

# Formal Gender Theory for Sports: Comments on the 2022 World Aquatics Eligibility Policy

V1.0, comments are appreciated

Jan A. Bergstra  
[j.a.bergstra@uva.nl](mailto:j.a.bergstra@uva.nl), [janaldertb@gmail.com](mailto:janaldertb@gmail.com)  
Informatics Institute, University of Amsterdam,  
The Netherlands

Laurens J. Buijs  
[laurensbuijs@protonmail.com](mailto:laurensbuijs@protonmail.com)  
La Convivencia, Amsterdam, The Netherlands

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## Abstract

In recent years all elite sports are confronted with issues related to gender and gender transition. Aquatic sports is taken into consideration as a case study. The link between (gender) theory and practice is far from obvious in the case of sports. It is concluded that defining a policy on gender in sports does not depend on the choice of any particular answer on the famous questions “what is a woman” and “what is a man”. Instead answers are implicitly presumed on the questions: “what is a prototypical adult female” and “what is a prototypical adult male”, where prototypical means something like ‘biological beyond reasonable doubt’. Gender theory as yet is ill-prepared for responding to these particular questions, if these questions are considered legitimate one’s at all. For team sports and for individual sports the issues related to gender may differ. The focus of this paper is on individual sports, a case which we expect to be simpler than sports conducted in pairs or in groups. From

the 2022 World Aquatics eligibility policy a particular version of gender theory is derived. That version of gender theory may be considered fully transinclusive, and at the same time it qualifies as an MotR (middle of the road) approach to gender theory.

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# 1 Introduction

International elite sports are organized by institutions taking responsibility for bundles of families of sporting disciplines. Examples are aquatics and athletics. Some institutions have a more narrow scope, e.g. in the case of chess.

A conventional manner of looking at such events is that events for men (male participants) and for women (female participants) are distinguished. This terminology suggests that some competitions are meant for men and other competitions are meant for women. Nevertheless, the situation is different, at least in the case of aquatic sports which we will discuss in more detail in the paper. This paper aims at making progress on question 3.10 as listed in [7].

## 1.1 2G competition category splitting

Many sports, including aquatics, split competition categories in men's and women's, thereby obtaining so-called sex-segregated competition categories.

**Definition 1.1.** (Sex-segregated competition categories.) *Important competition categories are: 'men's competition' and 'women's competition', many other competitions categories may be distinguished: for instance (i) open (irrespective of gender) competition for individuals of age below 18, (ii) women's competition for persons with nationality A, (iii) men's competition for students of institution B, etc.*

Working only with 'men's competition' and 'women's competition' is alternatively named 2G based competition category splitting. On the long run one may imagine 3G based competition category splitting. In this paper we will discuss the foundations of 2G based competition splitting in the special case of individual aquatic sports.

## 1.2 World aquatics as a case study

In [23] FINA has laid down its policy on admission of persons to sports events fitting under the umbrella of World Aquatics. By doing so FINA implements the suggestion of the IOC (see [17], [19] and [15]) that policies concerning gender and transinclusion are designed by the existing international organizations for coherent bundles of sports thereby taking responsibility of their bundle of sports categories.

The following quote from [23] indicates why sex differences matter for (aquatic) sports:

Historically, Aquatics sport has been separated into men's and women's competition categories. The separation reflects the sport's commitment to: (1)

ensuring equal opportunity for both male and female athletes to participate and succeed in the sport, including through the equal representation in its programs and competitions of athletes of both biological sexes; (2) ensuring competitive fairness and physical safety within its competition categories; and (3) developing the sport and promoting its popular appeal and commercial value. Because of the performance gap that emerges at puberty between biological males as a group and biological females as a group, separate sex competition is necessary for the attainment of these objectives. Without eligibility standards based on biological sex or sex-linked traits, we are very unlikely to see biological females in finals, on podiums, or in championship positions; and in sports and events involving collisions and projectiles, biological female athletes would be at greater risk of injury.

The objective of differentiating men’s and women’s competition categories is based on the objective to allow biological females fair chances of winning prizes.

**Claim 1.1.** *From the onset the World Aquatics policy on differentiating men’s and women’s competition categories is not based on any definition of men and/or women. Gender theory is taken out of the equation by explaining and motivating policies and procedures in terms of biological males and biological females, notions for which (in [23]) no definitions are given, quoted, or referenced, however.*

In practice this means that “men’s competition category” stands for “adult male participant’s competition category” and “women’s competition category” stands for “adult female participant’s competition category”. By consequence a large part of gender theory is shipped out of the discussion: definitions of men and of women do not matter anymore.

## 2 Dembroff versus Byrne in practice

Byrne’s claims AHF (a woman is an adult human female) and AHM (a man is an adult human male) from [14] have been strongly rejected by Dembroff in [16], thereby giving rise to an ongoing controversy of both philosophical and practical relevance. In [2] and with more detail in [3] we have argued why we consider AHF and AHM to be invalid,<sup>1</sup> while in [5] we have argued that conditional versions of AHF and AHM may be valid, and may certainly be more easy to argue for, and therefore less vulnerable to criticism. In [3] we claim that AHF and AHM express a convincing underlying intuition which, however, is expressed even better and more solidly by some of the conditional forms of both assertions.

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<sup>1</sup>The same observation was made in [18] though less convincingly than in [3].

Now the very existence of a protracted controversy concerning AHF and AHM indicates that (i) adult human male and adult human female are to some extent well-understood notions, while (ii) men and woman are controversial concepts for which different interpretations exist, even among those who agree on the meaning of adult human male and of adult human female. The notion of biological sex (b-sex) is far from obvious and in [3, 5] we have suggested various ways for dealing with the lack of clarity of ‘biological sex’ as a philosophical notion.

It is a practical outcome of the public debate on AHF and AHM that institutions like FINA may choose to opt for the clarity of ‘adult human (fe)male’ as a carrier for phrasing their policies, and choose against phrasing their policies in terms of men and women, or more generally in terms of formal gender with neutral as a third gender.

**Claim 2.1.** *The notions ‘adult biological male’ (or equivalently adult human male) and ‘adult biological female’ (or equivalently adult human female) are still hard to define in an uncontroversial manner.*

**Claim 2.2.** *The World Aquatics policy of [23] has been designed in such a manner as not to depend on precise definitions of ‘adult biological male’ and of ‘adult biological female’. Instead the policy (implicitly) makes use of indicative definitions of less extensive concepts: ‘prototypical adult biological male’ and ‘prototypical adult biological female’.*

**Claim 2.3.** *‘Men’s competition category’ and ‘women’s competition category’ are technically outdated phrases which are left in use (by World Aquatics/FINA) for historical reasons and perhaps also for commercial (including PR) reasons.*

**Claim 2.4.** *(Colloquial embedded use of ‘man’ and ‘woman’) ‘Men’s competition category’ and ‘women’s competition category’ are useful and informative phrases assuming that ‘men’ and ‘women’ may be used in a colloquial manner without creating any legal implications and without an implicit or explicit reference to the legal use of ‘man’ and ‘woman’.*

*Sportsmen and sportswomen may be used in a similar colloquial manner, that means without any claim or even suggestion that sportsmen are legally men and that sportswomen are legally women.*

*If man, woman, men, or women, are used in an embedded manner (e.g. men’s competition category, where men is not used as a predicate but rather as an adjective) and if a colloquial meaning is intended then we will speak of embedded colloquial use of man, woman, men, or women. Such embedded colloquial use of these terms is acceptable.*

## 2.1 A World Aquatics version of gender theory: GT-WA-2022

From [23] one may extract a version of gender theory, which we will refer to as GT-WA-2022. The principles of GT-WA-2022 are as follows:

1. A 3G form of GT is accepted as a framework. Some individuals may have neutral b-sex (i.e. be ANAB, assigned neutral at birth).
2. In GT-WA-2022 no requirements are imposed on (or assumptions made about) the notions: man, men, woman, women, gender, transgender, transman, transwoman, gender neutral person, gender identity and gender categorization.<sup>2</sup>
3. GT-WA-2022 creates no new rights for men or for women, and for that reason neither gender equality nor transgender rights play any role.
4. GT-WA-2022 motivates its regulations and policies in terms of prototypical (adult) human males and prototypical (adult) human females. It is neither assumed nor rejected that prototypical adult human males are men, and it is neither assumed or rejected that prototypical adult human females are women.
5. GT-WA-2022 permits the embedded colloquial use of ‘man’ and of ‘woman’.<sup>3</sup>
6. GT-WA-2022 restricts the use of ‘man’ and of ‘woman’ to be embedded colloquial use of ‘man’ and of ‘woman’.
7. GT-WA-2022 permits the organization of sports events that are classified as belonging to the men’s competition category and of sports events that are classified as belonging to the women’s competition category. Such events are understood as a service to all humans without exception.
8. On the basis of GT-WA-2022, there is no implication (and there cannot be any implication) whatsoever that participants of (wo)men’s competition category events are in fact (wo)men.<sup>4</sup>
9. If in some jurisdiction the authorities insist that participants of (wo)men’s competition category events must always in a legal sense be (wo)men, then such requirements are in contradiction with GT-WA-2022. In other words: GT-WA-2022

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<sup>2</sup>For the latter two notions see [1].

<sup>3</sup>When this aspect is ignored accusations (see [9, 10]) are likely to be issued (towards FINA) of lacking transinclusiveness. Other forms of ‘wwoke criticism’ (see e.g. [11]) may also arise.

<sup>4</sup>In particular there is no promise (see [13]) that each (wo)man may participate in all (wo)men’s competition category events.

requires of a jurisdiction in which an aquatics sports event is organized under the umbrella of WA that said jurisdiction in principle allows non-women to participate in a women's category event and non-men to participate in a men's category event.

10. Exclusion from participation to an event under the GT-WA-2022 umbrella is only possible on the basis of the WA policy (no interference from the side of local authorities may be accepted).
11. GT-WA-2022 does not contribute to gender erosion (as coined in [6]) because it strongly supports two key notions that are of importance to opponents of gender erosion: prototypical adult (human) male and prototypical adult (human) female.
12. GT-WA-2022 claims to be 100% transinclusive because it is not transexclusive.
13. GT-WA-2022 is an MotR (middle of the road) version of gender theory because it avoids taking sides in the highly problematic controversies that come with any approach to detailing the notions man, woman, gender, transgender, transmale, transfemale and neutral. GT-WA-2022 allows cooperation with national sports organizations in a wide range of jurisdictions.

GT-WA-2022 fits in the listing of gender theories in [8]. In the transinclusiveness ordering GT-WA-2022 ranks at the top by not making any transexclusionary assumptions.

### 3 Eligibility criteria

What remains from gender theory is the presence of persons with neutral gender (neutral b-sex) and the question to what extent neutral persons have adequate opportunities for sports competitions. The latter question (for aquatics sports) is left unanalyzed in [23].

For any national or international elite sports event there is an eligibility mechanism. A crux of the mechanism is to have eligibility conceptually independent of gender theory, or rather of any preference for a version of gender theory.

**Mechanism 3.1.** (Eligibility mechanism) *For each bundle  $S_b$  of sports and for each particular specialty  $S \in S_b$  a competition event  $E$  of say competition category  $C_E$  has criteria  $CR = C(S_b, S, E, C_E)$  of eligibility. These criteria specify under which conditions a person  $P$  may participate in  $E$ . The criteria  $CR$  are best phrased in terms of measurable properties of individuals, and of their medical histories.*

An eligibility mechanism expresses criteria in terms of objective biological, physiological and medical data regarding a person's constitution and history.

The very intuition that, as a matter of principle, a man may participate in a men's competition and a woman may participate in a women's competition is uninformative, if not simply wrong. Instead the relevant intuition is as follows:

**Claim 3.1.** (Basic assumptions/intuitions about eligibility.)

(i) *Any prototypical woman is highly likely to be eligible for an elite sports women's competition category event, say  $E$  of sports category  $S$ , and*

(ii) *other persons (who may or may not be women) may participate under certain restrictions. Relevant restrictions are set by the relevant international institution which, so it is intended, complies with the guidelines as proposed by the IOC.*

(iii) *For an increasing number of sports and in most kinds of competitions all individuals are eligible for participation in men's competition category events.*

(iv) *For many types of events there are specific conditions regarding the medical history of participants, including the use of drugs, supplements etc.*

(v) *(Legal) formal gender (legally being a man, a woman, or being neutral) is not a criterion for eligibility in a sports event, neither is it a component of any criterion on that matter.*

Now two types of questions arise: (i) why is the distinction between various competition categories made at all, and (ii) how to motivate the criteria  $C(S_b, S, E, C_E)$  for a particular case.

## **4 A rationale for distinguishing men's and women's competition categories**

Competitions for young participants may be motivated as means to involve young and now participants in a sportive discipline. For the men's and the women's categories a different motivation is needed. The argument runs as follows:

1. Notion of a prototypical adult male and of a prototypical adult female are supposed to be available. Derived (as an equivalent alternative) from prototypical adult male is prototypical sportsman (an instance of colloquial embedded use), and derived (as an equivalent alternative) from prototypical adult female is prototypical sportswoman (again an instances of colloquial embedded use). A prototypical sports(wo)man regularly engaged in events of a certain sport. Defining a prototypical sports(wo)man will be controversial but it won't be hampered by the conceptual problems occurring when looking for a definition of (wo)men.



Prototypical sports(wo)men are understood not to be transgender (wo)men.<sup>5</sup>

2. For aquatics sports policy primarily the notion of a prototypical adult female matters when it comes to excluding some category of persons (among which some prototypical adult men) from participation in women's competition categories, and for that reason we will only discuss prototypical women below. By consequence our discussion is not sufficiently general to include sports events where prototypical men would intentionally not be admitted such as women's gymnastics, women's figure skating etc. It will require additional work to extent our discussion to such sports competition categories.
3. Care must be taken that the notion of a prototypical woman imposes no constraints on color, sexual orientation, race, nationality, age, weight, length, family structure, political views, societal role, and education.
4. Defining a prototypical adult female is non-trivial. We provide a preliminary definition. The idea is that a definition of this kind implicitly underlies gender policy in sports (at least in the case of aquatic sports as detailed in [23]).

**Definition 4.1.** *A person is a prototypical adult female if*

- (i) *she has age above 15, has 46 XX karotype,*
- (ii) *she has well developed (female) genitals, testosterone levels below a certain threshold (the average for their age of persons with 46 XX karotype), gonads developed as in at least 50% of the person of heir age with 46 XX karotype,*
- (iii) *she may produce gametes of a comparably sufficient size at least, and*
- (iv) *she has not been treated with additional testosterone (for whatever medical or non-medical reason) during puberty.*

5. Prototypical adult females make up say 45% of the human population (above the age of 15). (We notice that it is not workable to say that prototypical adult females make up 90 % of all women because a claim of that form would require a definition of women, which is both notoriously hard to obtain and is bound to be controversial.)
6. Women's competition category  $C_E$  may involve age limitations (say age above 50) and/or weight limitations (say weight below 70 kg).

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<sup>5</sup>The notion of a prototypical (wo)man is by no means new. Often the connotation of that term is a person who clearly socializes and behaves in certain stereotypical ways. What we have in mind, however is being prototypical in terms of biology and (and to a lesser extent of physiology). In order to prevent confusion with other usage we will not use the phrase 'protoypical woman' but we may use 'bio-prototypical woman'.

7.  $C_E^{open}$  is the open version of competition category  $C_E$ , where it is assumed that age and weight limitations are preserved, while other constraints are omitted. Plausibly some prototypical men qualify for participation in  $C_E^{open}$  events.
8. Then there is a choice to be made: either
  - (i) it is assumed (or better established on the basis of scientific evidence) that in an open sports event of competition category  $C_E^{open}$ , where the strongest male performers participate, a prototypical adult female has almost no chance of winning.<sup>6</sup> Or,
  - (ii) otherwise it is assumed (or better established on the basis of scientific evidence) that some prototypical adult female may be up to the level of performance of the strongest male performers in  $S$  (thereby having a fair chance of winning), and moreover these prototypical adult females may achieve the needed level of performance through a regime of exercise and training that is comparable with the time and energy that male top performers have to invest for achieving their competence levels.
9. In case (ii) there is limited motivation for distinguishing a women's competition category from the men's competition category. We will not enter into this part of the debate which has rather to do with sports education and sports marketing rather than with top level competition per se. In case (i), however, an argument for the distinction of both competition categories may be found: creating competition categories (for sports specialty  $S$ ) which provide prototypical women with a fair chance of winning competitions.

## 4.1 Center out versus demarcation driven focus on women

The World Aquatics eligibility policy is based on two explanations:

(i) An explanation of why men's and women's competition categories are distinguished. This explanation is phrased in terms of biological females (see the quote in Paragraph 1.2 above).

(ii) An explanation in detail of the eligibility criteria for the men's competition category and for the woman's competition category.

In the next Section we will argue that the explanation in (i) ought to make use of the notion of a prototypical adult female rather than of a biological woman. Concerning (ii) we claim that the rationales (not stated in [23]) for the various eligibility criteria for

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<sup>6</sup>According to [23] precisely this is the situation for a number of individual aquatic sports categories, so that World Aquatics in fact distinguishes men's competition categories from women's competition categories. The arguments used in [23] explicitly refute the claims of [21].

women's competition category events as given in [23], ought to be stated (when presented in detail) in terms of adult (human) females, rather than in terms of biological women. Because these rationales are not included in the text of [23] we will not discuss (ii) in more detail, and we will refrain from demonstrating our claim concerning (ii).

## 4.2 On the rationale for sex-segregation and eligibility I

The critical line of the quote in Paragraph 1.2 reads as follows:

Without eligibility standards based on biological sex or sex-linked traits, we are very unlikely to see biological females in finals, on podiums, or in championship positions;...

It is not entirely obvious how to read these lines. Clearly if there is a single competition only, open for all participants then the best performing biological male participants are much more likely to be seen in finals, on podiums, or in championship than any of the prototypical biological females.

The following is less obvious, however: that the best performing biological male participants are much more likely to be seen in finals, on podiums, or in championship than any of the biological females.

Indeed some biological females (AFAB persons) with a 46 XY DSD condition may be successful in competitions with arbitrary (hence also biological male) participants. The problem is that the presence of super-prototypically performing AFAB persons with a 46 XY DSD condition may be considered unfair (problematic) with regard to prototypical biological females.

**Claim 4.1.** *The 2022 World Aquatics eligibility policy description is more convincing when modified as follows:*

*Without eligibility standards based on biological sex or sex-linked traits, we are very unlikely to see prototypical biological females in finals, on podiums, or in championship positions;...*

## 4.3 On the rationale for sex-segregation and eligibility II

What is eligibility for sex-segregated competitions supposed to achieve? It is plausible that a requirement on the eligibility conditions is as follows:

**Requirement 4.1.** *For the women's competition category eligibility standards must be designed in such a manner that:*

*With said eligibility standards based on biological sex or sex-linked traits, we are rather likely to see prototypical biological females in finals, on podiums, or in championship positions;...*

Moreover:

**Requirement 4.2.** *For the women's competition category eligibility standards must be designed in a preferably most inclusive fashion so that the following requirement is satisfied:*

*With said eligibility standards based on biological sex or sex-linked traits, we are rather likely to see prototypical biological females in finals, on podiums, or in championship positions;...*

We may add some further explanation as follows. Biological females (AFAB persons) with a 46 XY DSD condition may be successful in competitions with arbitrary (hence also male) participants. Ruling out via eligibility standards of some potential participants with a 46 XY DSD condition is done in order to achieve fair opportunities for prototypical biological females (which said persons with a 46 XY DSD condition are not). Implicitly the underlying idea seems to be that females with a 46 XY DSD condition are not truly considered female. Indeed while they may be AFAB, at closer inspection the assignment of female b-sex at birth (and therewith of gender) can be considered erroneous in hindsight. Females with a 46 XY DSD condition may be called quasi-trans, their b-sex assigned birth differs from their genetic b-sex (which was left undetermined at birth). The very act of assigning a b-sex at birth on the basis of visual inspection (which still takes place in most cultures and countries) may be understood as an act of transgending for some persons with a 46 XY DSD condition, at least in case one understands b-sex as being essentially determined by way of genetics.

In order to make it make it likely to 'to see prototypical biological females in finals, on podiums, or in championship positions' (following the wording of [23]) additional criteria come into play. Assuming that one works in a jurisdiction where AFAB persons may change their b-sex through medical interventions (surgery and hormonal treatments). For instance in Iran that is the case (see [22]). Now the situation may arise that a certain transgender (i.e. transsexed) biological female may outperform all prototypical biological females (who are not transsexed by definition). That situation World Aquatics (FINA) wishes to avoid.

#### **4.4 On the logic of the given rationale for sex-segregation III**

Next we consider a modification of the critical line of the quote in Paragraph 1.2 in a different direction, namely by replacing 'biological female' by woman.

Without eligibility standards based on biological sex or sex-linked traits, we are very unlikely to see women in finals, on podiums, or in championship positions;...

As it turns out the latter modified text is even less useful for establishing the need for eligibility standards based on biological sex or sex-linked traits.

In a jurisdiction where everyone may choose their own gender by way of an act of free will, (and working in the absence of eligibility standards based on biological sex or sex-linked traits) some women will be (or in any case might be) in fact biological men and able to achieve at top level (among biological male participants). Such women are likely to win, needing no support via eligibility criteria that block the participation of any other women. This state of affairs is unfair w.r.p. to prototypical biological females who, clearly, may be in a disadvantageous position. Therefore, if ‘women’ would be used instead of ‘biological female’ and while transgenering by an act of free will is allowed then the introduction of eligibility criteria would be of no help for creating fair opportunities for prototypical biological women.

## **5 Working on the basis of an underlying version of GT**

The version of GT named GT-WA-2022 is not meant to be used in a stand alone fashion. In practice it is meant to be used in combination with some version of GT. The latter is needed in order to clarify the following issues:

(A) Is it the case that persons with a 46 XY DSD condition are plausibly AFAB and are for that reason to be considered biological females?

(B) Is it the case that some (in fact transsexed) male to female transgender persons are considered to be biological females (in other words: is a transition permissive notion of biological sex being used)?

(C) Is it the case that biological males may self-identify and consequently self-determine as women (thereby transgenering without further constraints as an act of free will)?

In [7] we have surveyed a catalogue of 10 versions of GT. Many more versions of GT can be imagined but the survey of [7] suffices to clarify what kind of variation is meant. We will consider each of the versions of GT that were discussed in [7] and we will indicate for each of these versions which of the questions A, B and C may have a positive answer.

## 5.1 Scan of versions of GT in relation to the relevance of using the notion of a prototypical adult human female

We list the names of versions of GT as surveyed in [7]. We notice that some version of gender theory (different from GT-WA-2022) will be needed when reading [23] if only to clarify what is meant with a biological female.

1. 2G based gender predestination: A.
2. 3G based gender predestination: A.
3. 2G based gender predetermination with rigorously specified and strictly supervised bodily specified transgenering: A, B.
4. 3G based gender predetermination with rigorously specified strictly supervised bodily specified transgenering: A, B.
5. 3G based gender predetermination with rigorously specified though loosely supervised bodily specified transgenering: A, B.
6. 3G based gender predetermination with flexible supervised bodily specified transgenering and with gender neutrality understood by way of androgyny: A.
7. 3G based gender predetermination with bodily and/or psychologically specified and loosely supervised transgenering: A.
8. 3G based gender predetermination with subsequent and revisable gender self-determination: A, C.
9. No gender determination (i.e. predetermination as  $\perp$  of  $3G_{\perp}$  in the terminology of [2]) with subsequent and revisable 3G based gender self-determination: A, C.
10. Non-ternary 3G based gender self-determination: A, C.

## 6 Concluding remarks

We have made extensive comments on the logical structure (rather than the bio-technical details) of the 2022 World Aquatics eligibility criteria for sex-segregated competition categories. We found that it is reasonable to rewrite part of the position of World Aquatics into a specific version of gender theory, named GT-WA-2022. We believe that GT-WA-2022 can be considered fully transinclusive. Moreover by not being specific about gender,

GT-WA-2022 is consistent with the range of gender theory versions that was surveyed in [8].

In [20] Jon Pike advances a significant approach towards detailing eligibility criteria for mens/women's competition category events. Pike indicates that following John Rawls a so-called lexical approach may be helpful. In the lexical approach different aspects are taken into account in a certain order. The idea is that balancing say fairness against safety is prevented by (in case of sports) first taking safety into account and only thereafter taking fairness into account: Pike arrives at the following order: safety, fairness, inclusion. As far as we can see the 2022 World Aquatics eligibility criteria have been designed in a manner consistent with the suggestions of [20].

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