in competitions alongside their cisgender counterparts, and hence, the scientific analysis reported in this work.

In conclusion, it is evident, as illustrated in this chapter, that categories separating males and females are paramount, otherwise female athletes would cease to exist. Moreover, according to scientific research analyzed here, transgender women may possess certain advantages in specific sports, even after adhering to cross-hormone therapy as outlined by the 2015 IOC guidelines. Consequently, there is a call for exploring alternative approaches to mitigate these advantages. Further in-depth research is essential, particularly research focused on the physiology of transgender women athletes, to gain a more comprehensive understanding of the extent of their advantages and the most effective strategies for minimizing any unfair discrepancies between transgender women and their cisgender counterparts. This pursuit aims to strike a balance between equity and inclusivity, ensuring transgender women's right to participate in sports without unduly disadvantaging their competitors.

While some proposals, particularly those revolving around the "skill thesis", have been put forth, there are those who advocate for the exclusion of this thesis entirely (Bianchi, 2019).

Indeed, as seen before, many disregard the idea that nature plays a role entirely. Some even argue that whether you are a male or a female is merely a cultural matter together with your identity, that is, whether you identify as a male or a female (Chambers, 2022). Therefore, it is clear that for some people there is no need to find solutions because there is no problem that needs to be solved. They do not think that transgender women are advantaged, because any difference between cisgender and transgender women must be disregarded completely. There is no such thing as being born a female or a male, all this is culture, not nature.

If this rationale were to be followed, solutions suggesting following the skill thesis would be rendered entirely unnecessary.

The next chapter will delve into this concept further as it will focus on the different positions in the debate.

4. Case studies, perspectives, and arguments for and against transgender women's participation in competitions.

This analysis has delved into both the philosophical underpinnings and scientific foundations that contextualize the ongoing debate regarding the involvement of transgender women in sports.

Having examined these frameworks, the focus must now shift toward exploring the different perspectives that characterize this multifaceted debate. The discussion encompasses a spectrum of viewpoints, that range from those advocating for an inclusive approach, stressing equality and recognition of transgender rights within sports, to others emphasizing the significance of maintaining fairness, rooted in biological distinctions and concerns. Moreover, the discourse on transgender women's participation in sports extends beyond traditional political boundaries, with a range of opinions that cut across the political spectrum.

The exploration of these diverse perspectives is paramount to creating a deeper understanding of the complex considerations at play in the issue at hand.

Firstly, an analysis encompassing various instances where transgender women have engaged in sports must be conducted, as it serves as a fundamental step toward fostering a more comprehensive view and understanding of the issue.

Transgender women's participation in sports has recently begun to gather more widespread attention. However, it is important to acknowledge that transgender athletes have existed for a long time, often facing significant hurdles and discrimination.

Subsequently, the analysis will delve into diverse perspectives from advocates both in favor of and against the inclusion of transgender women in the female category in sports, to exemplify the different positions present in the debate. This exploration will include insights from various sources, such as an interview with a former Olympic athlete who possesses expertise on the matter. By presenting these perspectives, the analysis aims to elucidate the multifaceted nature of the debate, offering a detailed and nuanced portrayal of the different positions involved.

4.1 Case Studies, Controversies, and Regulatory Challenges.

One of the first transgender athletes was Renée Richards. A (now former) tennis player, she challenged the regulations of the time by advocating for her right to compete as a woman following her sex reassignment surgery in the early 1970s. She was publicly outed as a transgender woman in 1976, and after that, the United States Tennis Association (USTA), the Women's Tennis Association (WTA), and the United States Open Committee (USOC) responded by instituting mandatory sex verification tests for female competitors. In her quest to participate as a woman in the US Open, Richards refused to undergo the sex verification test, leading her eventually to take legal action against USTA in New York state court, alleging gender-based discrimination in violation of the New York Human Rights Law. In a significant turn of events, the court ruled in her favor in 1977, acknowledging the discriminatory nature of the testing requirement. This judgment not only permitted Richards to compete in the US Open as a woman but also marked a pivotal moment in the recognition of transgender rights in sports. She went on to compete in the tournament, reaching the doubles finals (Morton, 2022) ("Renée Richards", n.d.).

It should be noted that the current outcry over the "end of women's sports" caused by trans women taking part in sports mirrors the outcry that was already expressed at Richards' time. This highlights the fact that the issue, though only gaining significant attention recently, has been present for a long time, intermittently surfacing in the media. However, transgender athlete Chris Mosier suggests that this fight is not about sports. Instead, it is an effort to marginalize and exclude transgender individuals from participating in all aspects of public life. It is about creating "solutions" to "problems" that do not exist meanwhile causing great harm to an already vulnerable group (Zirin, 2022).

More recently, notable instances have arisen involving transgender athletes Lia Thomas and Valentina Petrillo, both of whom have encountered significant scrutiny and controversy surrounding their participation in female categories within their respective sports.

Lia Thomas, a swimmer representing the University of Pennsylvania, made headlines in March 2022 when she won in the 500-yard freestyle event at the NCAA championships. This historic win marked her as the first transgender woman to secure an NCAA swimming championship (Morton, 2022). Notably, USA Swimming has a policy stipulating that transgender athletes must undergo three years of hormone replacement therapy before being eligible to compete. Lia Thomas was six months short of that target, but the NCAA decided not to adopt USA Swimming's rules and allowed her to compete ("Lia Thomas' victory at NCAA swimming finals sparks fierce debate over trans athletes", 2022).

Subsequently, her triumph sparked intense scrutiny and debate, particularly after the parents of fellow members of her swim team wrote a letter urging the NCAA to ban Thomas from competitions (Morton, 2022). Reka Gyorgy, an Olympic competitor for Hungary in 2016 and now representing Virginia Tech, expressed her discontent in a letter to the NCAA regarding Thomas's participation: "This is my last college meet ever and I feel frustrated. It feels like that final spot was taken away from me because of the NCAA's decision ... I know you could say I had the opportunity to swim faster and make the top 16, but this situation makes it a bit different and I can't help but be angry or sad. It hurts me, my team and other women in the pool" ("Lia Thomas' victory at NCAA swimming finals sparks fierce debate over trans athletes", 2022). Moreover, Save Women's Sport, a group opposed to transgender athletes competing in women's sports, organized protests outside Georgia Tech's swimming facility, where Thomas competed.

However, amid the dissenting voices, Thomas also received support from athletes like Erica Sullivan, who finished third behind Thomas in the 500m freestyle. Sullivan argued that women's sport has other issues that are far more important to address: "As a woman in sports, I can tell you that I know what the real threats to women's sports are: sexual abuse and harassment, unequal pay and resources and a lack of women in leadership. Transgender girls and women are nowhere on this list," Sullivan wrote ("Lia Thomas' victory at NCAA swimming finals sparks fierce debate over trans athletes", 2022). Indeed, advocates for transgender women's participation in sports in their arguments often highlight this point: the presence of other challenges, considered more important, facing women's sports beyond the participation of transgender athletes.

Amidst the controversy, Lia Thomas maintains that her transition was not aimed at securing an advantage or triumphs in sports, but rather was a personal decision to stay true to her authentic self. In advocating for transgender women in sports, she emphasizes, "Trans women competing in women's sports do not threaten women's sports as a whole", Thomas highlights that transgender women constitute only a small minority among all athletes and underscores the existence of NCAA rules regarding transgender women's participation in women's sports for over a decade, and despite these regulations, there has not been an overwhelming influx of transgender women dominating sports competitions ("Lia Thomas says she transitioned to be happy, not to win swimming titles", 2022).

Nonetheless, Thomas's surge to the top of the rankings has posed questions concerning the policies of both the IOC and the NCAA. As seen previously, the existence of separate

categories for male and female athletes stems from the significant difference in performance between elite men and women in sports. This divergence starts at approximately 10-12% for disciplines like running and swimming and magnifies across other athletic pursuits. Furthermore, the studies analyzed in this work have revealed that even after undergoing hormone therapy, significant strength and advantages persist. Thomas's performance appears to substantiate these findings. Before transitioning, she was not a serious challenge to male records. However, her transition and subsequent entry into the female category have resulted in a considerable boost in her rankings (Ingle, 2022). While, as seen in Chapter 2, some contend that sport is never truly fair as there can be genetic advantages, male puberty was shown to provide a categorical advantage in terms of muscle mass, strength, lean body mass, and bone density. Those against the inclusion of trans women argue that this advantage surpasses the genetic advantage that a biological male might have against another biological male, as well as the advantage a biological female might possess against another biological female (Ingle, 2021).

Chris Mosier, a transgender athlete, instead, regarding Lia Thomas's case, suggests that the backlash from the right wing (as well as some liberal feminists) is part of a broader campaign to prevent transgender athletes from participating in sports across all levels. Indeed, numerous states in the US have enacted bills barring trans athletes from competing on teams aligning with their gender identity. Moreover, Mosier notes that media coverage has disproportionately amplified opposing voices while largely neglecting the considerable support for athletes like Lia and others, which shows how the media tries to shape the public's opinion. According to Mosier, the root of the issue lies in the fact that people do not understand what it means to be transgender and how transgender athletes fit into sports. He stated: "No one is pretending to be trans or transitioning to gain a competitive advantage. Trans people play sports for the same reasons as everyone else: to be a part of a team, to move our bodies, to master new skills, to have fun, and so on. At the end of the day, we are talking about a person, a real-life person who has spent her entire life training to be good at her sport. That has nothing to do with her gender identity." (Zirin, 2022).

Valentina Petrillo's story stands out as another compelling case. Driven by a profound passion for running since her formative years, Petrillo's athletic dreams seemed shattered at the age of 14 upon receiving a diagnosis of Stargardt disease, an incurable degenerative eye condition. After completing her schooling in Naples, she relocated to Bologna to pursue studies in

computer science at the Institute for the Blind. During this time, she became an integral part of Italy's national five-a-side football team dedicated to individuals with visual impairments. It was only at the age of 41 that she finally started running again, winning 11 national titles in three years in the male T12 category, where T stands for Track and 12 represents one of the three groups classified for visual impairment. She then began hormone therapy in 2019, losing about 11 seconds in the 400m and 2.5 seconds in the 200m after six months of the treatment (Mitzman, 2021). She then decided to compete in the female category. As the first Italian transgender athlete to compete in an international tournament, Petrillo made her mark in 2021 at the European Paralympic Athletics Championship held in Poland. In such situation, she secured the fifth position in the 400 meters final, establishing a new record for Italy in the T13 category designed for visually impaired athletes competing without guidance. However, her recent resurgence in the spotlight was primarily due to her participation in the tenth edition of the World Para Athletics Championship, which concluded in Paris on July 17, 2023. During this event, Petrillo secured a bronze medal in the 400 meters discipline. In this case, too, her podium finish stirred controversy and raised indignation. Nonetheless, from a regulatory perspective, her participation in the female category was within her rights. Indeed, even though in March 2023 Sebastian Coe, president of the World Athletics Federation, stipulated criteria for the inclusion of transgender women in competitions alongside cisgender women, emphasizing that only those who initiated their transition early in life and were, therefore, not advantaged by puberty-related changes could participate, paralympic athletics operates under a different jurisdiction. The regulation in this domain is overseen by the International Paralympic Committee (IPC), which grants individual sports autonomy in such matters. Until Petrillo is granted permission in her specific discipline to compete in the female category, her participation stands within her rights (Ferrari, 2023). Later this analysis will delve into the different rules decided by the federations.

Recently, a notable incident involved Mya Walmsley, specifically in the realm of boxing, a sport where discrepancies in strength could pose potential risks beyond just facing defeat. As outlined previously (referencing Chapter 2), sports demanding upper body strength demonstrate significant disparities between males and females. Moreover, the force of a punch by a male athlete is found to be 163% stronger than that of a female athlete.

The scenario unfolded during the Provincial Golden Gloves Championship 2023 in Victoriaville, Quebec, where cisgender Canadian boxer Katia Bissonnette was to face transgender woman Mya Walmsley. However, Bissonnette was informed of her opponent only

one hour before the match and opted out of the competition, expressing concerns for her safety. Due to the absence of another athlete in Bissonnette's weight category, there was no viable substitution, resulting in Walmsley being declared the default winner.

Boxing Canada has guidelines suggesting that a trans fighter's identity should not be revealed if they transitioned before puberty, but Walmsley's transition history was unclear.

In response to the situation, Walmsley pointed to the fact that trans athletes face risks due to such actions. They could be excluded or attacked based on unfounded rumors. Moreover, she emphasized that transitioning deeply impacts one's life and, therefore is not a choice made for sports competition: transitioning solely for sports is not a valid reason. (Garau, 2023) (Sexton, 2023).

Within the realm of sports where greater upper body strength provides a competitive edge, an interesting experiment was conducted by Zuby, a hip-hop artist and Oxford graduate. In response to assertions contending that biological differences do not influence strength disparities between males and females, Zuby opted to challenge a series of female weightlifting records on Twitter. Notably, he managed to surpass each of these records, showcasing the impact of inherent biological disparities on strength capabilities (McManus, 2019) (Piers Morgan Uncensored, 2023).

Nonetheless, proponents advocating for transgender women's inclusion in competition alongside cisgender women often highlight instances where these athletes do not secure top positions and are surpassed by their cisgender counterparts. Laurel Hubbard, a transgender weightlifter from New Zealand, offers a pertinent example. Prior to her transition, Hubbard set records in various men's weightlifting events in her country. Notably, she became the first openly transgender woman to compete in the Olympic Games. Yet, during the 2020 Summer Olympics in Tokyo, competing in the women's super heavyweight 87-kilograms weightlifting category, she did not progress after failing in all three attempts, ending up last (Ingle, 2021) (Morton, 2022). This might suggest that trans women do not have an advantage in sports such as boxing, weightlifting, and judo, which separate athletes in weight categories, meaning athletes are cast against competitors of a similar size (Magowan, 2018).

The frequency of transgender women not achieving victories against cisgender women could potentially suggest that their participation is not inherently unfair. It raises the possibility that transitioning and undergoing cross-hormone therapy might serve to level the playing field.

Moreover, though, as previously indicated, studies suggest that an advantage persists if the transition occurs after puberty, given the need for further research, in the meantime the consistent instances where transgender women do not secure victories may indicate that any advantage is sufficiently mitigated.

In relation to this, athlete Rachel McKinnon asserts that considering trans individuals have been competing for decades, with only a few ever reaching the highest levels and even fewer securing victories, people should celebrate rather than condemn them when they achieve success (Magowan, 2018).

At present, the situation is marked by controversy, and determining the appropriate course of action proves challenging. This complexity is made worse by the varying degrees of male advantage resulting from puberty across different sports, ranging from those heavily reliant on upper body strength, such as American football or rugby, where the advantage is significant, to sports like horse riding, where no such advantage exists. Given this diversity, while in 2015 all federations had to follow standardized rules, as outlined in Chapter 2, since 2021, instead, different federations are empowered to set their own guidelines for their respective sports (Bydzovsky, 2023).

Following extensive consultations, in November 2021, the IOC released a document titled “IOC Framework on Equity, Inclusion and Non-Discrimination on the Basis of Gender Identity and Intersex”. Here, discrimination or outright exclusion of transgender athletes is prohibited and federations are called upon to establish and determine science-based admission criteria in order to preserve fairness and avoid disproportionate and unfair advantages and/or risks to the physical safety of individuals. The IOC refrains from setting rules with criteria applicable to all federations but proposes a framework for international federations to establish their own rules according to their sport. The new recommendations include: first, eliminating the requirement for transsexual women to lower testosterone levels to compete in the female category; second, rejecting the assumption that a transsexual woman inherently possesses an advantage over other women, leaving it to sports federations to regulate; and third, allowing sports federations the discretion to restrict access to the females’ category to ensure athlete safety and fair competition. Eligibility criteria for each sport should be grounded in research demonstrating an unavoidable risk to the physical safety of other athletes and/or a consistent, unfair, and disproportionate advantage (Bydzovsky, 2023).

Consequently, certain federations are implementing restrictive measures. For example, as seen earlier, the World Athletics Federation has chosen to exclude transgender women from participating alongside cisgender women in international competitions if they have already undergone puberty, stating: “The decisions are always challenging when they involve conflicting needs and rights among different groups, but we continue to believe that we must prioritize fairness for female athletes above all other considerations. We will be guided in this by the science surrounding physical performance and the inevitable male advantage that may develop in the coming years. As additional evidence becomes available, we will reassess our position. However, we believe that the integrity of the female category in athletics is paramount”. Preceding World Athletics, both the Rugby League and World Aquatics had also imposed restrictions in their guidelines (Sessa, 2023) .

Conversely, other federations are adopting more inclusive approaches. For instance, the German Football Organization (DFB) has granted transgender athletes the autonomy to choose whether to compete with males or females. They asserted that: “Experience has shown that this does not jeopardize the integrity of the competition. After all, all individuals have different physical strengths and abilities that lead to success only when combined in a team, regardless of gender” (Sessa, 2023).

A similar approach has been taken by the World Surf League, aligning itself with the regulations of the International Surfing Association (ISA): “An athlete who was assigned male at birth but has changed gender must demonstrate to the Medical Commission of the International Surfing Associations that testosterone level has been consistently below 5 nmol/L in the preceding 12 months”. The decision, however, has not been embraced by everyone. Bethany Hamilton, a renowned surfer who lost an arm in a shark attack, has voiced concerns about the new rules: “I believe that many of the girls currently on tour do not agree with this new rule and fear being ostracized if they speak out. Have any of the current surfers in the World Surf League been asked about their thoughts and opinions on this new rule before it was approved? There should be a conversation with the 17 women and all the men on tour before a rule change like this. And then, is a hormonal level an honest and accurate representation of whether someone is truly male or female?” (Sessa, 2023). Moreover, regarding surfers’ abilities, studies indicate that while females may have better capabilities in attenuating landing forces, which could be a potential advantage in surfing performance, males consistently exhibit higher values in various techniques such as Countermovement Jump Flight Time, Pop Push,

Pop Loading Rate 1, and Pop Unloading Rate 1. These superior values are attributed to the greater upper body strength of male surfers (Fernandez-Gamboa et al., 2019).

In yet other sports, the distinction between females and males is considered non-existent or negligible, leading to their inclusion in the same categories. In these instances, the need for specific restrictions or inclusivity rules is eliminated. Since there is no sex segregation, potentially both cisgender and transgender women could participate in the same category without controversy arising from this. Examples of such sports include equestrian, where men and women compete together based on the shared attributes of being proficient riders, a skill in which gender differences are not evident. Similarly, in sailing, one specific class is mixed, allowing both genders to compete together, while other classes are segregated by sex (Rules of sports, n.d.).

Furthermore, in the realm of motorcycling, both males and females have the opportunity to compete against each other. Nevertheless, due to the generally lower performance levels of women in this domain, there have been calls to create a Women's World Motorcycle Championship, although there have been equally opposing views on the idea. Beatriz Neila, the 2023 Women's European Champion stated: "There have always been women competing against men, but none have reached the top because women and men are physically different, which is why the new Women's World Championship is a present to us, because it allows women to fight for a world title, to see who is the fastest woman in the world". On the contrary, Maria Costello, a Women's European Champion, and the only woman to have been awarded the "Member of the Order of the British Empire" distinction, offered a different perspective: "I love the fact that we can compete on equal terms with men... There are already women racing in the Moto3, Supersport 300, and MotoE world championships, plus team owner Faye Ho is doing amazing things with her all-women team in the British Junior Supersport series. I love what Formula 1 is doing with its F1 Academy, which is nurturing women drivers from the grassroots up. What we need in motorcycling is the same kind of support, not women-only racing" (Quick, 2023). For transgender women, a unified category for both males and females in motorcycling allows their participation without complications. However, if it is determined that separate categories should be established based on sex-related differences, the question would arise regarding whether they should compete alongside cisgender women or not.

The two perspectives regarding women in motorcycling are paradigmatic. On the one hand, some people think that a separate category for females should exist as women have a lower level of strength compared to men, which puts them at a disadvantage in riding competitions. On the other hand, some are of the idea that the lower performance of women in motorcycling is caused by the lack of grassroots support given to them compared to men. This dichotomy mirrors, as will be seen later, the arguments surrounding transgender participation. Advocates in one camp assert that cisgender women face a disadvantage when competing against transgender women due to their biological advantages. Meanwhile, another faction maintains that the inclusion of trans women does not pose a hindrance to women's sports, emphasizing that the true challenges lie in addressing "real" issues such as the unequal support women's sports receive compared to men's sports.

The various existing guidelines elicit varying degrees of criticism depending on the perspectives of those consulted. Some advocate for a more restrictive approach, while others prefer a less restrictive stance. Consequently, behind the ever-evolving and contentious nature of the different guidelines, the fundamental philosophical and ethical question persists: should transgender women participate in sports alongside cisgender women or not?

In the pursuit of gaining deeper insights into this question, this research incorporates first-hand perspectives through a personal communication with former Olympic athlete and activist of the organization Sex Matters, Mara Yamauchi. This interview serves as a valuable source of qualitative data, offering an expert viewpoint on the subject at hand.

4.2 Perspectives on Exclusion.

Mara Yamauchi's journey in the realm of sports spans a lifetime, starting as a child athlete and progressing to semi-elite levels while representing her university. She eventually became an elite athlete, with two Olympic appearances. As a seasoned professional in the world of athletics, the cornerstone of fairness in sports has been a guiding principle for Mara throughout her career. This commitment to fairness became particularly pronounced during her nearly decade-long period as an elite marathon and distance runner. Her first experience with unfairness was when Mara found herself competing against athletes who engaged in doping, resulting in her losing prize money (which she never received back) and potentially even medals. This initial encounter with injustice fueled Mara's awareness of fair play in sports. In

2014, Mara retired from active competition, but her dedication to fairness persisted (Yamauchi Mara, personal communication, 2023).

Mara's engagement with the issue of transgender women participating in sports unfolded in 2021 when weightlifter Laurel Hubbard, as previously mentioned, qualified for the Tokyo Olympics. Disturbed by the perceived injustice of a male-born individual competing against females, especially in a strength-centric sport like weightlifting, Mara began delving into the matter. She discovered a reluctance among female athletes to publicly voice their concerns due to fear of being labeled transphobic and potential repercussions on their careers.

In fact, at first, Mara too was fearful to speak out, but then, inspired by figures like British swimmer Sharon Devis and Maya Forstater. The former was one of the few athletes to speak up, the latter had lost her job because of affirmation regarding the reality of biological sex and the existence of only two biological sexes, but since she won on appeal against her boss, it meant that being able to state such affirmations was protected by UK law. Therefore, Mara found the courage to speak out too. Being one of the few athletes who talked publicly about the issue, she started to be invited to numerous interviews and engagements, but it also subjected her to abuse and professional setbacks, starting from December 2021 and persisting to the present (Yamauchi Mara, personal communication, 2023).

Beyond media interactions, Mara joined the advisory group of Sex Matters, an organization founded by Maya Forstater. This organization, as previously seen in Chapter 2, follows the branch of feminism according to which embodiment matters, and therefore sex matters in some areas (such as sports), and according to which some new rules regarding transgender women only work to the detriment of biological women in many dimensions, including in the dimension of sports.

She also authored articles, delivered talks, and actively campaigned to raise awareness and educate fellow female athletes on the issue of transgender participation in sports.

Opponents of transgender women participating in women's sports, as underscored by Mara, articulate several key concerns. First, they emphasize the critical need to recognize the distinction between gender and sex. While one's gender must be valued, sex too exists and must be taken into account, especially in some areas such as sport competitions. Conflating the two terms undermines the integrity of sports, as acknowledging biological sex differences is essential. Additionally, there are rising concerns regarding freedom of speech, with people fearing potential repercussions for expressing their views on the matter.

Moreover, opponents assert that allowing trans women and cis women to compete without restrictions could potentially erode female sports, creating an atmosphere of unfairness that might deter cisgender women from participating.

Lastly, in some sports unrestricted competition could lead to injury, which has already happened in the past. For instance, recently, a football league in the North of England called “Recreational Women’s Football”, experienced a player being injured at the knee by a transgender woman. Her team and all the other teams consequently refused to play the team with the transgender player, causing the whole league to collapse (Yamauchi Mara, personal communication, 2023). This situation highlights, on the one hand, the potential difficulties, and consequences of allowing transgender women to compete with cisgender women, with some arguing that it could lead to a higher probability of injuries. On the other hand, though, it may be argued that the teams who refused to participate following the incident, were possibly acting out of prejudice, and if they had judged the episode as something that sometimes happens in sports regardless of a trans woman participating or not, the league would not have collapsed.

Navigating the broader discourse on fairness in sports, Mara posits that categories exist to level the playing field and accommodate natural advantages within specific groups.

To become an elite athlete, one must start as a beginner and then slowly go up to the elite level. For Mara, it took 24 years. When she was 11, she knew that she wanted to go to the Olympics, and she finally did go at age 35, during all that time if she had to compete against a male, she presumed that she would have abandoned sports altogether. According to her, there would have been no point in trying as she would have never won. She argued that already there exist a lot of barriers for girls and young women to do sports, and adding this unfairness would be yet another barrier, that could eventually hinder girls from pursuing sports (Yamauchi Mara, personal communication, 2023).

As regards unfairness, as previously observed in Chapter 2, many suggest that sports are already inherently unfair, as a player might be born with a genetic advantage, like the “wingspan” of swimmer Michael Phelps. Instead, according to Mara, the different categories of sports exist because in general, some groups have an advantage over other groups, for instance, adults have a physical advantage over children, young adults have an advantage over old adults, able-bodied people have an advantage over disabled people, and males have a physical advantage over females. Therefore, to let everybody succeed in sports, categories must

be established. If there were no such categories, the only people who would ever win would be adult males (Yamauchi Mara, personal communication, 2023).

In addition, within the male group and within the female group there can be competitive advantages. For example, in basketball being taller is an advantage against shorter players. But these are all celebrated traits in sports as they make the players good at what they do. So, why can't the strengths and advantages that transgender women bring to certain sports when competing against cisgender women be acknowledged and celebrated in a similar manner, as if they were just a genetic advantage? When asked this, Mara pointed to two arguments.

First, if all the aforementioned categories were to be mixed, the female category, the disabled people category, and the children category would all cease to exist.

Second, the size of the gap across categories is massive, but within categories is small. For example, in 2009 Mara was ranked second in the world in women's road running. But, in that year alone, at least 1300 men run faster than her. If distinct categories between males and females did not exist, Mara, who was second best in the world, would never have gone to the Olympics, and would never have won anything. Accordingly, being male or female is not the same as height or foot size (Yamauchi Mara, personal communication, 2023).

These arguments do not mean that trans women should not be able to participate in sports, but it is a question of categories. There is reason to have categories for trans women who are suppressing testosterone, or trans men who are taking testosterone, as they are changing their physical abilities, while transgender women who are not doing anything and therefore have the same body as a cisgender male, should just be placed in the male category (Yamauchi Mara, personal communication, 2023).

In light of these considerations, what solutions would allow trans women to participate in sports? While Chapter 3 has provided various scientific/biological studies on the matter, presenting ways in which trans women could be placed in the same category as cisgender women without biases, Mara has contributed additional analyses to enrich the discourse from the point of view of those who are against trans women participating in sports.

According to her, the simplest way could be to just put athletes in their biological sex category. However, transgender athletes would not be happy with that. The issue is less controversial for transgender men compared to transgender women, as the former usually just participate in the female category or if they participate in the male category they have no advantage against their cisgender counterparts (Yamauchi Mara, personal communication, 2023).

Another way would be to create a third category, therefore there would be a male category, a female category, and an open category. Indeed, according to Dr. Nicola Williams, a spokesperson for Fair Play For Women the best solution would be to allow trans women and trans men in an open and universal category, with a separate category allowing only cisgender women (Ingle, 2021). Mara Yamauchi reflecting on the open category, pointed to some issues that could arise. For instance, in July 2022 World Aquatics had said that they wanted to work towards creating an open category to be more inclusive, and they worked on doing that for a year. However, in October 2023, when they had the first world-level competition with this new category, they had no entries. Hence, it seems that trans individuals do not want to participate in that category either (Yamauchi Mara, personal communication, 2023).

Another issue that arises is the monitoring of compliance by trans women with the rules. To exemplify, there has been a case of a transgender woman competing in the female category in running who told the federation three different things on three different occasions: first, that she was born female, then became male, and then went back to female again. Then she said that she was born male but was now female. Another time she said that she had a disorder of sexual development (DSD). Only one can be true, therefore she lied, and the federation just believed her (Yamauchi Mara, personal communication, 2023).

In another instance, a trans woman named Glenique entered the London marathon in the female category unaware of the rules, and again there was no monitoring (Mara Yamauchi, personal communication, 2023). Nearly 14,000 cisgender women suffered a worse position because of this. On her part, Glenique later apologized and said that according to her, categories for transgender people should be introduced, and that “the world of sport needs to now look at having separate sporting events” (Constantin, 2023) (Brown, 2023).

Some of Mara Yamauchi’s arguments have been reiterated by athlete Nancy Hogshead-Maker, winner of three Gold Medals at the 1984 Olympics in Los Angeles and now head of Champion Women, an advocacy group for women’s equality in athletics: “To have somebody competing who does have this unfair advantage, even if they do not win, it still corrupts the field. They think that women should just move over and say, ‘Here you go. You take these spots.’” (Cohen, 2022).

Making the example of the previously analyzed case of Lia Thomas, she is of the opinion that she has greatly impacted women’s sports, because when Lia is in the finals, it means that

another woman does not make it there. She argued, “we can’t ask women to give up what we’ve worked so hard for, so that transgender women are able to compete.” (Cohen, 2022).

With regard to the IOC guidelines, according to Mara, the statement explaining that federations should not assume any advantage on the part of trans women is “absurd”, because males have an advantage in practically all sports, even in archery or snooker, however small it may be, an advantage persists.

Asked about alternative methods aimed at mitigating advantages and ensuring equitable competition between transgender women and cisgender women, such as employing staggered starts or implementing a handicap system, as proposed in Chapter 3, Mara expressed disapproval of these approaches. According to her, sports celebrate excellence and to say that a male who starts 20 meters behind is the same as a female is misguided. Is like saying that a disadvantaged male is exceptional and must be celebrated. Instead, in sports, athletes train to become better not to become worse. The point of running competitions is to run fast not slow, the point of high-jump is to jump high not low, and the purpose of tennis competitions is to win not lose. Using these methods, according to Mara, is more about diminishing the performance of athletes, which is contrary to the very ethos of sports (Yamauchi Mara, personal communication, 2023).

This first-hand account has served as a prominent illustration and a definitive representation of the perspectives espoused by the branch of feminism that underscores the significance of embodiment in the discourse surrounding transgender women in sports, as discussed in Chapter 2. It offers a comprehensive and nuanced exploration of their viewpoints, providing insights into their stance on the matter.

4.3 Perspectives on Inclusion.

By contrast, moving to the opposing facet of the debate, Transfeminism and more generally those who reject biological essentialism, challenge the notions mentioned above, raising ethical and philosophical inquiries. If transgender women are women, how can their involvement in women’s sports pose a threat, and how can their winning be unfair? Even in a scenario where transgender women consistently excel, how does it differ from any other woman’s success, if they are to be considered women in every respect?

To grasp the perspective of this strand of feminism on the issue, the main arguments brought by those in favor of transgender women's inclusion in sports will be analyzed. Additionally, gaining insights from transgender athletes' viewpoints will be instrumental, just as was previously done with those opposing the inclusion of trans women.

Veronica Ivy, formerly known as Rachel McKinnon, is a transgender competitive cyclist who, while competing in the female category, won a World Track Cycling Championship in 2018 and set a record for the 200-meter sprint in 2019. Moreover, she is an assistant professor of philosophy at the College of Charleston in South Carolina and an activist ("Veronica Ivy", n.d.).

Following her athletic achievement, she has faced substantial online criticism, including from Donald Trump Jr. As a transgender rights activist, one of Ivy's arguments centers on the notion, previously mentioned, according to which inherent advantages already exist within categories (McKinnon, 2019). This contrasts with the perspective of those opposing the inclusion of transgender women in the female category, as seen in Mara Yamauchi's interview.

This notion is one of the main arguments used by those in favor of the inclusion of trans women in the female category. Even if, hypothetically, trans women were superior to all cisgender women across all sports (though this is not the case in reality) the question arises whether such superiority should warrant their exclusion from sports. To draw a parallel, if all tall men were better than all short men across all sports, they would nonetheless not be banned from them. The same applies to trans women (Williams, 2019). However, a counterpoint might posit that if tall men consistently dominated, while they would not be banned, it could lead to the creation of size-based categories, akin to weight classes in sports like boxing and weightlifting. Therefore, in the event of consistent superiority by trans women over cisgender women in all sports, it could be conceivable that a similar thing would happen.

Ivy contends that women encompass a diverse range of shapes and sizes, emphasizing that many elite cyclists surpass her in stature. And, additionally, to the already existing inherent physical advantages present in elite sports, there are also social and economic advantages that some athletes enjoy. For example, some have access to superior coaches, facilities, and equipment, while others do not. Moreover, to counter the notion of an unfair advantage, she points to her own racing history, revealing that she has lost the majority of her races. For instance, in the twelve times she competed against athlete Jennifer Wagner, Wagner emerged

victorious seven times. This challenges the narrative that Ivy, as a transgender woman, consistently has an upper-hand against cisgender women. Therefore, the inclusion of transgender women in the female category does not signal the demise of women's sports (McKinnon, 2019) (Magowan, 2018).

According to McKinnon, “there is no evidence that participation drops among cis women when a trans woman is present so we should never set our policy based on people who are fearful of trans people. That is the definition of transphobia”, instead “participation tends to improve when you make a sporting place more inclusive” (Magowan, 2018). Indeed, for those who argue that allowing trans women to compete might discourage cisgender women from participating in sports, a compelling counterpoint is presented. Consider the case of Michael Phelps, whose dominance in swimming did not deter his competitors; rather, it inspired them to try harder, even when winning against him seemed “impossible”. If a cisgender woman were to win 10 gold medals, creating an environment where others felt defeating her was unattainable, is it fundamentally different from a trans woman occasionally securing a victory? The mere act of winning does not necessarily prove an unfair advantage. Moreover, if the competition is fair, if there is a level playing field, it is expected that a trans woman, like any athlete, would triumph occasionally. Instead, the absence of victories would indicate that the field is not “level”, just as consistent wins would. Competition is not fair only when trans women lose against cisgender women (Williams, 2019).

Transgender women are in general few, and those who practice sports at an elite level are even fewer. Consequently, their participation in women's teams is unlikely to have a significant impact. Moreover, they are part of a category of women who are often marginalized and vulnerable, and anti-trans sports bills “represent a cruel effort to further stigmatize and discriminate against LGBTQ+ people”, according to the Human Rights Campaign (Lopiano, 2022). Hence, when an individual does not align with the gender assigned to them at birth, it is crucial for their well-being to facilitate their social transition, which includes letting them participate in sports based on their self-identified gender. Indeed, Dr. Deanna Adkins, drawing from her experience with patients, highlights that excluding trans athletes from teams that correspond to their gender identity can have profound negative impacts and disrupt their overall treatment. Accordingly, excluding trans people from any space and activity is harmful, particularly for trans youth, who may experience detrimental effects on their physical and emotional well-being from this exclusion. According to Dr. Adkins, “When a school or athletic

organization denies transgender students the ability to participate equally in athletics because they are transgender, that condones, reinforces, and affirms that transgender students are outsiders who deserve the hostility they experience from peers” (Strangio et al., 2020). This raises a moral dilemma about whether it is justifiable to exclude transgender individuals from their identified sports category, given the potential harm to their well-being, particularly within a group that is particularly vulnerable in today’s society.

A broader perspective suggests that the current sports framework is overly rigid, prompting calls for a reevaluation of established categories separating males from females. Organizations like Uisp in Italy advocate for a shift in this paradigm, emphasizing the centrality of the individual and asserting that sports should be a universal right for everyone (Uisp, 2021).

It is, furthermore, sometimes argued that the segregation of sexes in sports is not due to biological advantages between males and females. Instead, it is contended that historical gender biases relegated women to a secondary status, restricting their participation in competitive sports. Even when eventually women gained access to sports, they were placed in separate categories than men. According to this perspective, sports both mirror and shape societal attitudes, suggesting that segregation in sports is more a consequence of sexism than biology (Magowan, 2018).

Contrary to those framing the discourse on trans women in sports as a clash between the rights of trans women and the rights of cisgender women, some argue that there is no inherent conflict between them. As declared within the seven Fundamental Principles of Olympism, “The *practice* of sport is a human right”. Considering that participation in competitive sports is a human right and trans women are *legally* female, they belong in women’s sports. Or, to put it differently, the practice of sports is a human right according to the IOC Charter, and sex is a matter of legal recognition, according to the Court of Arbitration for Sport (CAS). It follows that, since trans women can be legally recognized as female, they should have the human right to participate in competitive sports as women (Magowan, 2018).

By contrast, concerns about perceived competitive advantages or of not feeling “safe” are not instead rights in any institutional or legal sense. However, international human rights frameworks typically include provisions to justify actions that might otherwise be discriminatory. To exclude a group of people based on an alleged competitive advantage, such a policy would need to be: in service of a worthy social goal, necessary and effective at

promoting that goal, and the benefit to society must be proportional to the harm caused by the policy. It is argued that trans-exclusionary policies fail on several fronts, except that the policy might be in service of the social goal of “fairness in competition”. However, if the argument that advantages and thus unfairness already exist within categories is accepted, then the argument for fairness through exclusion loses its standing. The contention is that no identified competitive advantage attributed to trans women is sufficient to justify exclusionary policies as necessary and effective in promoting fairness in sports, especially given that other competitive advantages within women’s sports are already allowed (Magowan, 2018).

Supporters of trans women’s inclusion also argue that the “protection” narrative, used to justify excluding transgender women from competing against cisgender women, is merely an excuse to further marginalize trans individuals in yet another sphere. They posit that embracing the inclusion of trans women in sports would be a benefit and would promote values of non-discrimination. Helen Carroll, a coach and sports policy expert, elucidates that attempts to exclude specific groups of girls or women from sports can not only erode team unity but also foster divisiveness by questioning and policing who is “really” a girl or a woman” (Strangio et al., 2020).

Numerous transgender athletes, having firsthand experience with the issue, have emerged as advocates and proponents of inclusion, offering their perspectives that serve as exemplification of the transfeminist discourse in the debate on the participation of transgender women in sports. This work has previously examined Veronica Ivy’s discussion on the matter, now it will consider other testimonies.

Schuyler Bailar, who is the first transgender athlete to compete on the Division 1 men’s team in college, shared his perspective to dispel misconceptions about transgender individuals in sports. Over four years at Harvard, he contributed to the men’s team and has become a passionate advocate for inclusion, shedding light on the experience of being a transgender athlete, as he thinks that a lot of misinformation and disinformation surrounds the subject. He, countering the opinion of some, according to which men will pretend to be women to win women’s sports, states that if someone is afraid of cisgender men masquerading as women to win women’s sports, they are afraid of cisgender men, not transgender women (Human Rights Campaign, 2022).

He also reiterates that biological diversity already exists within the categories. However, when they exist within the men's category they are usually celebrated. The same is not true for women, especially when a woman does not fit what people think a female athlete should look like. They are often called too masculine or too strong, and this happens especially if the athlete in question is black or brown. For instance, Serena Williams despite making history by winning 21 grand slams, was critiqued for her body shape, with people focusing mostly on that instead of her victories. This happens to transgender women athletes too. These attacks are riddled with racism, sexism, misogyny, and transphobia (Human Rights Campaign, 2022).

Against the aforementioned narrative of "protection" for girls in sports, Bailar argues against excluding transgender girls, as to implement such exclusions many US states are already using invasive tests like genital testing, gender verification, and body examinations. This policing of girl's bodies, he contends, poses a greater risk to the female category than the inclusion of transgender girls (Human Rights Campaign, 2022).

Bailar also highlights the inconsistency of those claiming to prioritize fairness in women's sports, pointing to the fact that most people who claim to care about the issue are indifferent towards the pay gap between women athletes and men athletes, and toward the sexual assaults against women athletes. These are the problems threatening women athletes and the women's category, the inclusion of transgender women in sports, instead, is not. He highlights that there is a lot of propaganda from people in power who use the feminist argument of "protecting women" to sway people who care about feminism, equality, and women's sports in order to make them think that excluding trans women is the right thing to do. However, according to him, true protection of women in sports means safeguarding all women, including transgender women. Especially as the real threats to women athletes and the women's category lie elsewhere (Human Rights Campaign, 2022).

One of the most prominent advocates of trans inclusion is Chris Mosier. He initially entered triathlon competitions as a woman, but publicly identified as a transgender man in 2010. His journey led him to secure a place on Team USA's spring duathlon men's team for the 2016 World Championship. Recognized as the first transgender man to represent the US in international competition, Mosier played a pivotal role in influencing the IOC to revise its policy concerning transgender athletes. Notably, he holds the title of a 2-time National Champion and stands as the first transgender athlete to participate in the Olympic Trials for

any sport in a category different from their assigned sex at birth (Morton, 2022) (thechrismosier.com, n.d.).

According to Mosier, the notion that “inclusion” and “fairness” are mutually exclusive is misguided. It is not a binary choice that requires a sacrifice of one or the other in order to safeguard either inclusion or fairness. Indeed, sports can be fair and inclusive at the same time. Trans women are women and should be allowed in women’s sports. Mosier, indeed, points out that globally, trans women and trans girls have participated in sports at various levels, with only a few achieving success. Most of all, it is unfair to ban trans people from sports, but just as unfair to allow them to play but not excel in what they love (Zirin, 2022).

Addressing the rallying cry to “protect girls’ sports”, Mosier echoes Bailar’s sentiment, outlined above. Girls do not require protection but rather opportunities, resources, and investment in women’s and girls’ sports. Mosier contends that attacks on trans individuals in sports stem from the same gender discrimination and stereotypes that have hindered cisgender women in sports for centuries. He suggests that these phrases have been meticulously tested to see what resonates with voters, crafting messaging to propose “solutions” for a “problem” that does not genuinely exist (Zirin, 2022).

Instead, Mosier stresses that the genuine challenges confronting women’s sports today revolve, as previously elucidated, around issues such as the imbalances in resources, compensation, and media attention; the prevalent harassment and abuse targeting athletes and women in sports; and the disregard for the principle of gender equality. According to him, and in alignment with advocates of transgender women’s inclusion in sports, the primary emphasis should be on addressing these issues rather than fixating on the participation of transgender women in sports (Zirin, 2022)

5. Conclusion

This work has contextualized the discourse surrounding the inclusion of transgender women in sports by initially delving into the political and philosophical dimension of the debate. In particular, it was found that within feminism two fundamental lines of thought exist. On the one hand, a branch advocates for rejecting biological essentialism, in line with transfeminism. When it comes to sports, it would mean that biology should not be considered as a factor when deciding if trans women should participate in the female category of sports. Trans women are women and as such should be placed in the women's category. For them what matters is gender, not sex. On the other hand, the opposing branch emphasizes the significance of embodiment and biology in feminism, as they have social consequences for women. It follows that sex matters for feminism in several instances, including in sports. Consequently, this perspective argues for either limiting or altogether preventing the participation of trans women in sports, asserting that the decisive factor should be biological sex rather than gender identity.

Subsequently, this examination delves into the scientific and biological aspects of the discussion. Comparative analyses of male and female results in sports and scientific research reveal that transgender women generally maintain a competitive edge against cisgender women, even after undergoing years of hormone therapy. However, scientific research is still limited in this area, which has only recently garnered attention. More research is, therefore, warranted before definitely establishing that trans women are advantaged in sports. Nevertheless, in the event that a persistent advantage is conclusively established, aligning with the current findings in the ongoing research, the explored studies suggest potential remedies for enabling transgender women's participation in the female category while mitigating their inherent advantage. For instance, a "luck scale" could be implemented. A transgender athlete would, thereby, only be credited for their skills rather than any genetic advantage. This scale, even though with some difficulty, could potentially be expanded to any "luck" or advantage that any athlete may possess. Another solution could be introducing a handicap system to assist the players and make them compete on an equal footing, irrespective of individual advantages.

The initial two chapters have demonstrated that the discourse can be characterized as a clash between philosophical considerations and physiological ones. While both perspectives

incorporate ethical and biological elements in their respective arguments, the crux of the debate revolves around the prioritization of either philosophy or physiology.

After delving into the philosophical and physiological contexts, the third chapter shifts its focus to the examination of various case studies. This involves scrutinizing instances where transgender women have participated in the female category, and assessing the outcomes they achieved. Additionally, the chapter explores existing guidelines, which currently grant federations the autonomy to decide whether to include or exclude trans women from the female category. This discretionary power sometimes leads to controversy and does not offer a conclusive resolution to the ongoing debate regarding the inclusion of transgender women in sports competitions with cisgender women.

Thereafter the analysis proceeds to scrutinize diverse arguments and positions within the debate. Testimonies from experts and transgender athletes, including a personal communication with Mara Yamauchi, a former Olympic athlete and advocate for Sex Matters, are presented. This methodological approach was chosen to offer more nuanced and first-hand insights into the subject matter.

In conclusion, this work has undertaken an analysis of the evolving discourse surrounding the inclusion of transgender women in sports, a topic gaining increasing attention. The decision regarding their participation in the female category necessitates a multifaceted consideration of ethical, philosophical, and physiological aspects.

To give a definitive answer to the question of whether transgender women should be placed in women's sports or men's sports, more in-depth scientific and biological research must be done. Moreover, it will possibly take a lot of trial and error to discover the appropriate course of action. However, even then, the philosophical/ethical aspect of the question could lead people to advocate for either their inclusion or exclusion, regardless of scientific results.

Excluding entirely trans women would be ethically wrong, considering the sociological and psychological repercussions this choice might have on a vulnerable and discriminated group and the fact that sport is a human right.

Furthermore, if biology and the sex assigned at birth are disregarded completely, and if transgender women were to consistently triumph against cisgender women, it would ultimately still be women winning and thus not unfair, as transgender women are women.

However, if biological sex is still considered a relevant factor, additional research is imperative. Current studies suggest that transgender women who transition after puberty retain a competitive advantage, necessitating the exploration of various solutions. While some advocate for just placing them in categories aligned with their biological sex, others propose innovative measures like a “luck scale” or a handicap system to balance fairness and inclusion simultaneously. Future studies should explore alternative solutions to try to satisfy everyone.

Moreover, this analysis suggests a potential avenue for future work by investigating the intersection of “reality” and feminism. Indeed, some feminists have decided to disregard biological sex entirely, not only in sports but across various domains. They contend that biological sex is socially constructed, and what matters is the gender in which the individual identifies. Any difference grounded on sex, according to them, must be ignored, because to consider them would mean to qualify transgender women as not entirely women. However, to be “blind” in front of the reality of the sexes might have negative consequences. As was seen in Chapter 2 of this work, biological sex has consequences in various areas, for instance, it matters in medicine, and to disregard it completely might be detrimental and not beneficial to society.

Allowing the belief that biological sex exists would not mean that trans women are not women and trans men are not men, and it would not mean that their preferred gender must not be respected, but simply that trans women were born with a sex in which they do not identify. This should not be a taboo.

Indeed, as expressed by Chambers in *Intact: A Defence of the Unmodified Body*, the materiality of the body cannot be denied. Bodies exist and function even without our culture’s intervention. Denying the realities of bodies impedes our ability to understand how bodies function in the world, their physical needs, and the impact of the environment they live in and of the politics that controls them (Chambers, 2022).

Accordingly, gender identity should be recognized, but also biological sex should. Sex and gender should not be placed in competition (Stock, 2021).

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