TRANSGENDER WOMEN ATHLETES AND ELITE SPORT: A SCIENTIFIC REVIEW

Published in 2022, this is an in-depth review of all English-language scientific literature published between 2011-2021 about transgender (trans) women athlete participation in elite sport. The study was commissioned by the Canadian Centre for Ethics in Sport (CCES) and 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.[1]

ATHLETE ALLY

CANADIAN CENTRE FOR ETHICS IN SPORT

THE INCLUSION PLAYBOOK

[1] Gender+ recognizes that gender is not an identity experienced on its own. In order to achieve equity for all genders in sport, we must understand individuals as wholes with multiple, simultaneous identities. We also use the + to indicate our commitment to those who identify beyond the binary.

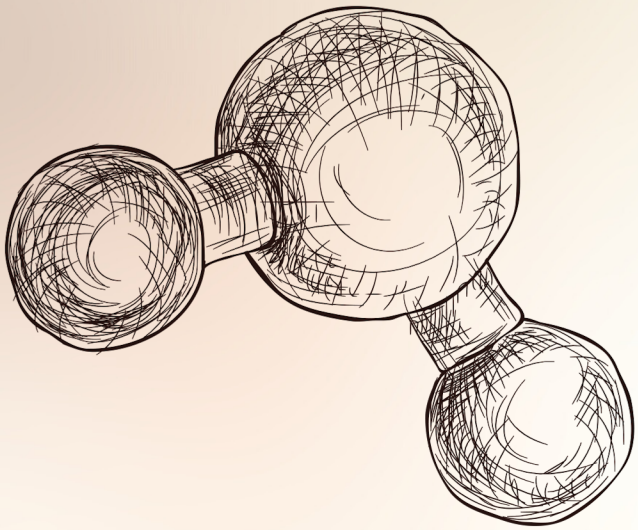
KEY FINDINGS

- Biomedical factors related to puberty (i.e., lung size[2], bone density[3], hip-to-knee joint angle [q-angle][4]) do not predict athletic performance.[5]
- Social factors like nutrition, training, and access to equipment greatly impact an athlete's performance, yet are consistently overlooked in policy-making.[6]
- Biomedical and social scientific information should both be used in policy-making. However, biomedical research is often overvalued to the detriment of athlete well-being.[7]

[2] See Hopkins et al., 2018; Degens et al., 2019; Åstrand et al., 1964; Breslav et al., 2000; Bouwsema et al., 2017.
[3] See Leslie, 2012.
[4] See Bruton et al., 2013; Kernozek & Greer, 1993; Thomas et al., 1998; Nguyen et al., 2009; Sigward & Powers, 2006; Hertel & Braham, 2004.
[5] See CCES report, p. 21
[6] See CCES report, p. 6
[7] See CCES report, p. 6

WHAT CURRENT BIOMEDICAL RESEARCH TELLS US

- Testosterone levels do not predict athletic performance or overall athleticism.[8]
- Recent studies have found that lung capacity, bone density, and hip-to-knee joint angle (q-angle) do not correlate with competitive advantage.[9]
- All people have estrogen and testosterone. The distribution of testosterone levels between elite cisgender men and elite cisgender women athletes overlaps.[10]
- Only three studies have used trans athletes as subjects. They indicate that any potential performance advantages are negated through testosterone suppression after 12 months (and sometimes sooner).[11, 12]
- The majority of sport policies are not evidence-based and have participation requirements that are arbitrary and/or not clearly linked to performance.[13, 14]



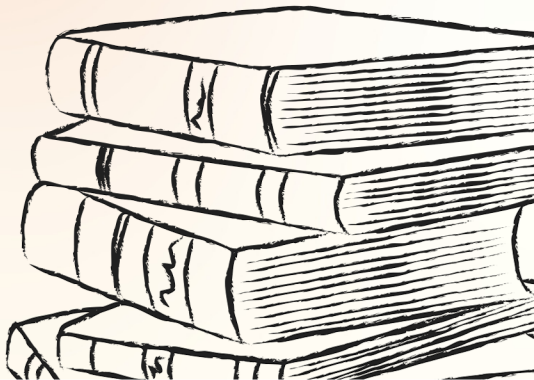
[8] See CCES report, p. 29
[9] See CCES report, p. 25
[10] Sonksen et al. 2018
[11] See Harper et al., 2021, p. 1 and Roberts et al., 2020, respectively
[12] See CCES report, p. 25-26
[13] Jones et al., 2016
[14] See CCES report, p. 7

THE FLAWS IN EXISTING BIOMEDICAL RESEARCH

- Most studies used to inform sport policies about elite trans women use cisgender men or non-athlete trans women as their subjects rather than trans women elite athletes.[15]
- The literature largely ignores sports where cisgender women have advantages over cisgender men (e.g., long-distance swimming).[16]
- A majority of studies examine a single variable (e.g., grip strength, testosterone) and over-emphasize that variable's impact in predicting athletic ability. In reality, there is not a single variable that can predict athletic ability – a great athlete has any number of social and biological traits that make them successful.[17]

WHAT MAKES A QUALITY STUDY

- Studies used in policy-making should include large populations, control for factors like height and weight, and compare trained athletes to untrained people.[18] Current studies used in policy-making about trans athletes do not do this.
- Ideally, studies should also be sport-specific.[19] For example, biomedical factors that contribute to success in the long jump may differ from factors in marathon running. While sport-specific studies of trans athletes may not currently exist, it is important to be thoughtful about specific sports and how the variables studied in literature may or may not apply.



[15] See CCES report, p. 17
[16] See CCES report, p. 7
[17] See CCES report, p. 21
[18] See CCES report, p. 10
[19] Harper et al. 2021

THE IMPACT OF SOCIAL FACTORS ON PARTICIPATION

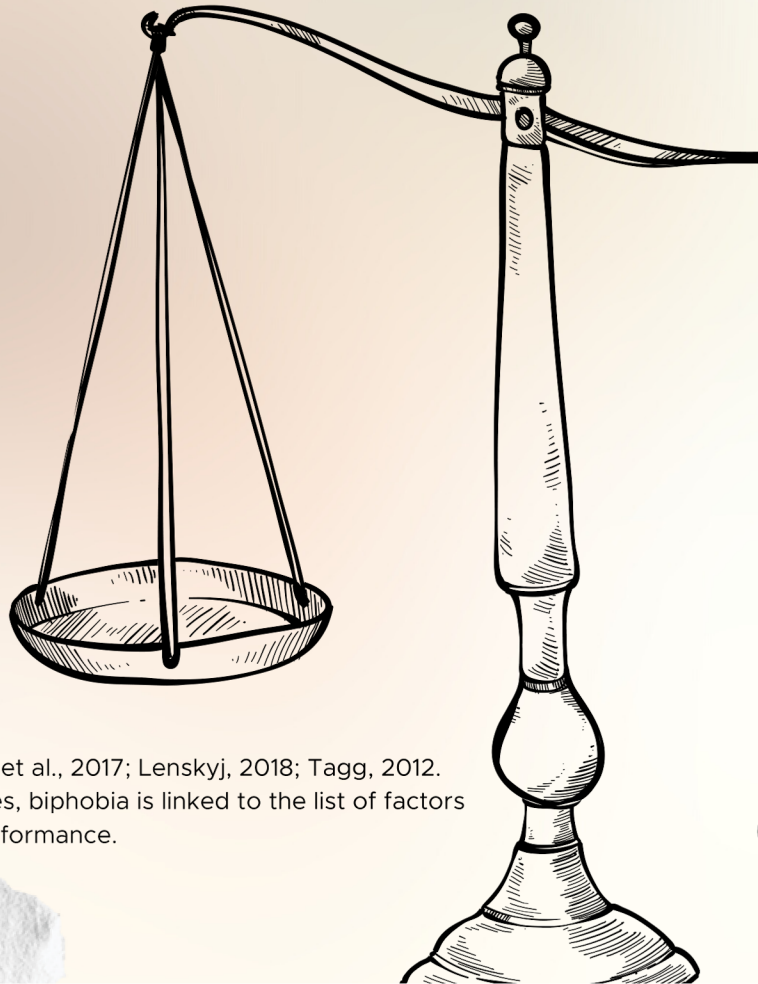
- Trans women are significantly underrepresented in sports, especially in elite sports.[20] This evidence directly counters the claim that large numbers of trans women are playing competitive sports.
- Social factors like coaching, time to train, and access to equipment contribute to performance far more than testosterone.[21]
- Trans people have mostly negative experiences in competitive sports due to barriers created by non-inclusive environments.[22, 23]

[20] See CCES report, p. 30
[21] See CCES report, p. 6
[22] Jones et al., 2016
[23] See CCES report, p. 8

THE SOCIAL FACTORS DRIVING COMPETITIVE DIFFERENCES

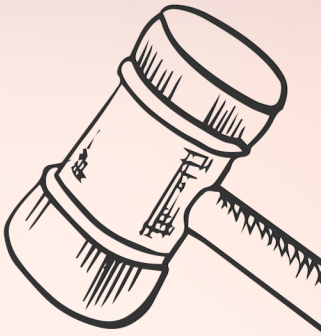
Social factors exist that significantly impact competitive differences between men's and women's sports. This is a non-exhaustive list of ways that inequities between men and women's sports affect athletic performance[24]:

- Sexual harassment, violence and abuse of women athletes[25]
- Lack of women's teams
- Disparities in access to sports facilities for women's teams
- Lack of financial resources, including inequitable pay for athletes
- Lack of support staff, including medical staff
- Societal pressure/views about what women's bodies should look like and a lack of emphasis on particular kinds of strength training
- Lesbophobia[26], classism, racism, intersexphobia[27] and transphobia[28]



[24] See CCES report, p. 35-36
[25] Ohlert, 2020
[26] Griffin, 1998
[27] Karkazis & Jordan-Young, 2018
[28] Cohen et Semerjian, 2008; Hargie et al., 2017; Ivy, 2020; Jones et al., 2017; Lenskyj, 2018; Tagg, 2012. Though biphobia is not explicitly mentioned in the above studies, biphobia is linked to the list of factors that disproportionately impact women's sports and athletic performance.

LEGAL IMPLICATIONS OF TRANSGENDER EXCLUSIVE POLICIES



- In the United States, categorically excluding trans athletes (via outright bans or other discriminatory policies) could violate a number of state and local laws. Even in states without explicit LGBTQ+ non-discrimination laws, laws that prohibit discrimination on the basis of sex have been interpreted to protect trans people.
- In Canada, discrimination based on gender identity or gender expression has been federally prohibited since 2017 when the Canadian Human Rights Act was amended.
- While blanket bans are explicitly discriminatory, other forms of unequal treatment of trans athletes can also be considered discrimination under the law. This is especially true in cases where trans athletes have to comply with certain requirements placed on them as a result of their trans identity.
- Trans athletes often face financial and structural barriers (i.e., paying out of pocket for letters from medical professionals, long waiting times for healthcare) to meet the required conditions to participate in sport set forth by discriminatory policies. As previously cited, much of the research used to support these restrictions on trans athletes does not hold up under scrutiny.
- Internationally, non-discrimination laws vary by country and region, and transgender-exclusive policies may face legal challenges in places where comprehensive non-discrimination protections for LGBTQ+ people exist.
- Discriminatory policies and/or outright bans are not in line with the International Olympic Committee's 2021 Framework on Fairness, Inclusion and Non-Discrimination on the Basis of Gender Identity and Sex Variations.

RECOMMENDATIONS TO PROMOTE FAIRNESS FOR ALL ATHLETES IN YOUR SPORT

- Acknowledge that biomedical research does not show a clear link between testosterone and athletic advantage - and that trans women do not have an inherent athletic advantage over cisgender women. If your sport requires testosterone-based restrictions at the elite level, research suggests that 12 months of hormone replacement therapy is adequate and that longer waiting periods are not justified.
- Reject misinformation and biased research.[29] When making trans participation policies, don't use research that asserts trans women have inherent athletic advantages.
- To level the playing field for all athletes, and especially for women and girls in sport, focus on ending sexual abuse and harassment, increased access to equipment and facilities, pay equity, investments in nutrition and diversifying recruitment strategies.[30]

[29] For example, the often-cited Hilton and Lundberg (2020) study is referred to as: "what is best described as an argumentative essay in the form of original scientific research". See CCES report, p. 15

[30] See CCES report, p. 6