

When Ideology Trumps Science

A response to the Canadian Centre for Ethics in Sport's Review on Transwomen Athletes in the Female Category

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The recently published 'Scientific Review' by the Canadian Centre for Ethics in Sport about transwomen's participation in female sport doesn't deserve its name; it is wholly unscientific. This publication follows a familiar pattern. The body is not important anymore when it comes to categorisation and eligibility in sport; instead, it's all about a psychological phenomenon: gender identity. This side-lining of the body (which makes the side-lining of female athletes and the inclusion of male-born athletes possible) is now reinforced by an attack on the bio-medical sciences. Their agenda is – allegedly – the oppression of minorities. Only the socio-cultural disciplines can give us the answers we are looking for (in sport), because only they understand the coer-

cive nature of academic disciplines and institutions which focus on material reality, rather than on social identity. The CCES Review is another attempt to replace materially based eligibility criteria in sport with 'social identity' as a passport to inclusion. We (a group of scientists and humanities scholars) have written an expert commentary about the CCES Review, highlighting its shortcomings in methodology, and its sometimes incoherent, sometimes misleading argumentation. We argue that the CCES strategy is a continuity with the history of the exclusion and oppression of female athletes in sexist, misogynist, patriarchal sport structures whilst, at the same time, masquerading as inclusive, anti-sexist and anti-misogynist.

Introduction

The Canadian Centre for Ethics in Sport (CCES for short) is an independent organisation¹ promoting ‘fair, safe, accessible, and inclusive sport for everyone.’ Their mission is ‘to address unethical behaviours and promote a values-based approach to sport to ensure positive sport experiences for all.’ On the 3rd of November 2022 the CCES published ‘[Transgender Women Athletes and Elite Sport: A Scientific Review](#)’ (a revised version appeared two days later, 5th November, on their website, which was subsequently replaced by a ‘final’ version). The Review was completed by [E-Alliance](#): ‘a knowledge sharing hub made up of scholars and partner organizations from across Canada who are dedicated to gender+ equity in sport.’

The aim of this report was to review the scientific literature about transgender women athlete participation in competitive sport, published between 2011-2021 in English. The Review has two strands, one assesses the bio-medical literature, the other focuses on the socio-cultural literature. In the following, we (a group of scientists and humanities scholars) will evaluate the quality of their Scientific Review and provide an expert commentary.

It is important to do so, because this is another attempt to change our concept of sport in order to facilitate the inclusion of transwomen (TW) in the female category. This comes at a cost. It compromises fairness and safety, and it subverts the purpose of sport: to provide a fair measure of performance. Specifically, the cost will be borne by female athletes; in addition, it threatens the integrity of women’s sport.

The authors of the Review take it as a given that TW are ‘women’ and therefore belong in the female category in sport.² But there are at least two legal systems in the world which permit the exclusion of TW from the female category in competitive sport: the UK and Australia. These legal systems recognise that TW are ‘women’ in name only (in a narrow juridical sense); they recognise that the legislation relies on a legal fiction (*fictio legis*). The state will treat TW *as if* they were women, but not in all respects.

1 The CCES was set up as the National Anti Doping Organisation for Canada (NADO) after the Canadian sprinter Ben Johnson was caught using anabolic steroids at the 1988 Olympics in Seoul. NADOs were set up in tandem with the formation of WADA, the World Anti Doping Authority. The CCES have a wider remit now and are mostly funded by the Canadian government.

2 The authors suggest that sex is not merely determined by bodily features, but that social factors can determine (alter?) sex.

If TW were indeed ‘women’, then such exemptions would be a violation of justice.³

Thus, the CCES doesn’t give us a justification for including TW in the female category. Instead, they provide two lines of attack, aiming to overturn the widely held view (in science and by the public) that male-bodied persons have – on average – a physiological advantage over females (this also explains why sports governing bodies have until recently implemented mitigation measures for TW). The first claim is that there is not enough evidence to conclude that TW retain the advantages of having experienced male puberty. The second claim is that social factors confer advantages (support, training facilities, etc.) which then translate into athletic success; and TW are oppressed and discriminated against in life and in sport. The CCES surmise that these disadvantages could outweigh the physiological differences between TW and females. Of course, there is no evidence for this. But, more importantly, the authors fail to acknowledge that other athletes also experience disadvantage and hardship in life. If we were to take social advantage into account when it comes to TW, then we would also have to do this for all other athletes who have experienced social disadvantage. This would turn sport into a tool for social justice. At the same time, we are supposed to ignore how this misguided notion of social justice affects other athletes (especially women): they are displaced from podiums, rankings, and lose out on scholarships. The result is injustice.

The CCES approach makes a distinction which goes nowhere between two ‘epistemologies’. It fails to make a distinction which would be very helpful – between descriptive and normative accounts. Descriptive accounts tell us how things are. Normative accounts tell us how things ought to be. To answer the question: ‘is it fair for TW to compete in female sport?’ we need both. Normative accounts are not plucked out of the air or ‘subjective’ in a simple sense. But they do have to start somewhere. In this rebuttal we will be explicit about where we start from, the considered position that: In sex-affected sport, fair equality of opportunity requires separate competition for women. This is a normative axiom – a starting point. We distinguish between equality of opportunity and fair equality of opportunity; this is standard, following English (1978), Howe (2020), Loland (2002), Simon et al. (2015), and Simon (2016).

3 The fact that the IOC is abandoning all stipulations for TW athletes doesn’t mean that the IOC acknowledges that TW are women; it only means that they have given up on finding effective mitigation measures and/or that they have discarded the view that TW have a performance advantage over females.

Mixed sport gives equality of opportunity, in that all have a formally equal opportunity to win. In a mixed 100m sprint, any woman who ran 9.6 seconds would win. But this equality of opportunity is not fair. The fact of male advantage means that no woman can run 9.6 seconds. In this world, with the bodies that we have, and with male physiological advantage in place, fair equality of opportunity requires separate female competition.

We also take this to be the settled view of international sporting organisations. We therefore do not present an argument against unisex sport in sex-affected disciplines but start from this understanding of fairness. We note that the CCES authors persistently put scare quotes around the word ‘fairness’ and its cognates to distance themselves from any obvious meaning. For this reason, we are not sure what they think fairness means. In contrast, we work, not from an abstract conception of fairness but from the settled view, exemplified in women’s sport, that such sport is fair, despite the exclusion of men. This claim, that women’s sport is fair, is moderate and widely accepted; we won’t, here, address those who reject it.

Note, then, that the existence of male physiological advantage is what makes exclusively female competition fair. The normative axiom is explained by the existence of male advantage. It therefore follows that the critical descriptive or scientific question is about male advantage. Is male advantage maintained after testosterone suppression and the use of cross-sex hormones? If our normative axiom is accepted, and male advantage is maintained, then competition of TW in female sport is unfair. If male advantage is eliminated, then it might be fair for TW to compete in female sport.

1 The Biomedical Findings

The CCES report takes an in-depth look at one of the most important reviews in the field (Hilton and Lundberg, 2020), which examined the effect of testosterone suppression in transgender women. The CCES authors list at least ten criticisms of the work in their summary table of studies (56). These criticisms can be summarised as either being simply wrong, grossly misrepresenting the actual work, or being straw man arguments that the authors use to argue against ‘facts’ that Hilton and Lundberg never asserted. Such incorrect reporting of scientific data is evident throughout the CCES’s Review. For example, the anonymous authors claim evidence showing that male advantage is lost after one year of testosterone suppression, while the two papers cited in support of this statement explicitly argue that male ad-

vantage is retained well beyond one year of suppression. In fact, a recent cross-sectional study (Mobilia Alvares et al, 2022) measuring the performance of transwomen suggests that the advantage may be maintained after 14 years of testosterone suppression.

A common theme of the CCES critique of the existing biomedical findings in this area is that a) the current research has not adjusted transwomen's data for height and weight, b) the existing research was conducted on untrained individuals, and c) the data cannot be compared to 'cis' women and 'cis' men, according to the CCES. The only way that a) would be a fair criticism would be in sports where medals were awarded based on performance relative to height and weight. Currently, no such sport exists. In sports where weight classes are used, such as boxing or Olympic weightlifting, this would almost, but not quite, be the case. However, the authors pass over in silence about evidence that males outperform body-size-matched females by up to 30% in such sports. But, the CCES acknowledge as one of their key findings that even with adjustment for height and weight, transgender women retain physiological advantages over females, and thus must resort to the argument that these retained advantages are within range of female metrics, an argument that applies to many males regardless of gender identity and which has not been considered a rationale for permitting those males into female sporting categories.

In doing so, the authors retreat to the Range Argument (see Pike 2021b). This is the argument that it is fair for people within the female range on some selected metric to compete in female sport. It is vulnerable to the objection that women are not short men, light men, or slow men, and vice versa. The Range Argument rests on a misunderstanding of fairness in sport. The same misunderstanding lies behind the repeated claim that it is wrong to compare TW with male athletes ('cis' men), and that they should be compared with female athletes ('cis' women). The difference is between the two conceptions of fairness in play: the 'Advantage' conception and the 'Range' conception. The Advantage view justifies our current categorisation into male and female sport, and so justifies the existence of women's sport. The Range view does not justify the existence of women's sport: rather, it would prescribe a sports category defined on the basis of some metric or set of metrics as a substitute for women's sport – for example, tall sport and short sport. On the Advantage account of fairness, what matters is male advantage, so the appropriate comparison is between Transwomen and males to see whether there is retained male advantage. On the Range view, what matters is whether TW are in the range of female athletes, so this prescribes that

the appropriate comparison is with female athletes. This leads to the result that some TW metrics are within the female range. But the same objection applies: what matters is the removal of *male* advantage, not whether some males are (for example) shorter than some females. To use the jargon, what matters is diachronic comparison of sex advantage, to see if advantage is lost, not synchronic comparison of more or less arbitrary metrics between binarily distinguished bodies.

Regarding point b), the authors fail to acknowledge that there are no controlled studies of transgender athletes because it is nearly impossible to conduct them in a controlled manner on a large enough sample, and that it is therefore the responsibility of sports organisations and researchers to look at the best available evidence. The strongest evidence to date on the effects of testosterone suppression comes from a dozen longitudinal studies that measured physiological outcomes such as muscle strength, muscle mass, or lean body mass. These studies form a unified consensus and provide compelling evidence that the effects of testosterone suppression in male adulthood have very little impact on these important biological outcomes that form the basis of performance in many sports.

The CCES also fail to recognize that the effects of testosterone suppression may be even smaller in elite athletes than in untrained individuals, as resistance training has been shown to counteract muscle loss in biological males undergoing testosterone suppression (Kvorning et al, 2006). The CCES also failed to point out that we now have real-world performance data from high-profile sporting events in which transgender women have participated. Analysis of competitive performance before and after hormone therapy has shown that athletes such as Laurel Hubbard and Lia Thomas have maintained a significant portion of their male performance advantage and therefore have seen substantial placement gains ('ranking advantage') by moving into the female athletic category.

Finally, although the CCES authors dispute the data from untrained transgender women, they rely on data from untrained individuals themselves to make their argument on point (c) – that appropriate reference groups were not used because transgender women differ from other biological males. This would, in fact, be a coherent argument for the institution of a separate category for transgender women, where separation from other males might be justified by identifying insurmountable physiological differences (such as those that justify the existence of the female category) that likely affect athletic performance. It is not, of course, an argument that transgender women must necessarily be part of the female category; it would simply support

the view that there may be biological justification for separation from other males. Further, it is well-established that the physiological differences identified at baseline in transgender women (for example, lower-than-average lean body mass compared with other age-matched males) are behavioural in origin and result from low exercise levels, particularly of resistance exercise, in pursuit of a feminine ‘low muscle’ aesthetic. Sports categories do not exist to account for undertraining and poor fitness; there are plenty of opportunities at the recreational level for TW to join other equally undertrained and unfit males. Regardless, the argument for a dedicated category is never made by the CCES and thus, of course, TW must be compared to the two sex categories we have. Such a comparison overwhelmingly shows that TW match more-closely with biological males in height, lean body mass, and strength, while not coming close to the average results of age-matched females. The findings from untrained cohorts on baseline characteristics are also difficult to extrapolate to the elite athlete scenario, as sports competitions generally occur in narrow ranges of competition where these baseline characteristics are largely comparable between athletes. Thus, the male performance advantage can be enjoyed by anyone who has it, regardless of whether they compete in an Olympic final or in a local event.

2 The Socio-cultural Findings

Evidence and fairness

The CCES write in the conclusion of their Executive Summary (9): ‘There is no firm basis available in evidence to indicate that trans women have a consistent and measurable overall performance benefit after 12 months of testosterone suppression.’ If that really were the case, then the inclusion of TW would not be prudent. Suppose it turns out that they do have a significant advantage over women (which is actually the case), then, having included TW would have been unfair (and unsafe) for women. The prudential principle is this: if we lack conclusive evidence, but a change of policy could lead to bad outcomes, then we should not implement such a policy – until we have such evidence. The paper equivocates between three claims: that there is no *evidence* of advantage, that there is *no* advantage, and that there *is* advantage (but fairness must be traded off against inclusion). This is deeply confused, but we note here that absence of evidence does not support a policy of including *possible* male advantages in female sport.

They then try a different approach (9): ‘Any policy developed should carefully consider the current lack of participation of trans athletes (in many sport organizations there is a complete absence or outright exclusion) and balance the value of fairness with inclusion.’ (We notice that the balancing metaphor here means that sport for women should be made unfair, in order to facilitate inclusion of male advantage in women’s sport.) However, it is actually difficult to know what level of participation at the elite female level would be representative of TW athletes. Some may opt to compete in different categories (male, Open) because it provides a greater challenge; some may refuse to compete in the female category because they recognise the unfairness (as well as safety issues in collision sports) involved; some may be deterred by societal attitudes (*TW do not belong in the female category*). Oddly, the CCES combines the ‘lack of participation’ with another issue. The Review suggests that we should ‘balance the value of fairness with inclusion’. The argument seems to be: Because there is a lack of participation, we should value inclusion above fairness. It is supposed that this would then increase participation (there is a distinct possibility that it would inhibit female participation and thus lead to a loss of overall participation – more on this below). But the CCES told us earlier that there is no evidence for a physiological advantage by TW, i.e. there is no unfairness if TW compete in the female category. Such incoherence in reasoning (or prevarication?) by the CCES is worrying.

Furthermore, what is supposed to happen once we have achieved ‘representative levels’ of participation? Should we then resurrect the fairness criterion and exclude all TW? With zero participation, we would have to open the female category again for TW, and this ‘game’ (close, open, close, open) could go on forever. But it wouldn’t be good for women’s sport – nor for TW athletes.

The mistake of the CCES authors is to assume that blanket inclusion is a free-standing value, on par with fairness in sport (see Imbrišević 2022). We achieve fairness through categorisation. Each category has eligibility criteria, and it is through this that we achieve maximal participation (Parry & Martínková 2021). Blanket inclusion, irrespective of fairness, is misguided, when applied to sport: it would, for example, rule out knockout competitions. Sport practices based on fairness in the application of measures such as eligibility criteria for competition categories are themselves justice-preserving, both in enhancing wider participation and access to fairly earned rewards. In this sense, inclusion is subordinate to fairness – unless we change the nature of sport. All of this shows that the policy suggestions

by the CCES are wilfully blind when it comes to current science, they lack coherence, and some are contradictory.

Social disadvantages

The authors claim (13) that there are two ‘epistemologies’ or conceptualisations of fairness in sport: one focuses on the body and biological parity, the other on sociocultural factors. The former is supposed to reflect the traditional understanding of sport. But this is a misrepresentation. There are several profound problems with this approach.

The authors appear to appeal to some sort of Foucauldian ‘structures of knowledge’. This is the view that knowledge is a social construction, in opposition to a view of truth and explanation as the correspondence between an independent reality and our understanding. A related view is the Wittgensteinian critique of ‘scientism’ – the ideological presentation of Science as having a master role in intellectual life.⁴

But, while the paper gestures towards such an approach, the lead up gives rise to nothing beyond the obvious point that socio-economic inequalities have an effect on athletic performance. A ‘Key Sociocultural Finding’ of the paper (6) is that: ‘Nutrition and time to train make a difference to athletic performance.’ This claim is obviously true, and widely accepted, but it has nothing to do with the inclusion of transwomen athletes in female competition. There are no concrete proposals in the report to address socio-cultural advantages, or proposals to treat socio-economic advantages as category advantages (e.g. male physiology), rather than competitive advantages (e.g. being tall, short, flexible, or having a quick reaction time).⁵ It is true that TW face some disadvantages in their lives. It is not clear how those disadvantages are manifested in athletic performance, or how they can be measured, or if sports regulations should be modified to take account of them. Likewise, it is clear that people of colour worldwide suffer discrimination and racism, but it is not clear how this is manifested in athletic performance, nor is it clear if, or how sports regulation should be modified.

However, the argument could be reconstructed in two ways: one is to say that the physiological effects of the disadvantages faced by TW exactly

4 ‘It isn’t absurd to believe that the age of science and technology is the beginning of the end for humanity; that the idea of great progress is a delusion, along with the idea that the truth will ultimately be known; that there is nothing good or desirable about scientific knowledge and that mankind, in seeking it, is falling into a trap. It is by no means obvious that that is not how things are’ (Wittgenstein 1980, p. 56).

5 On the distinction between competitive and category advantages see Parry & Martínková, 2021.

match, and therefore cancel out the residual male advantages. Because of this coincidence, then, it turns out to be fair to include TW in female sport. This view is completely implausible. But even if we were to go this route, then we would also have to apply this to all athletes, who have experienced some form of ‘disadvantage’ (see Martínková et al, 2021). This would make sport into an institution of redress for social disadvantage – and it would be costly and difficult to administer. It would also mean that the outcome would not be solely determined on the field of play, but also by the application of a disadvantage algorithm before competition.

The other view is to say that, because the sociocultural disadvantages faced by TW are ‘special’ and differ fundamentally from the disadvantages of other athletes, sports authorities should accede to the demand that they be included in female sport. On this line of argument, inclusion of TW in female sport is not fair, but is an act of solidarity with them. This justification, though, must attend to the opposite claim: that because inclusion is not fair, it amounts to an act of animosity towards female athletes. It is not clear which of the two options is taken by the authors, who equivocate on the question of whether inclusion is fair, or not fair but otherwise justified. They need to choose which of these two dead ends to go down.

Standardly, we create categories which give a maximal number of people a fair chance to compete (see para-sports). For this reason we do not have one category in boxing, we have several sub-categories (within each of the two sex categories). If we didn’t categorise, then heavyweights would dominate competition, and only they would have a chance of winning. Here, blanket inclusion would effectively exclude all those who weigh much less than the heaviest fighters. Equally, if we didn’t categorise by sex, male boxers would dominate and females would not have a fair chance to compete, leading to their exclusion – either by choice or through early elimination. Note that categorisation by sex in boxing, martial arts and collision sports automatically delivers a higher degree of safety.

Embodied diversities

The CCES dismisses what science tells us about fairness for two reasons: the evidence is not conclusive, and the scientific approach is oppressive to minorities. The authors claim that under the socio-cultural perspective fairness in sport requires that (13) ‘sport systems need to change to fully welcome the embodied diversities of humans.’ Here we have an equivocation of the term ‘embodied diversities’. It could mean that: 1. humans come

with diverse bodies (male/female; tall/short, athletic/non-athletic, etc.), or: 2. the trivial insight that social diversity (dress, hair styles, tattoos, use of synthetic hormones, a declaration of being non-binary, etc.) is ‘embodied’. That is true, dresses don’t just float in the air by themselves, they rely on a substratum: the human body. The latter sense of ‘embodied diversity’ is trying to suggest that social variations should be taken into account when we sort athletes. But social variation doesn’t change the fact that humans are a dimorphic species. Thus, sport systems do not need to change, unless the CCES can show that sorting athletes into male and female (or their respective sub-categories) is unfair/mistaken, and that the correct categorisation would be according to social diversity. However, sport is all about the body, not about how social expression changes the appearance of the body. Even if some trans athletes take synthetic hormones, this doesn’t change their sex; it only helps to modify some bodily features.⁶

This distinction between 1. and 2. also helps to counter attempts to throw ‘intersex’ (people with variations or differences of sexual development: VSD/DSDs) and trans athletes together, because this is another manifestation of the above equivocation. Athletes with DSDs have a variation in their developmental pathways (this is about the body they have), whereas trans athletes wish to alter their social expression and/or how society views them (this is about changing the appearance of the body and how they wish to be perceived). If we followed route 2. then we would change the purpose of sport. We wouldn’t measure: *What can athletes, sorted by male/female, do with their bodies on the day of competition?*, instead, we would measure: *What can athletes, sorted by social expression/identity, do with their bodies?* This ‘reorientation’ of the purpose of sport would necessarily lead to an endless proliferation of categories (based on social expression); and many athletes would find themselves in a category of one (see Martínková et al, 2021).

According to the authors, the biological sciences facilitate a fundamentally illusory and repressive-authoritarian programme. So, practices like sport (and science) have no inherent structural, truth-directing, or justice-enhancing constraints, because they are just power constructing disciplines. This is why the authors see the purpose of fact-based fairness systems as merely the *enforcement* of biological categories rather than a values-based, jus-

6 The small loss of performance through T-suppression and the use of cross-sex hormones, does not justify the inclusion of TW in the female category. Secondly, now that the IOC and others will not require such mitigation anymore, athletes who nevertheless go ahead and experience such a loss of performance do so willingly. There is no injustice here, because this principle applies: *volenti no fit iniuria*.

tice-oriented, and even compassion-motivated response to those constraints imposed on us by being the dimorphic species that we are.

Women in sport

In the section on the history of women's exclusion from sport (34) the authors make a series of ahistorical and conceptually confused claims about the history of women's struggle for opportunities to participate fully in sport, as well as to be adequately recognised for their accomplishments. The authors make two major presuppositions here that affect the conclusions they draw from this history: that transwomen are women, and that the methods of women's exclusion from sport are based on gender rather than sex. With these assumptions combined, they conclude that transwomen's exclusion is part of the *same* set of socio-cultural mechanisms that have discriminated against (biological) women. This appropriation of women's history in sport is fundamentally misconceived and relies on eliding significant socio-cultural, as well as critical biological, differences between women and TW.

Women have historically been excluded from sport on the basis of their sex, that is, because they were biological women and because they were for this reason assumed to be physically less capable of enduring the rigours of intense physical exertion. Because of that assumption it has also been thought unfeminine for them to exhibit physical traits or behaviour socially coded as 'masculine'. In other words, gender stereotyping has been predicated on what has been considered appropriate given their sex; gender nonconformity is punished because of its nonalignment with sex. It is dishonest and a distortion of women's history to ignore this relationship. Moreover, women in sport have been and continue to be discriminated against *both* for failing to exhibit stereotypical femininity, as by being involved in sport at all, thus violating expectations for their sex, *and* for exhibiting it, as stereotypically feminine sportswomen are then frequently judged by their performance of femininity over and above their sporting achievements. The socio-cultural prohibitions concerning gender are the most visible expression of misogyny but they are not the source of it.

The authors' failure to grasp this all-important connection leads them to the incoherency of describing Olympic sex-verification testing as gender-verification, referring to a 'femininity test' (34). *If* these tests had, in fact, been concerned with gender (which would hardly require a physical test), then they would indeed have found the overlap that the authors insist exists in sex. This confusion issues from the authors' apparent conviction that sex

is determined by gender, for which they cite the questionable authority of Anne Fausto-Sterling (38). The priority given to social systems over material ones also leads them to argue that it is only racism that classifies DSD athletes as not female, as (they opine) DSDs are diseases created by Western medicine (35). As unreasonable as the authors' claims are about the historical and the present context with respect to testing, they depend on these deeper assumptions about the gender-dependency of sex and that sport categories are meant to enforce gender. Without them it would be even less plausible to argue that the exclusion of transwomen from women's sport is a further example of the oppression of women, rather than an example of providing increased opportunities for the participation of males at the expense of females.

The view from sport sociology

The CCES Review which claims to address both scientific and socio-cultural/social science studies states that the inclusion criteria are 'research articles published in the English language between 2011 and 2021 inclusive' which are peer-reviewed and published in reputable academic journals. However, the search process appears to be either fundamentally flawed, or biased, since it failed to find two significant socio-cultural papers critical of gender identity theory in sport (Devine 2021a and Devine 2021b). In fact, the 'systematic search' appears to have been undertaken in June 2021 and is therefore not inclusive of all relevant papers published in 2021 as claimed. Nevertheless, it failed to find the widely influential research article 'Female Olympians' voices: Female sports categories and International Olympic Committee Transgender guidelines' (Devine, 2021a), published in June 2021. The CCES review also fails to address a report published by the *MacDonald Laurier Institute* in Canada (Pike et al, 2021) which specifically addresses and gives a critical account of previous work in this area by the CCES. The omission of these papers, one a peer reviewed critique of gender identity theory with primary empirical data detailing the views of female Olympians and a specifically feminist account of the preconditions for fairness in sport, the other a policy document clearly focussed on the work of the CCES, reveals an unscholarly selectivity by the CCES.

The CCES literature review appropriates the history of the struggle for equal rights for female athletes in sport in order to argue for the inclusion of athletes with some disorders/differences/variations (DSDs/VSDs) of male sexual development with significant androgenisation at puberty, and

transwomen (biological males), in female sport categories. At the same time, both the CCES Review and the 2016 transgender inclusion guidance (CCES, 2016) perpetuate the exclusion of elite female athletes' voices from academic discourse and policy deliberations regarding eligibility criteria for their own female categories. This is a continuity with the history of the exclusion and oppression of female athletes in sexist, misogynist, patriarchal sport structures whilst, at the same time, masquerading as inclusive, anti-sexist and anti-misogynist.

The total disregard for female athletes' voices is similarly apparent in the discussion of the historically intrusive sex (not gender) verification of female athletes, which, if reinstated, would now involve the minimally intrusive, once in a lifetime, cheek swab/buccal smear. The evidence we have shows that a large majority of elite female athletes, when actually asked, support sex testing. All female athletes at the 1996 Atlanta Olympic Games were asked for their views on sex testing and of the 928 who responded, '82% felt that testing should be continued and 94% indicated that they were not made anxious by the procedure' (Elsas et al, 2000).

Notwithstanding this, these elite female athletes' voices were ignored and the IOC suspended sex testing for the next and subsequent Olympic Games, in keeping with the androcentric nature of decision making in sport. In this vein the CCES Review exploits the historical use of the term gender as a synonym for sex and repurposes the historical gender (meaning sex) verification as gender (meaning gender identity) verification. It then leverages this to critique sex testing as a way of excluding athletes with XY DSD/VSDs involving significant androgenisation at puberty from female categories. This conflates both biological sex with gender identity, and TW with athletes who have these XY DSDs/VSDs, as a way of advocating for the inclusion of transwomen (biological males) and athletes with these XY DSDs/VSDs with significant androgenisation at puberty, into female categories (Devine 2021b).

Similarly, the voices of black elite female athletes from the Global South without these XY DSDs/VSDs, are ignored in the name of anti-racism, in favour of advocacy for athletes who do have them. This completely disregards the black elite female athletes without these congenital conditions from the Global South, who are well represented in, for example, elite athletics, and depend on female categories and the World Athletics DSD regulations for their success (Devine, 2021a).

In another appropriation of the original meaning of a range of terms, the CCES appears to consider that asking black elite female athletes from the

Global South without these congenital conditions for their views on transgender and DSD inclusion policies, amounts to misogynoir, anti-Blackness and anti-Global-Southness. Ironically, this view is often promulgated by the knowledge production of academics and advocacy organisations, often white privileged and male, speaking on behalf of black elite female athletes from the Global South, without seeking these athletes' views and voices via primary research (Devine, 2021a).

The theoretical framing of the CCES Review throughout is that of gender identity theory/ideology which is increasingly critiqued both within sport sociology and sport philosophy (Devine 2021a, 2021b), as well as in the wider humanities literature (Burt 2020; Lowrey 2021; Murray and Blackburn 2019; Stock 2021; Suissa and Sullivan 2021; Sullivan 2021). These critiques deconstruct the theoretical underpinning of gender identity theory (sex as a spectrum, unverifiable innate non-binary gender identities unrelated to biological sex, the conflation of sex with gender and gender identity, the conflation of transgender athletes with DSD/VSD athletes), the technical language of gender identity theory/ideology ('cisgender', 'cis-privilege', 'cis-sexism', 'transmisogyny') and the myriad theoretical reversals inherent in gender identity theory/ideology (for example, dominant cisgender women [female athletes] and oppressed transgender women [biological males], instead of dominant males and oppressed females). Nowhere in the CCES Review are these critiques of gender identity theory/ideology addressed. Instead, the Review attempts a cross-disciplinary (biological science versus socio-cultural science), rather than intra-disciplinary, critique. This references (6) 'the social hierarchy of knowledge within which some sciences are discredited to the benefit of others' whilst at the same time ignoring critiques from within the socio-cultural literature. Dismissing the biological sciences and empirical quantitative research as the pejorative 'scientism' (Pringle and Falcous, 2018) enables the CCES to ignore both the material reality of biologically sexed bodies and female athletes' voices. This is deeply problematic for socio-cultural and political justice for female athletes and represents a continuity with hegemonic masculinity and androcentric sport citizenship (Devine, 2021b).

3 Conclusion

In this paper we have raised a number of serious criticisms of the CCES Review. But in one sense we feel uncomfortable doing so, because it treats the Review as, in some senses, a well motivated attempt to contribute to knowledge, but one that makes a series of substantive and methodological errors.

Let us recall the CCES mission: to promote ‘fair, safe, accessible, and inclusive sport for everyone.’ By publishing this report the CCES fails in its mission. This ‘Scientific Review’ lacks academic integrity because it distorts or ignores key findings from the literature to such an extent that it appears to be guided by ideology rather than scientific knowledge. Recommending the blanket inclusion of TW in the female category compromises fairness and the safety of female competitors (see Pike 2021). Transwomen athletes displace females from podium places and/or push them down in rankings, as well as taking up scarce scholarships and prizes meant for female athletes. Women and girls already self-exclude from sport for various reasons.⁷ When they know that they will encounter trans girls/women, this trend will continue, particularly if we take into account that fairness and safety⁸ are not the guiding principles in sport anymore.

There are athletic opportunities for TW outside of female competitive sport; by promoting their ‘inclusion’ in the female category, the authors effectively promote the exclusion of many girls and women from women’s sport.

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7 See: <https://files.eric.ed.gov/fulltext/ED603915.pdf>.

8 See: <https://www.washingtonexaminer.com/news/watch-transgender-rugby-player-slams-female-athletes-coach-says-three-injured>.

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