

**Title: Opinions of Elite Female Athletes Regarding the Inclusion on Trans Women in the
Female Category of Elite Sport**

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**Submitted to Swansea University in fulfilment of the requirements for the Degree of
MSc by Research
Swansea University
2022**

Abstract

Trans women are currently at the forefront of sport due to National Governing Bodies regularly updating their trans inclusion policies, a large online presence from sport stakeholders, and debates in the literature evaluating categorisation methods. However, there is no peer-reviewed literature that has obtained the voices of a large number of elite athletes on trans athlete inclusion in elite sport. The purpose of this study was to provide elite athletes this opportunity to openly voice their opinions, given that they are those directly affected by policy decisions. To achieve this, an anonymous survey was distributed to elite athletes, and they were also given the opportunity to partake in an interview. A total of 123 world class/elite athletes that were eligible for the female category of sport, completed the online survey. Out of this total, 5 athletes were further interviewed. The study compared Current Olympic Sport (COS) versus Olympic Recognised Sport athletes (OR), Tier 4 (elite) and Tier 5 (world class) athletes, as well as COS versus Retired Olympic Sport (ROS) athletes. The survey data established that as a group, current Olympic athletes are against the inclusion of trans women in the female category for contact sports (60.4%) and sports heavily reliant on physical capacity (64.6%). Retired Olympic sport athletes are more supportive of categorisation by biological sex (85%), compared to current Olympic sport athletes (60%) ($p=0.050$). Elite athletes compared to world class athletes consider that the regulations are more unfair for trans athletes ($p=0.022$), and world class athletes favour a separate transgender category ($p=0.039$) more than elite athletes. Further, the themes identified in the interviews included that different benefits are associated with different sports; the different interpretations of fairness; the complex nature of sport; and the importance of representation and how voices are represented. The themes emphasised the importance of representation on athletes' wellbeing as well as the complexity of sport and athletes' outlooks. The current thesis highlights how there are differences in attitudes towards fairness, as well as the values and the benefits of sport depending on the group of athletes, the competitive level and the sporting context. Therefore, with the complex nature of sport a blanket approach is no longer the answer.

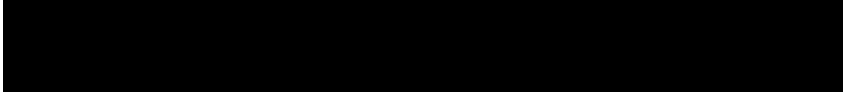
Declarations and Statements

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed..... 

Date.....30/09/2022.....

This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged by footnotes giving explicit references. A bibliography is appended.

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Glossary

Ally

An ally is an individual who provides support for a minority individual, they will either be a member of the dominate/majority group or is a member of the same group as the oppressed individual (Brooks & Edwards, 2009).

Athletic performance

This refers to how the individual performs under the conditions of the competition on that day, through the interaction of their environment and genetic predispositions (Loland, 2001).

Cis Gender

Sex assignment at birth is the same as an individual's identity (Barras, 2021; Stonewall, 2017).

Cis Female/Women

Sex assignment at birth was female and their gender identity is also female (Barras, 2021; Stonewall, 2017).

Cis Male/Man

Sex assignment at birth was male and their gender identity is also male (Barras, 2021; Stonewall, 2017).

Comparative Test

It is a premise that sport requires fairness through equal conditions due to the main value of sport being regarded as competition (Gleaves & Lehrbach, 2016). Thereby sport is about measuring and ranking competitors against each other to provide equal comparisons and enable athletic superiority by comparing the best against the best (Gleaves & Lehrbach, 2016).

Competition

Competition refers to measuring, comparing and ranking two or more participants according to athletic performance (Loland, 2001).

Discrimination

Under the Equality Act (2010), direct discrimination involves when an individual treats another individual less favourably compared to how they would treat others due to one/combination of

their protected characteristics. Protected characteristics include age, disability, gender reassignment, race, religion/belief, sex and sex orientation (Equality Act, 2010). Discrimination can also be considered indirect, which involves being discriminatory due to one/combination of their protected characteristics by applying a provision, criterion or practice that would put an individual at a disadvantage compared to others (Equality Act, 2010).

Exclusion

Within this study exclusion refers to when an athlete is unable to compete in their sport in the gender category they identify with.

Fairness

This thesis refers to fairness in sport as involving the controlling or compensating of inequalities that take away from the validity of the evaluation of athletic performance, in order to maintain equality amongst competitors. This may refer to external conditions and certain person-dependent matters (see page 36-37 for a detailed explanation) (Loland, 2001).

Gender

Usually based on cultural stereotypes of masculinity and femininity (Stonewall, 2017).

Gender Binary

When gender identity is only be defined as being either a 'man' or a 'woman' (Barras, 2021; Stonewall, 2017).

Gender Dysphoria

Usually a medical/clinical term used to describe an individual who is not comfortable their sex assigned at birth and their gender identity as they do not match, individuals experience distress or discomfort that impact negatively their daily lives (Barras, 2021; NHS, 2020a; Stonewall, 2017).

Gender Fluidity

Refers to when an individual does not fit gender binaries but instead is not fixed to one and moves between the genders interchangeably throughout their life (Barras, 2021).

Gender Identity

How an individual defines themselves, it that may be opposite to their sex assigned at birth or something else that does not fit with gender binary (Stonewall, 2017).

Human Rights

“Human rights are standards that recognise and protect the dignity of all human beings” (UNICEF, n.d., para. 1).

Hyper-masculinity

Collins dictionary (2022) defines hypermasculine as an excessiveness to stereotypical male traits (Collins Dictionary, 2022a). In addition, when something is considered stereotypically masculine it refers to traits such as strength, power and confidence (Collins Dictionary, 2022b). Thus, hypermasculinity is in relation to when stereotypical male characteristics or behaviours are heightened.

Inclusion

Inclusivity encompasses the level of tolerability in permitting participation in your sport (IOC, 2021f). Within this study inclusion refers to when an athlete is able to compete in their sport in the gender category they identify with.

Lexical Priority

Is an approach that involves organising things according to one main principle, then another principle, then another. Similar to a decision tree or filter system (Pike, 2021).

Meaningful Narratives

It is the premise that sport is about telling a meaningful story about oneself through meaningful narratives (Gleaves & Lehrbach, 2016). These meaningful narratives have come about due to sport being encompassed and shaped by culture, which has enabled meaningful experiences to be embedded within sport that assemble into sporting narratives (Gleaves & Lehrbach, 2016).

Pass/Passing

If someone at a glance is acknowledged as their preferred gender, this can be due to historically/culturally stereotypical behaviours and physical gender cues (Barras, 2021; Stonewall, 2017).

Policy

Principles or plan of what should occur in response to a certain situation, that has been agreed upon by a multitude of people, governments, or organisations (Cambridge English Dictionary, n.d.).

Recreational Sport/Recreational Level

In this thesis this regards individuals attempting to learn basic skills to individual aiming to obtain skill that will help them progress in the sport. Individual may place some importance on training and have some attitude in wanting to advance their performance, however individuals will not be competing at such a high level and there is still this overall emphasis on creating a positive experience and enjoyment.

Reductionism

Reductionism involves breaking something down into its basic components and explaining it using simple terms, thus can be deemed to not be complex enough to address all issues (Cambridge Dictionary, 2022).

Semi-structured Interviews

This type of interview uses a pre-planned set of questions that guide the interview, the questions are however open-ended (Smith & Sparkes, 2016).

Sex

Usually based on reproductive functions and sex characteristics (Stonewall, 2016).

Stakeholders

Stakeholders in the sporting environment consist of anyone who is primary or secondary, actively or passively involved in sport (Stokes, 2008). For example, athletes, spectators, the community, media, sponsors even to political leaders and businesses (Stokes, 2008).

Successful Competition

For a competition to be successful the athlete or team that wins should be the one who demonstrates the superior athletic skill and to achieve the better formal result than their opponent/s, whilst using only the permitted means (ludicrous means) to achieve that sport's specific goal (preludicrous goal) (Dixon, 1999; Hämäläinen, 2014).

Testosterone

The major androgenic steroid hormone (South Tees Hospitals NHS Foundation Trust, 2021). In men it is synthesised in the testes and women in the ovaries (South Tees Hospitals NHS Foundation Trust, 2021). Testosterone is responsible for the development of male secondary sexual characteristics more specifically in men, whereas in women due to the usually small concentration it has no affect (South Tees Hospitals NHS Foundation Trust, 2021).

Trans

It is an umbrella term for people who do not identify with their assigned sex at birth and encompasses (but not limited to) people who describe themselves as transsexual, transgender, trans man, trans woman, trans masculine, trans feminine, gender variant, gender fluid, non-binary, gender-queer, genderless, agender, nongender, third gender, bi-gender, two-spirit, crossdresser and drag artist (Barras, 2021; Stonewall, 2017).

Transitioning/Gender Reassignment

It can involve multiple steps and differs for each individual but can involve medically transitioning (for example hormone therapy or surgery) or socially transitioning (for example changing one's name or telling relatives and friends), but essentially is the process a person takes to align their gender identity with their gender presentation (Barras, 2021; Stonewall, 2017).

Trans Women

When an individual's sex assignment at birth was male but their gender identity is female, this may mean they socially and sometimes medically transition to be female (Barras, 2021; Stonewall, 2017).

Trans Man

When an individual's sex assignment at birth was female but their gender identity is male, this may mean they socially and sometimes medically transition to be male (Barras, 2021; Stonewall, 2017).

Transmisogyny

Involves prejudice against trans women and the idea cis people are more natural and legitimate than those of trans people, usually leading to trans women being perceived as threats to cis females (Barras, 2021).

Abbreviations

BUCS

British Universities & Colleges Sport

CAS

Court of Arbitration of Sport - An organisation that has been put in place to help resolve any disputes that affect sports either directly or indirectly (Court of Arbitration of Sport., n.d.)

CEDAW

Convention on the Elimination of All Forms of Discrimination against Women - an international bill of rights for women (United Nations General Assembly, 1979). A treaty adopted in 1979 by the United Nations General Assembly (United Nations General Assembly, 1979)

COS

Current Olympic Sports (International Olympic Committee (IOC), 2021a)

DSD

Differences of Sex Development - A person's sex development is different to most other people's, due to genes, hormones and reproductive organs, including genitals (NHS, 2019)

FINA

International Swimming Federation (Fédération Internationale de Natation)

GAHT

Gender Affirming Hormone Treatment – a treatment aimed to make individuals more comfortable with their physical appearance. In general, it involves the hormones testosterone (masculinisation) and oestrogen (feminisation) (NHS, 2020b)

FIMS

An international association, that develops and promotes Sports Medicine throughout the world (International Federation of Sports Medicine (FIMS), 2022)

IOC

International Olympic Committee (International Olympic Committee (IOC), 2011)

NBA

National Basketball Association

OR sports

Olympic Recognised sports (International Olympic Committee (IOC), 2021c)

ROS

Retired Olympic Sports (IOC, 2021a)

SCEG

Sport council Equality Group - It involves the relevant officers associated with all the sport councils (Sport Northern Ireland, Sport Scotland, Sport England, Sport Wales and UK Sport), with the aim to encourage and improve equality in sport by providing resources, funding and relevant skills to help pursue this (Sports Council Equality Group, 2021)

Sport NGB

Sport National Governing Body - An organisation that governs and administers a sport (Sport England, 2022a; Sport Northern Ireland, 2022). This involves promoting and investing in their sport, managing rules and polices, encourage participation and develop their athletes, coaches and officials (Sport England, 2022a; Sport Northern Ireland, 2022)

TA

Thematic Analysis – “*a method for systematically identifying, organising, and offering insight into patterns of meaning (themes) across a data set*” (Clarke & Braun, 2017, p.57)

UCI

Union Cycliste Internationale - the world governing body for cycling (Union Cycliste Internationale (UCI), 2022b)

WNBA

Women’s National Basketball Association

Chapter 1: Introduction

1.1 Overview of the Thesis

Elite sport is fundamental due to the significant impact it can have on society and the benefits involved (Allender et al., 2006; Buzuvis et al., 2021; English, 1978; Grasdalsmoen et al., 2020). Therefore, there has always been debate around who is able to compete in elite sport and reap the rewards (English, 1978). Most sports benefit male characteristics leading males to dominate the majority of sports, hence if women wanted to be represented in sport, sex categorisation was required (English, 1978; Shin, 2018).

There were and are still currently discussions around the use of sex categorisation in sport. It is considered that the use of a separate female category represents females as the weaker sex and never the prime event in sport. This then also becomes reflects within society (Shin, 2018). Conversely, without sex categorisation women would ultimately disappear from elite sport and have no representation entirely (English, 1978; Shin, 2018). Further, debates have also emerged in how to define sex categories (Foddy & Savulescu, 2011; Parry & Martínková, 2021). This discussion became even more pressing with the increased development of trans women (when an individual's sex assignment at birth was male but their gender identity is female, this may mean they socially and sometimes medically transition to be female) in sport (Barras, 2021; Ljungqvist, 2004; Takemura, 2020).

Trans women even after gender affirming hormone treatment still maintain certain male attributes, therefore there is the potential that trans women may hold an unfair advantage over cis women (sex assignment at birth was female and their gender identity is also female in sport) (Gooren & Bunck, 2004; Harper et al., 2021; Hilton & Lundberg, 2021; Wiik et al., 2020). The scientific literature currently demonstrates that a large amount of research is still required to understand the potential advantage trans women may have, as there is limited research completed on trans athlete's sporting performance (Hamilton, Lima, et al., 2021; Harper et al., 2021).

The current debates at the moment are surrounding whether the inclusion of trans women in the female category of sport would be unfair and unsafe for cis females (FINA, 2022; Pike, 2021; Takemura, 2020; World Rugby, 2021a). On the other hand, is the exclusion of a marginalised group from sport detrimental to those individuals affected (Barras, 2021; Gleaves & Lehrbach, 2016; International Olympic Committee (IOC), 2021e).

1.2 Rational and Research Aim

In 2004, the International Olympic Committee (IOC) announced the Stockholm consensus on sex reassignment in sports. This arose after an increase in the number of individuals undergoing sex reassignment which led to debates around whether there is a requirement for specific regulations for their participation in sport (Ljungqvist, 2004). The 2004 regulations allowed for individuals undergoing sex reassignment to compete in the gender they choose, under the conditions of surgical anatomical changes, legal recognition and hormone therapy (International Olympic Committee (IOC), 2004). Conversely in 2015 the IOC updated their regulations to focus on testosterone levels, due to certain countries having different gender identity autonomy laws and the unnecessary requirement for surgical anatomical changes to ensure fair competition (International Olympic Committee (IOC), 2015). Trans men were able to compete in the male category with no restrictions (IOC, 2015). However, trans women were required to have a testosterone level below 10 nmol/L for at least 12 months prior to their first competition and remain below throughout the period of competition (IOC, 2015).

In 2021 the IOC replaced the 2015 regulations with the release of the IOC Framework on Fairness, Inclusion and Non-Discrimination on the Basis of Gender Identity and Sex Variations (IOC, 2021e). The new update consists of a framework intended at sporting bodies to help them develop criteria sufficient for their specific sport (IOC, 2021e). The framework aims to consider both respect for athletes' identities and fair competition. It follows a 10-principal approach that each sporting body should consider when establishing their trans men and women eligibility criteria (IOC, 2021e). The framework highlights how regardless of gender identity everyone should be able to participate in sport, athletes' well-being should be prioritised and there should be no presumption of advantage. Additionally, the framework promotes the need for large amounts of research to be completed with the establishment of policies. For example, obtaining evidence specific to the sport and demographic as well as consulting stakeholders and reviewers from multiple fields (e.g. ethical, legal and scientific) (IOC, 2021e). Particularly

the framework states “*When drafting, reviewing, evaluating and updating eligibility criteria, sports organisations should meaningfully consult with a cross-section of athletes who may be negatively affected in order to prevent harm*” (IOC, 2021e, p. 5).

Considering the large amount of research the new IOC framework necessitates from sporting bodies, with a particular focus on obtaining stakeholders views. There is a requirement for the voices of elite female athletes to be considered when regarding the inclusion on trans women in the female category of elite sport. Certain sport National Governing Bodies (NGBs) when updating their policies have consulted athletes in internally conducted surveys (International Swimming Federation (FINA), 2022; International Rugby League, 2022). However, the specifics of these surveys are unknown, and will likely remain, unknown. Regarding the peer reviewed literature there is only one paper to consider the voices of elite female athletes regarding this topic (Devine, 2021). This study highlights how athletes felt that they were unable to speak freely on trans inclusion and that their sport NGB had not consulted them on this matter (Devine, 2021). Therefore, there is still a requirement to provide athletes with an avenue to be able to safely express their views on the inclusion of trans women in the female category of sport.

Further, with the new IOC framework being released it has encouraged a number of policy updates from sport NGBs (British Cycling, 2022; FINA, 2022; World Triathlon, 2022). Further with the continuous discussion in the ethical and scientific literature in what is considered an unfair advantage in sport or if trans women even hold an advantage, it has led to athletes continuously being caught in the crossfire (Foddy & Savulescu, 2011; Hamilton, Lima, et al., 2021; Harper et al., 2021; Parry & Martínková, 2021; Sailors, 2020). Athletes’ voices are essential within this topic as fundamentally they are the individuals who will be impacted by these policy or categorisation changes. Therefore, with continuous debates over categorisation in sport and no peer reviewed literature to consider a large number of elite athletes in a variety of sports. There is a gap in the research to understand athletes’ outlooks on the most sufficient way to categorise sport and to find an appropriate way to include trans women in different types of sport.

The current thesis aims to combat this gap in the literature through an ethically reviewed and scrutinised piloted survey, with advice and input from multiple researchers with a range of backgrounds. Similarly, the use of interviews will aim to provide a further in-depth narrative

surrounding athletes' experiences on this matter. In order to provide guidance in how to produce appropriate policies on trans inclusion that have considered athletes' voices.

1.3 Summarisation of the Thesis

The aim of the study was to represent the voices of athletes most affected by changes in policies surrounding trans inclusion, by providing them with an official anonymous avenue to express their views. This is because athletes should have the moral entitlement to be able to voice their opinions on decisions that ultimately impacts them and their livelihood, as well as to provide guidance and credibility to future policies surrounding trans inclusion. The thesis will include a literature review chapter (2) which will attempt to summarise the research and debate surrounding trans women inclusion. It will involve the journey of women in society and sport whilst also providing an account of trans individuals in society and sport. Additionally, the literature review will include the significance of sport, especially the importance of elite sport and the benefits that it can equate to. This leads on to the importance of categorisation in sport and the debates around it. This will incorporate an overview on ethical discussions surrounding fairness, safety and inclusion which also encompasses summarisations on the biological research and stakeholder's views. This chapter will also highlight the gaps and limitations in the research.

The following chapters (3 and 4) will begin to represent the voices of elite athletes through a survey that received respondents from 123 elite female athletes. Following the survey athletes were asked to leave their email if they wished to partake in an interview to further expand on their opinions. This led to 5 interviews being completed on a range of athletes from different sports. The survey data is represented as percentages and analysed by statistics. A thematic analysis was conducted on the interviews to allow myself the researcher to generate certain themes. Overall, the paper acknowledges how depending on the context athletes' voices do differ with sports leading to different outcomes. For example, there is differences of opinion on the inclusion of trans women in the female category for contact sports and sports heavily reliant on physical capacity to precision sports. Furthermore, retired Olympic sport athletes are more supportive of categorisation by biological sex compared to current Olympic sport athletes. To differences between elite and world class athletes. Therefore, when completing discussions surrounding this topic a range of athletes should be represented and both sides of the discussion should be understood. The thesis additionally provides guidance in how policy changes should

undergo. For example, an emphasis on support for athletes' wellbeing as well as a step away from swift, sudden changes and universal policies to a focus on what is essential to each sport and its priorities.

Chapter 2: Literature Review

2.1 Society and Sport

This section aims to demonstrate the journey of women in their development through sport and society. To provide an understanding to the reader just how impactful sport can be for individuals within society. The section then begins to relate how this sporting impact can positively or negatively affect trans individuals.

Women's Experience in Society and Sport Inclusion

When considering literature that focuses on the history of women in sport, it is important to understand the effects wider society has on sport. For example, in the Victorian era due to the limited role of women in society they were viewed as “*weak*” (p. 255) and “*fragile*” (p. 306) (Gregg & Gregg, 2017; Lemmon, 2019). This led to common myths about women and their participation in sport, specifically sport being too dangerous for them to partake in, or it even causing infertility (Gregg & Gregg, 2017). Therefore, if women were given the opportunity to play sport during this period, it was solely to be recreationally focused (Gregg & Gregg, 2017).

On account of their contribution to the first world war, attitudes began to change and women were no longer seen as incapable and weak. (Dumenil, 2017; Lemmon, 2019). For example, during the height of the World War one and two, women were no longer restricted to “*women's work*” (p. 156), with a majority of them finding jobs that were traditionally seen just for men, such as working on the railroads and in steel and iron industries (Dumenil, 2017). This also included jobs involving heavy, physical labour and managerial roles (Dumenil, 2017). The war meant women were required to keep factories and the economy functioning, and men became compelled to appreciate how useful women were, leading to increased status both socially and financially (Dumenil, 2017; Lemmon, 2019). Unfortunately, after the First World War many women lost their jobs with the return of men from the army. Regardless, the war still enabled stereotypical views and barriers society held on women to be dismantled (Dumenil, 2017).

Women continued to make advancements in the decades after the First World War with their increased participation in work force unions (Dumenil, 2017). Similarly, in the Second World

War women were again able to prompt their worth in society (Dumenil, 2017). However, the main advancement developed in the 1960s through new feminist movements and an enlarged women's labour union presence. For example, in Britain there was the development of The Equal Pay Act (1970) that aimed to reduce sex discrimination in the workforce and made it illegal to pay women lower rates than men for the same work (Equal Pay Act, 1970). In America the 1964 Civil Rights Act played a comparable role (Dumenil, 2017). Similarly, other acts brought into law in America included Title IX of the Education Amendment Act (1972) which helps increase equality for women in academia (Office for Civil Rights (OCR), 2021). This act has a particular influence on sport by providing equal athletic scholarship money, equal allocation of benefits, and equal opportunities/resources offered to both sexes (for example, locker rooms, support services, payment of coaches and tutors) (Gregg & Gregg, 2017; Lemmon, 2019). Furthermore, this progression of equality in the workplace and educational programmes also continued to filter into sport. For instance, in the Montreal 1976 Olympics, women doubled their representation from 1928, and from 1991 onwards the IOC required all new Olympic sports to have both a men's and women's category (International Olympic Committee (IOC), 2021d). Illustrating for the majority of our recent history, the way women are viewed by society impacts their ability to partake in sport. Hence, when there was progression in society for women this progression was also seen in sport.

Not only does society impact sport, but the reverse is also the case. When women were prevented from sport participation it not only led to a ban from sport, but it also created and invented barriers for women in public spaces and general social life (Lemmon, 2019). For example, sport participation can lead to enhanced education, from scholarships to reducing failing/dropping out of classes and it is even associated to improved academic performance (Lemmon, 2019). Having a higher education is then also proven to lead to better economic conditions later in life (Lemmon, 2019). Therefore, women having reduced participation in sport has led to lack of opportunities in wider society. Therefore, there is a mutually established relationship between sport and society.

Furthermore, sport participation has been crucial for helping women in the fight for equality. This is demonstrated through the formation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) international treaty. It was formed to globally benefit equality for women's human rights, and with the significance of sporting participation on society, it has adopted specific articles (10 and 13) to focus on highlighting equality within

sport and physical activity (United Nations General Assembly, 1979). In addition, within the fight for equality there has been large discussions around the right for equal pay (Lemmon, 2019). Some female athletes who compete at the highest levels in their sport are considered employed, and therefore when they are seen to get equal prize money or pay for competitions, it helps women in their fight for equality (Lemmon, 2019). This signifies the importance for there to be equality in sport, as it has implications within society.

There has been improvement in equality for women in society and sport, however a gap still prevails. Weatherford et al. (2018) recognises how social constructs of femininity still exist, which has had detrimental effects on gender equality, especially how now more than ever sport is becoming increasingly evolved around money. For example, maximising revenue, creating a commercial enterprise and increasing profit, are becoming the focal priorities of most sport organisations, and concerns such as sport for all, health focuses and equal opportunities are becoming increasingly absent (Weatherford et al., 2018). This has led to less than one per cent of elite sport sponsorships being invested into women's sport, and if sportswomen are able to have access to endorsements it often involves the media representing them as a certain type of women who is sexy, wears limited clothing, attractive, highly feminine and heterosexual (Mott, 2015; Visua, 2022; Weatherford et al., 2018). There has in more recent years been some improvement in women's representation in sport, for example a study examined the primary Instagram accounts of the official North American broadcasters of the Olympic Games. It was concluded that there was equitable representation (Johnson et al., 2022). However, women were presented away from the field of play more than men, displaying that women are often portrayed away from masculine spaces (Johnson et al., 2022). As well as there was more use of multigender images for women. This may emphasise to viewers that female athleticism needs to be validated by a male presence (Johnson et al., 2022). Furthermore, full gender equality is yet to be reached in sport managerial and coaching roles, with women only occupying 14% of European Union sport federations' top positions and similarly, in Rio 2016 women only represented 11% of recognised coaches (International Olympic Committee (IOC), 2021f; Weatherford et al., 2018). Consequently, at present women still face disadvantages and adversity in a variety of spaces within the sporting industry and therefore, as much as gender equality has progressed in prior decades, significant barriers and stereotypical views of women are still at play. This has become an even more pressing matter due to the benefits that come with sport.

Sport and its Benefits

Participating in sport is now in some respects considered a human right, for example in the Principles of Olympism “*The practice of sport is a human right*” (para. 9); or in the certain treaties mentioned above such as the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) treaty “*parties shall take all appropriate measures to eliminate discrimination against women*” (p. 5) in order for them to have access to “*The right to participate in recreational activities, sports and all aspects of cultural life*” (p. 5) (IOC, 2011; United Nations General Assembly, 1979). This present attitude is significant due to the benefits that come from participating in sport, thus it is vital that everyone has the opportunity to participate in order to reap the benefits. These benefits include positive implications to physical health (for example increasing fitness and the prevention of non-communicable diseases) and mental health benefits (such as reduced depression, self-harm and anxiety) (Grasdalsmoen et al., 2020; Mountjoy et al., 2018). Similarly as described earlier, the status of sport within society, it can allow an individual to be welcomed within the community or even result in a significant increase in social status. This is because participating in sport involves benefits that are valuable to a person’s identity for example, positive characteristic traits such as leadership, teamwork, dedication and adversity (Allender et al., 2006; Barras, 2021; Buzuvis et al., 2021). Therefore, sport participation provides individuals with skills beneficial in wider settings. English (1978) positions these as the basic benefits, and that it would be considered unfair if everyone did not have the opportunity to obtain these benefits.

Sport also involves benefits that can be gained with participation at a high level. These can range from medals, university offers/scholarships and to financial gains (Shin, 2018). For females to be able to reap these elite sport benefits it is necessary for there to be some sort of categorisation for women, as sport holds this “*male bias*” (English, 1978, p. 276). This is because sport is made by men, for men and is therefore dominated by men (English, 1978; Shin, 2018). For example, women first started competing in the Olympic games in 1900. However, only two sports contained women-only categories, and out of 997 athletes, women only represented 22 (IOC, 2021f). It wasn’t until 1991 that the IOC ruled that all new sports must have both a female and male category (IOC, 2021d). This enabled women to have a place in sport and to be able to reap these elite sport rewards.

In some regards having this female category establishes this view that women are inferior. It presents a justification for society to treat women differently and perpetuates attitudes that

women are not the primary event (Shin, 2018). On the other hand, without a separate category for women, men would dominate elite sport and reap the fame and fortune, leaving limited to no representation of women (English, 1978; Shin, 2018). Therefore, as previously mentioned the significant impact sport has on society, this lack of representation would then be reinforced within wider society and women would be seen as the inferior sex (English, 1978; Shin, 2018). Therefore, the intention of creating a separate category for women was to allow them to be recognised for their accomplishments and for them to be able to obtain the benefits that one reaps from elite level sport (Shin, 2018). The impact sport has on society has further made it vital to enable everyone to have the opportunity to access the benefits that come from sport, NGBs continue to attempt to provide equal access for all to these benefits. This can be observed in the present, with sport NGBs having campaigns promoting women's sport at a recreational level, for example the 'This Girl Can' campaign created by Sports England, that aims to reduce the barriers women may face when participating in physical activity (Sport England, 2022b). This also stretches to campaigns at the elite level. World Athletics (2021) launched the #WeGrowAthletics campaign, which was launched to celebrate and to grow the importance of women's competitions, women in leadership roles within athletics, and breakdown old traditions about women in sport, whilst ensuring a safe place for women to express their voices (World Athletics, 2021b).

There are many more campaigns that have emerged to try and encourage women at all levels of sport (Mastercard, 2020; Nike, 2015; Ratcliffe, 2021; The Football Association, 2021; Women's Cricket World Cup, 2022). Indicating the significance of sport participation for every individual and how it helps reinforce their place in society. Consequently, validating the formation of the female category in order for women to have this access to sport and all the opportunities that come with its participation. However, when the female category leads to the exclusion of another marginalised group of individuals from sport such as trans individuals, what detrimental effects does this have for trans individuals in society and their access to the benefits of sport.

Trans Individuals' Experience in Society and Sport Inclusion

The literature signifies the importance of sport on society, society on sport and the benefits that are formed from participating, however, where do the female and male categories leave trans people and their place within sport? In the UK, in 2009 the number of people who had experienced some degree of inconsistencies with gender was between 300,000 to 500,000, and

this statistic still stands at present, with the number of trans individuals making up around less than 1% of the population, with an estimate of around 200,000 to 500,000 in the UK (Coleman et al., 2022; Faye, 2021; Reed et al., 2009). Trans individuals may only make up a small percentage of the population, but they are one of the most vulnerable groups within civilisation (Faye, 2021). There is limited peer reviewed literature that encompasses the issues that trans individuals face in society and captures their true struggles. However, the book titled ‘The Transgender Issue’ by Faye (2021) enables a real insight into their difficulties. Faye (2021) documents bullying, domestic abuse, physical violence that can lead to increased self-harm and suicide rates in the trans population. For example, one particular saddening section in trans history was the death of a trans teacher Lucy Meadows. Lucy Meadows, after long deliberation decided to transition during her teaching career. This led to a large amount of uproar. Within days her name was printed all over the media, with newspapers using “*mocking headlines and juvenile comments*” (p. 4) to describe her (Faye, 2021). She had journalists waiting outside her house and placing personal attacks on her. She was harassed, mocked and her privacy was taken from her (Faye, 2021). Sadly, in March 2013 she committed suicide, this was not her first attempt and her surrounding circle commented how she had been suicidal for some time (Faye, 2021). Lucy Meadows like the majority of trans individuals face complex lives causing emotional pain and distress, and this became heightened even more by the media attack (Faye, 2021).

The difficulties faced by trans individuals are continued even after transitioning. Society being very gender-orientated is a fundamental reason behind trans people’s vulnerability. This includes services and facilities, that a cis gender individual would never need to consider being a concern. One extreme example of the major problems faced by trans people, due to being isolated from their families or issues of abuse, is homelessness (Faye, 2021). However, homeless shelters are either women only or men only, leading to trans individuals being unsure on their allocation (Faye, 2021). Similarly, a huge issue faced by trans women in particular is transmisogyny (prejudice against trans women), caused by the perception of trans women being seen as threats to cis females (Faye, 2021). Therefore, many female domestic violence services have not been able to accommodate trans women, as they state how they would not be providing the right environments for traumatised cis females (Faye, 2021). Considering the vulnerability of the trans population, and the benefits mentioned that come from participating in sport (for example mental health benefits and feeling part of the community), encouraging trans people to be involved in sport should be of even more importance. Consequently, it should

be even more crucial for sport NGBs to focus on reducing the barriers that trans people face in sport participation.

A barrier trans individuals face in the sporting environment is the difficulty of it being very gender focused, like the majority of society. For example, in a study by Barras (2021) who asked trans individuals (n= 18; 9 trans women/transsexual females; 7 trans men/trans masculine; 2 non-binary) to express their experiences on sport and physical activity, a main barrier that was identified for trans people is the issue of changing rooms (Barras, 2021). Many commented on how no matter what gender they identified with, they would choose the gender changing room they were more likely to pass for to avoid confrontation, as “*passing becomes a tool for perpetuating cisgender privilege*” (Barras, 2021, p. 135). Furthermore, some trans people reported avoiding changing areas completely and as a result sporting spaces altogether (Barras, 2021). This is because many facilities are open-planned spaces, for example they often lack privacy, which for trans people with surgery scars or wearing binding can often mean they feel nervous and uncomfortable (Barras, 2021). Furthermore, issues of transmisogyny are heightened even more in these areas, as changing rooms are considered safe places for cis women and there is the perception that trans women may threaten this (Barras, 2021). At present, there does not seem to be a positive movement in improving the recreational space of sport for trans individuals. For example, the Sports Councils’ Equality Group (SCEG) (2021) produced guidance on trans inclusion within domestic sport (non-elite). The focus of this guidance was towards the exclusion of trans women in sport, and there was no focus or advice on how sport NGBs can make their sporting environment accommodating to trans individuals, if they were to choose this as the right course of action.

Similarly, participants in Barras’ (2021) study also commented that the hostility and debate focused on the elite level can progress down to the lower levels, and result in barriers for trans people in everyday physical activity. This barrier has been increasingly heightened, with the elite sport debate being publicised in the media usually in a negative and hostile way, by the qualification of a trans women weightlifter in the 2020 Olympics, Laurel Hubbard (Barras, 2021). The media placed a large amount of emphasis on her having an unfair advantage, correspondingly many trans women in Barras’ study expressed how they were afraid they would have this advantage, or their acceptance in recreational sport would be negatively taken as a result of people assuming they had this advantage (Barras, 2021). However, many soon realised how this concern was false (Barras, 2021). For example, one participant commented

on their experience with recreational sport “*it was problematic for me. I thought having gone through a male puberty and being exposed to all that testosterone, it almost felt like being a massive drugs cheat. But I’m not very good!*” (Barras, 2021, p. 144). This study is focused on a small number of individuals who are at the recreational level, this experience may not be represented by the whole trans population, especially when it comes to elite athletes. Even though the majority of the debate is focused on the elite level (as will be discussed below), the negativity expressed at the top levels has detrimental effects across lower levels of sport, as a result recreational sport cannot simply be disregarded in the debate.

Sport can be a useful tool to support trans individuals through transitioning. For example, Barras (2021) found that trans individuals who participate in sport in their chosen gender, began to feel more secure and expressed how they could now truly identify with themselves (Barras, 2021). Therefore, sport can be a useful solution to combat feelings of gender dysphoria in trans people. This heightens how destructive it can be to deny trans people the ability to partake in sport in the gender that they identify, at the recreational level. Currently, there is debate around the use of using gender identity categorisation, instead of biological sex to enable trans individuals to participate in sport in the gender they identify with. The discussions surrounding the debate, is where does it leave fairness and integrity of sport, if there are individuals competing in the female category who have physical attributes of the male sex? As this may lead to unfair advantages that have the potential to affect cis females having equal chances of reaping the benefits that come from sport, with a greater impact at the elite level. However, not providing a place for trans people in sport participation can have detrimental effects, due to the impact sport has on society and vice versa, mentioned above. Therefore, similar to the historic experience of cis women, it can lead to trans women being further separated from society and being portrayed as inferior. Comparatively, should sport move away from biological sex to gender identity categories, to allow for sport to be more accommodating and provide all with the opportunity.

2.2 Considerations for Sport Categorisation

Fundamental Aims of Sport

To determine if the current categorisation criteria is suitable, researchers have reflected on the fundamental aims of sport. One highlighted fundamental aim in the literature, is the need for fairness and evenly matched competitors to give everyone a more or less equal chance

(Martínková et al., 2021; Sailors, 2020). For example, there is lack of entertainment and unfairness without matched competitors, consequently this is basis for categorisation. However, what to categorise individuals on to provide matched competitors is debated.

The literature emphasises that there are multiple advantageous aspects that produce a successful athlete, these range from genetics to socio-economic backgrounds. For example, athletes come from a range of backgrounds, leading to different training/coaching facilities and upbringings (Foddy & Savulescu, 2011; Martínková, 2020). With multiple aspects affecting sport performance, there is debates around how using one factor such as testosterone is insufficient (Foddy & Savulescu, 2011). Parry and Martínková (2021) on the other hand accept that in sport there are multiple factors contributing to a successful athlete causing unfair (dis)advantages. However, they identify elite sport only focuses on providing fairness within actual competition (for example, in the 100m every athlete runs the same distance). Additionally, they acknowledge if all dis(advantages) were removed, athletes would all be equal removing the core value of successful competition in elite sport (Parry & Martínková, 2021). Thus, unlike Foddy and Savulescu, Parry and Martínková (2021) develops a distinction between why some advantages are accepted, and some are not.

Parry and Martínková (2021) explain there are qualities that are beneficial in certain sports that are considered decisive factors in deciding who wins or loses, and others that are not enough of a decisive aspect. When a characteristic is decisive in defining a winner in sport, it is a *category advantage*, when a characteristic is non-decisive, it is a *competition advantage* (Parry & Martínková, 2021). According to Parry and Martínková (2021), it is *category advantage* characteristics that sport categorisation should be based on. Parry and Martínková (2021) consider the example of height, it is understood that being tall is beneficial in sports like volleyball or basketball, yet it is not a decisive factor. However, something like weight in a sport such as boxing, is a decisive factor as it creates inequitable competition leading to bias. As a consequence, weight is seen as a category advantage and thus why boxing is categorised through weight (Parry & Martínková, 2021). Similarly, for the majority of sports sex is a *category advantage* as is a predictable factor in deciding who will win or lose.

However, in critique of Parry & Martínková's (2021) example of height, when considering the National Basketball Association (NBA) data (a professional basketball league in North America, considered the most premier basketball league in the world), it validates the

significance height has in basketball (Fraschilla, 2017). In the NBA the average NBA player in the 2021-22 season is 6'6", with only 21 players out of over 500 being 6 foot or under, whereas in the United States the average male is around 5'9" (The Hoops Geek, 2022). Therefore, any individual below the average and with the potential of making an NBA team seems unfeasible. This establishes the critical and predictable role of height in sports such as basketball, contending height to be considered a *category advantage*. Thus, when considering real life data, Parry and Martínková's height example is impractical. However, using Parry and Martínková's proposition, it establishes why sex is a *category advantage*. When NBA height data is compared to the women's National Basketball Association (WNBA) height data, the average WNBA player is between 5'11 and 6 foot (Steve, 2022). Thus, with how predictable height is in determining an individual's place in basketball and the difference in height between men and women (around 6 inches), under Parry and Martínková's perspective it validates why sex should be used to categorise certain elite sports as without, women's representation is obliterated. When there is further insight into the physiological differences between cis men and cis women, it establishes why there is biological sex categorisation in sport.

Biological Sex Categories?

According to World Athletics, (2019b) sport is segregated by sex "*because of the significant advantages in size, strength and power enjoyed (on average) by men over women from puberty onwards, due in large part to much higher levels of androgenic hormones, and the impact that such advantages can have on sporting performance...in order to preserve the safety, fairness and integrity of the sport*" (p. 2). A useful sport that demonstrates the performance differences between cis men and cis women is weightlifting. Weightlifting along with separating sport by sex also involves weight categories, which allows for mass comparisons (Hilton & Lundberg, 2021). It was identified how even after mass adjustments, males have a 30% advantage, and even when females are 60% heavier the advantages still cannot be overcome (Hilton & Lundberg, 2021). Further performance differences can be seen in Table 1 (Table 1).

Table 1
Performance difference between cis men and cis women in different sports.

Sport	Performance difference between cis men and cis women
Ultra-endurance running (50 to 1000km/6 to 240hours)	1-6%
Shooting and archery	-8.11% - 5.26%
Endurance swimming and running	10-13%
Track cycling	9%-24%
Jumping events	18%
Sports involving a large amount of body strength (hockey, baseball)	<20%
Power endurance sports	27.8%
Weightlifting	30%
Vertical jumps	33%
Power precision sports	40%
Combat sports	40%

Note. (Hamilton, Guppy, et al., 2021; Hilton & Lundberg, 2021; Sandbakk et al., 2018)

Conversely, with using sex categorisation, came the unfounded fear men would use their advantage and masquerade as women to obtain the benefits of success in elite sport (Sullivan, 2011; Wiesemann, 2011). As a result, sport NGBs felt obliged to define requirements for who is eligible for the ‘female’ category and who for the ‘male’ category, along with verification methods for these requirements (Sullivan, 2011). This initiated gender-verification testing aimed at females in 1966, which involved multiple methods, for example examination of external genitalia or using sex chromosomes, due to the multiple controversies that emerged with each method (Sullivan, 2011; Teetzel, 2014). This is because the tests were humiliating for female athletes, and even more so for those female athletes who did not fit the majority (Sullivan, 2011; Wiesemann, 2011). For example, chromosome testing relied on females to have two X chromosomes which does not account for all women who were assigned female at birth, such as those with Turner’s syndrome who only have one X chromosome (46, X0) (Sullivan, 2011). Along with excluding minorities, the tests were also inconsistent and lacked scientific accuracy (Sullivan, 2011). It was not until the 2000 Olympics, IOC finally removed gender verification testing and adopted the current suspicion-based gender verification method (Sullivan, 2011; Wiesemann, 2011). Sex segregation however still provokes complications for

trans women and men in elite sport. This pushed the IOC to concentrate policies on transgender athletes, for example from focusing on surgical anatomical requirements for trans women to compete in the female category in 2004, to shifting to serum testosterone levels in 2015 (IOC, 2004, 2015).

Testosterone levels became a method of defining sex categories due to the differences in levels between cis men and cis women and the affect it can have on sport performance. Men tend to have 15 times more circulating testosterone than cis women (Handelsman et al., 2018). The circulating testosterone levels for the average women is around <2 nmol/L whereas, healthy young men tend to have a range of circulating testosterone between 7.7 nmol/L – 29.4 nmol/L (Handelsman et al., 2018). Testosterone affects muscle, anthropometric variables and haemoglobin levels, therefore plays a significant role within performance (Table 2). The use of testosterone levels within categorisation has enabled trans women to be able to be eligible for the female category, if they lower their levels.

Table 2
The effects of testosterone on selected physiological characteristics relevant for athletic performance.

Physiological variable	Testosterone Effect	Physiological Impacts	Performance Advantage
Muscle	Increases muscle fibres (number and size), muscle satellite cells numbers, myonuclei number and size of motor neurones	Increases in muscle mass and strength	Useful in sports reliant on strength and explosive power, such as certain power athletic events (400m, 800m, hurdles, throwing and jumping events etc.)
Anthropometric Variables	Increases bone size and mass and function	Increases height Bones are stronger and denser Larger fulcrum with greater leverage for muscular limb	Fundamental in sports such as volleyball and basketball Reduces stress fractures Relates to power, which is useful in jumping, throwing and other explosive actions
Haemoglobin	Increases haemoglobin levels	Increase the availability of oxygen	Highly beneficial in endurance sports

Note. (Handelsman et al., 2018; Sandbakk et al., 2018; Wiik et al., 2020)

Testosterone suppression has been demonstrated to reduce certain physiological variables (Table 3). However, there is debate in the physiological literature in whether it is sufficient in reducing levels for trans women within the female range. For example, testosterone suppression not impacting height, limb length and handspan, allows trans women to still hold an advantage in sports where this is fundamental such as volleyball and basketball (Handelsman et al., 2018; Hilton & Lundberg, 2021). Also, advantages may still be present within sports that involve jumping, throwing and other explosive actions due to having a larger fulcrum with greater leverage for muscular limb (Handelsman et al., 2018).

Table 3

The effect testosterone suppression has on selective physiological characteristics.

Physiological Variable	The effect of testosterone suppression on physiological characteristics
Body Mass	Lean body mass to reduce by 3-5% after 1 year
Muscle Mass	Muscle cross-section area to reduce by 1.5%-9.7% after 12 months, no further change after 24 months Thigh muscle to reduce in size by 4-5% Magnetic resonance imaging (MRI) identified a reduction of 12% after 3 years
Body Fat	Increases body fat Training can cause resistance to any change
Anthropometric Variables	No effect on height or bone length No effect on bone mineral density, even after 2 years
Haemoglobin and oxygen-carrying capacity	Haemoglobin levels to reduce by 11-14%. Maximal Oxygen Consumption (VO ₂ max) is related to haemoglobin levels equating to decreases in VO ₂ max Unknown effects on left ventricular size, stroke volume, blood volume, cardiac output lactate threshold, and exercise economy

Note. (Gooren & Bunck, 2004; Harper et al., 2021; Hilton & Lundberg, 2021; Wiik et al., 2020)

Further, strength advantages are likely to still be maintained in trans women, with testosterone only having small decreases in muscle size and lean body mass (Gooren & Bunck, 2004; Harper et al., 2021; Hilton & Lundberg, 2021; Wiik et al., 2020). This was validated in a study that compared the effects of gender affirming hormone treatment (GAHT) on strength performance (Wiik et al., 2020). Muscle strength was determined for the knee extensors and flexors using isokinetic dynamometry and collected at 4 different time points over a 12-month period. Data analysis at each time point, compared trans men (n= 12, age 25 ± 5 years, height 168 ± 5 cm,

body mass 66 ± 19 kg) and trans women ($n= 11$, age 27 ± 4 years, height 180 ± 5 cm, body mass 70 ± 10 kg), as well as comparisons with recreationally active cis gender controls (cis men, $n= 17$, age 27 ± 5 years, height 181 ± 9 cm, body mass 87 ± 19 kg; cis women, $n= 14$, age 26 ± 4 years, height 163 ± 4 cm, body mass 67 ± 10 kg) (Wiik et al., 2020). Over the 12 months trans women's isometric strength levels for extension and flexion were maintained over the 12 months (Wiik et al., 2020). In comparison, trans women had greater absolute and height-adjusted values for muscle strength levels than trans men and the cis female controls over the 12 months (Wiik et al., 2020). Thus, the advantage trans women have in strength is not reduced within the female range over 12 months.

There is only limited data gathered to demonstrate performance changes past the 12-month timeframe. Lapauw et al. (2008) collected data on isokinetic muscle strength of upper arm (biceps) and leg (quadriceps) muscles, as well as grip strength on trans women ($n= 23$) who were at least 3 years after GAHT. Trans women's peak quadricep muscle strength and 10kg lower handgrip strength reduced by 25% compared to cis males (control males= 53 kg, trans women= 41 kg), but not to the same level as cis females (Hilton & Lundberg, 2021; Lapauw et al., 2008). This study focuses on handgrip strength, therefore there is potential for there to be further investigation into sport specific performances after 36 months.

Roberts et al. (2021) has compared the fitness test results (measuring height, weight, waist circumference, number of push-ups and sit-ups in 1 min each, run time of 1.5 miles) of trans women ($n= 46$, age 26.2 years, height 164.4 cm, body weight 65.7 kg) taking oestrogen over 2 years, while serving in the United States Air Force. Their fitness test results were compared with the fitness test results of cis men (>2.3 million) and cis women ($>567\ 000$) in the Airforce, under the age of 30 between 2004 and 2014. Compared to cis men, trans women prior to treatment, performed fewer push-ups but had no difference in number of sit-ups and run times (Roberts et al., 2021). After 2 years of oestrogen, performance declined compared to cis men for all variables. Additionally, trans women performed more push-ups, sit-ups and had faster 1.5mile race times than cis females prior to oestrogen. After oestrogen of 2 years, the difference between trans women and cis women disappeared for sit-ups and push-ups. Mean difference for trans women compared to cis women was -0.9 for sit-ups and 2.1 for push ups. Trans women's run times did decline but always remained faster than cis women, with a mean difference of -90 . (Roberts et al., 2021). However, studies focusing on longer run distances have demonstrated different results to Roberts et al. (2021).

Testosterone suppression reduces trans women's haemoglobin levels within the female range, thus any performance advantages haemoglobin creates are removed (Gooren & Bunck, 2004; Harper et al., 2021; Sandbakk et al., 2018; Wiik et al., 2020). Leading to trans women to likely have reduced performance in endurance events (Harper et al., 2021). This has been demonstrated in a study by Harper (2015), who collected 5k, 10k, half marathon and full marathon race times from trans women (n= 8; n= 5 considered national or sub-elite level) before and after their transition. Harper (2015) reported that the eight runners were the same competitive level as they were when they competed in the female category and in the male category after GAHT.

The current research demonstrates that trans women experience performance reductions after GAHT, but in certain sports trans women still remain advantageous compared to cis females. However, in some regards the differences between trans women and cis women place trans women in some sports at a disadvantage, for example the larger mass and muscle is less advantageous for long endurance events (Harper, 2015; Roberts et al., 2021). Further, the studies above additionally acknowledge how training also may affect the way testosterone impacts variables and may cause reverse effects (Harper, 2015; Roberts et al., 2021; Wiik et al., 2020). Thus, research is still required to understand this. Similarly, there is an absence of longitudinal studies on the specific control group (trans women), that focus on biological data and sport performance for each individual sport. Until that research is done the International Federation of Sports Medicine (FIMS) recommend a threshold of 5 nmol/L for trans women's testosterone levels to be eligible for the female category, with over 87% of the 70 authors agreeing. This should be modified as new evidence surfaces (Hamilton, Lima, et al., 2021). For trans men it was agreed by 100% of the authors that their testosterone should be within the range of 9.2 to 31.8 nmol/L, to be eligible for the male category (Hamilton, Lima, et al., 2021).

Other fundamental values

Considering there is still no research completed on elite trans athletes and sport performance and the significant affects there are to preventing a group from partaking in sport, it should leave controversy in where trans women's place is in elite sport. Conversely, there are still a number of sport NGBs that have adopted full exclusion, for example the International Swimming Federation (FINA) released a policy only allowing individuals who "*have not experienced any part of male puberty beyond Tanner Stage 2 or before age 12*" (p. 7) to be

eligible for the women's category (FINA, 2022). Furthermore, certain sports have abruptly resorted to complete suspension of their trans inclusion policies. For instance, British Cycling suddenly suspended their transgender and non-binary participation policy, after differences in policies between British Cycling and International Cycling (Union Cycliste Internationale (UCI)).

The sudden abruption of British Cycling's policy, led to lack of clarification for certain individuals (Bridges, 2022; British Cycling, 2022). One athlete was trans cyclist Emily Bridges who was set to race in her first women's event at the National Omnium Championships. After being in contact with both cycling organisation 6 months prior, she was surprised and confused by the unexpected policy review. In a statement Bridges announced "*despite the public announcement, I still have little clarity around their finding of my ineligibility under their regulations*" (Bridges, 2022, para. 2). The change in policy also led to media backlash leaving her feeling "*harassed and demonised*" (Bridges, 2022, para. 4). Emily Bridges is not the only elite trans athlete to face confusion and hostility within the elite sporting environment (for example, weightlifter Laurel Hubbard and swimmer Lia Thomas) (Panja & Belson, 2021; Spocchia, 2021).

With present criteria leaving certain athletes left feeling discounted for and excluded, has other key values associated to sport been disregarded. Gleaves and Lehrbach (2016) advance away from the idea that sport's fundamental aim is about fair competition, rather they reflect upon the heart of what sport is about. Participating in sport is a way for an individual to demonstrate meaningful narratives (Gleaves & Lehrbach, 2016). These meaningful narratives encompass physicality but also characteristics like tactical decisions and moral virtue, allowing individuals to tell a meaningful story. Sport policies and debates around trans women inclusion must move beyond the idea of fairness and consider other values encompassed within sport (Gleaves & Lehrbach, 2016). Gleaves and Lehrbach (2016) are consequently against categorisation methods that focus solely on fairness and lead to exclusion of certain athletes, as it is detrimental to excluded athletes but also detriment to sport itself. Gleaves and Lehrbach (2016) are instead for gender not sex categories "*which permit athletes to select their gender category based on authentic self-perception and lived expression, regardless of birth gender and without concern for any advantage that their choice might confer*" (Gleaves & Lehrbach, 2016, p. 321).

Whether or not there is support for Gleaves and Lehrbach's meaning of elite sport and their use of gender categorisation methods, their perspective still requires further explanation. If sport were still to be categorised using gender categories, how do you accommodate individuals who do not identify with the binary? For example, in Barras' (2021) study many participants do not identify or appreciate being associated with male or female, thus these individuals are incapable of accurately representing their gender identity in sport. To counteract, Gleaves and Leburg (2016) also support mixed-gender competition which provides a space for individuals no matter their gender identification. However for Gleaves and Leburg to highlight how other values have been overshadowed by fairness, seems contradictory, as using gender identification or mixed gender competition also ignores other fundamental concerns related to sport. For example, without having some sort of classification based on sex, there is potential for complete eradication of cis women in certain elite sports. Similarly, another aspect which is distinctly missing from Gleaves and Leburg and the literature generally is safety regards, specifically for trans men. Using gender identification or mixed gender competition potentially increases safety concerns in certain sports for cis females and trans men.

World Rugby (2022), due to the contact nature of the sport, have examined safety risk factors and found injury risks increase significantly when there are inconsistencies in mass and speed (Janssen et al., 2000; Lee et al., 2017). For example, smaller and slower players in contact with faster and larger players would feel greater forces compared to balance opponents during frequent collisions (Bohannon et al., 2019; Neder et al., 1999). In addition, unbalanced opponents lead to greater neck forces, neck moments and linear and angular acceleration of the head causing increased risk of head injuries (Tierney et al., 2018a, 2018b). Thus, considering injury risk data, using gender identification, rather than sex characteristics seems idealistic and dangerous. World rugby (2022) currently do not allow transgender females to play women's rugby. Transgender men are permitted to play men's rugby, having provided confirmation of physical ability "*to ensure that they are not putting themselves at an unacceptable level of risk when playing against men*" (World Rugby, 2022, para. 12). Rugby is highly contact based, hence understandable why they have placed a high level of concern on safety, but with injury risks associated with a majority of sports, safety is a value that also needs to be incorporated within trans eligibility discussions.

Currently debates around the inclusion of trans women in the female category are concentrated on the value of fairness. Therefore, even though fairness may not be the only value

encompassed within sport, it is a key value that needs defining. Loland (2001) describes fairness in sport as involving the controlling or compensating of inequalities that take away from the validity of the evaluation of athletic performance, in order to maintain equality amongst competitors. Loland (2001) firstly refers to these inequalities in sport as either external factors or person-dependent factors. For example, external factors concern inequalities such as each team having the same number of players, to the weather. For example, to maintain fairness in a 11-a-side football game each team competes with 11 players and at halftime teams change side to account for fairness in weather conditions e.g., the sun. To person-dependent factors such as access to resources e.g., in elite sport this can include access to facilities, technology, trainers to sport scientist. Loland (2001) summarises when access to resources can cause inequalities that are out of control of athletes and place a significant impact on athletic performance, they should be compensated for or standardised. For example, currently financial situations Loland (2001) argues should be standardised in sports, especially in sports such as motor racing. This is starting to be seen in formula 1 racing where teams are capped on how much they can spend per season (Asher, 2022).

In addition, person-dependent factors also include the natural genetic lottery of athletes. Loland (2001) demonstrates that when an athlete possesses a genetic factor that an athlete cannot influence in a significant way and significantly impacts performance it should be controlled through classes as is seen as unfair within sport. They conclude “*where inequalities in body size, sex and age exert significant and systematic influence on athletic performance, such inequalities ought to be eliminated or compensated for by establishing reasonably standardized weight, height, sex, and age class*” (Loland, 2001, p.60). Therefore, having categorisation in sport is considered fair as enables individuals an equal chance of winning whilst awarding the most talented athlete (Loland, 2020; Sailors, 2020). For instance, World athletics states in their Eligibility Regulations for the Female Classification (athletes with differences of sex development): “*To ensure fair and meaningful competition in the sport of athletics, competition has to be organised within categories that create a level playing field and ensure that success is determined by talent, dedication, hard work, and the other values and characteristics that the sport embodies and celebrates*” (World Athletics, 2019a, p. 2). Fairness may not be the only value encompassed within sport, however currently it is what debates focus on surrounding categorisation in sport.

Devine (2019) demonstrates how in the discussions surrounding trans women inclusion, fairness should not be the only value encompassing this matter. Devine (2019) emphasises this through discussing the parallel situations but different moral issues of the returning athlete doper and the trans women athlete. For example, there is the hypothesis that returning steroid dopers may still hold certain advantageous values even after a long period of not ingesting steroids, which gives them an unfair advantage over clean athletes (Egner et al., 2013). The same uncertainties occur for trans women and their inclusion in the female category, and that even after hormone therapy they may still hold some unfair advantages over cis women (Pitsiladis et al., 2016). With steroid dopers undergoing suspensions and discussions around the necessity for longer doping suspensions to provide a comparative test, highlights how elite sport focuses on creating meaningful competition. Devine (2019) acknowledges this importance and the necessity of minimising unfairness in sports, however, understands fairness is not the only or prevailing value of sport. For example, it needs to be balanced with the value of inclusion as certain standards of unfairness can be acceptable if it allows sport participation to be accessible for all (Devine, 2019). Consequently, when sport NGBs consider the inclusion or exclusion of trans women in the female category of sport, all values that encompass sport from safety, fairness and inclusion need to be evaluated.

2.3 The Future of sport

Stakeholders Views

Along with the values of sport contributing to policy making, sport NGBs have begun considering stakeholders views to determine appropriate policies. This has become even more pressing since the development of the IOC November 2021 guidelines, that states before creating or updating policies “*sports organisations should meaningfully consult with a cross-section of athletes who may be negatively affected in order to prevent harm*” (IOC, 2021e, p. 5). Recent research has emerged that engaged with sports fans and students involved in university sport to comprehend their understanding and opinions of trans women in sport.

Cleland et al. (2021) in 2019 produced a survey directed at sports fans (n= 4113, 55% self-identified as female, 25% male, 7% non-binary and 13% who preferred not to comment) in the aim to understand their views on trans women competing in women’s sport and what trends are present that lead to any resistance or support. To fulfil this, a survey was published

consisting of open and closed questions (n= unknown), with many questions consisting of a second part to allow for discussions leading to qualitative data (Cleland et al., 2021). When Cleland et al. (2021) asked participants if they agreed with a news article that argued for more inclusion for trans women in semi-professional sport, 44% of fans who self-identified as male and female supported sport to be more inclusive for trans women, with many of the opinions being that trans women should be considered women in sport and society (Cleland et al., 2021). However, 56% of the participants disagreed with the news article and favoured exclusion. It was considered by these participants that sex and gender are two separate concepts and they believed that in sport the focus should be on sex not gender, thus disagreed with trans women's inclusion in female semi-professional sport (Cleland et al., 2021). This led to some rather strong opinions such as: *"If you choose to medically change your sex then you sacrifice the right to compete in sports at a professional level... Through your own choices you have moved outside of a recognized gender division often found in sports"* (Cleland et al., 2021, p. 9). Also, those who opposed inclusion believed that trans women still held male characteristics, leading to an unfair physiological advantage and thus were undermining cis women within elite sport (Cleland et al., 2021). Indicating if trans women's involvement in elite sport continues to increase, it may not be positively received by audiences of sport.

Other voices that have been contemplated on this topic are students involved in university sport. Phipps' (2021) aimed to understand potential barriers faced by trans individuals in university sport (which encompasses British Universities & Colleges Sport (BUCS), recreational and low standard sport). Focus groups obtained detailed qualitative responses from student union officers and LGBT+ students from English universities (n= 13, 5 student union officers, 8 LGBT+ students including one identifying as a trans individual) (Phipps, 2021). A main barrier identified for trans people was the high focus on fixed gender binaries, and even though there was an acceptance of gender fluidity in university sporting environments, the way BUCS sport is organised trans individuals can still feel excluded and unsure on where they fit (Phipps, 2021). In addition, another common theme that was seen as a barrier for trans individuals was the rigorous BUCS eligibility criteria for trans people, with many sport officers commenting on how the guidelines may be acceptable at national levels but were too complicated for university level, where sport is played for more recreational purposes (Phipps, 2021). The study was beneficial in obtaining LGBT+ individuals' experiences in university sport, a group usually disregarded in the sporting environment. However, the paper relies on the responses mainly from the student union officers and only includes material from one trans individual, thus the

data may not provide an accurate representation on trans individuals' involvement in sport. Published papers are limited that consider trans athletes' views in sport, specifically encompassing the elite level, which can be considered a very different environment to recreational sport. There is a requirement for more research to be completed in hearing the opinions around this discussion of both cis gender and trans athletes at the high levels of sport.

To the authors knowledge, Devine (2021) is the only peer-reviewed author to reflect on the voices of cis female athletes at the top level of their sports on this topic. Nineteen Olympians completed a questionnaire consisting of 39 closed Likert-style questions focusing on topics such as fairness, the impact of the guidelines and the available scientific evidence (n= 15, 3 athletes aged 25-29, 4 athletes 30-34 and 8 athletes 40+). The questionnaire allowed for additional detail to be added with open ended questions associated with each theme. The majority of participants disagreed or strongly disagreed that the IOC 2015 recommendations for transgender athletes in female categories are fit for purpose (72% strongly disagreed; 22% disagreed) or that current rules for inclusion of transgender athletes in female sport are fair (61% strongly disagreed; 22% disagreed) (Devine, 2021). The qualitative data identifies a trend that many believe that trans women hold an unfair advantage because having gone through male puberty, thus explaining this disagreement, however there was a tone of acceptance for trans women if testosterone levels were to be brought into the female range (Devine, 2021).

Regarding consultations around the topic, the majority of all participants disagreed or strongly disagreed that they were able to ask questions and speak freely without accusations of transphobia (32% strongly disagreed; 63% disagreed) or that their sport governing body had consulted female athletes regarding transgender inclusion (32% strongly disagreed; 42% disagreed) (Devine, 2021). Additionally, 94% of participants agreed or strongly agreed more scientific research is needed (Devine, 2021). The dialogues support this, highlighting how more research is needed to protect female athletes to maintain equal opportunities and provide secure spaces to allow for respectful discussions (Devine, 2021). Similarly, when participants were asked the fairest way to include transwomen (for example, restrictions relating to hormones/surgery, a third category or an open category) there was no standout answer and participants commented how more scientific evidence was needed to understand the implications, further emphasising this need for more research (Devine, 2021).

Devine (2021) recognises limitations within the research, with many participants unsure of what was meant by 'fair' in the questionnaire, therefore different interpretations of certain questions were potentially made by participants. Devine (2021) also raises the matter of using a small sample size, but this was preferred as provides more in-depth insights. However, disregarding the small sample size, the sample also consisted mostly of athletes aged 30 or above (only 3 being aged below 29), thus many are not in the forefront of present sport and potentially retired. Consequently, there is still a requirement to understand opinions of present leading athletes or those going through the elite selection process (for example younger). Similarly, Devine (2021) used non-probability sampling, allowing for a snowball effect to grow participants, and with the paper being unclear in stating if there were any conflicts of interest or ethical approval for the study, it leads to assumptions that there was no committee oversight on the recruitment of participants, study protocol/oversight or data protection. This leads to the possibility of biased data collected solely from one particular selected group of athletes.

Devine's (2021) study obtained fundamental views of stakeholders most affected by guideline changes, signifying how crucial their opinions are in any discussion. Particularly as of now with the IOC's new guidelines, leaving a lot left to individual sport NGBs to make their own decisions for example, to obtain their own "*robust and peer reviewed research*" (p. 4), and "*consult with a cross-section of athletes*" (IOC, 2021e, p. 5). Extensive research is crucial in overcoming the large number of challenges of what should happen next.

As seen above, research has aimed to understand sport fans' and active university students' voices on this topic, but there has been limited regard for elite athletes who are at the forefront of any new or changing policies. Research is establishing the significance of understanding stakeholders' voices on matters particularly in sport because, sport has always had separation from the state leading to autonomy in sport (Donnelly, 2015; Geeraert et al., 2014). This has meant sport NGBs including that of the IOC, as being recognised as stewards or trustees of the sport (Donnelly, 2015). However, as sport becomes more and more commercialised with an increased focus on profit, this autonomy has led to ethical scandals, mismanagement and corruption (Donnelly, 2015; Geeraert et al., 2014). This is leading to sport NGBs becoming less accountable to their athletes. This is because sport has an emphasis on a "hierarchical chain of command" (p.294), leading to it being very undemocratic with athletes being at the bottom of the chain and often having limited voice in rules and regulations (Geeraert et al., 2014). Athletes are left feeling restricted due to constraints of sponsorships and contracts or limited

official avenues to be able to voice their concerns (Donnelly, 2015; Geeraert et al., 2014). There has been research in sport and wider society to demonstrate the significance of taking a 'stakeholder approach' (Mazanov, 2016; Phillips et al., 2003). This is the understanding that any individual who will be impacted by decisions has moral entitlement to have an input in these decisions (Geeraert et al., 2014; Macedo et al., 2019; Mazanov, 2016; Phillips et al., 2003). Additionally, athletes have different interests compared to that of sport NGBs and other stakeholders and thus can give a different perspective on a matter (Geeraert et al., 2014; Macedo et al., 2019; Mazanov, 2016; Phillips et al., 2003). Similarly, it seems unmoral to make choices about athletes without regarding their perspective (Geeraert et al., 2014; Macedo et al., 2019; Mazanov, 2016; Phillips et al., 2003). Lastly, giving athletes the opportunity to add input into policy making has demonstrated a lower probability in challenging decisions (Geeraert et al., 2014; Sørensen & Torfing, 2009).

There has been some progression in giving athletes more of a voice. For example, there has been the establishment of athlete boards to enable sports men and women to have the opportunity to express their concerns and have an influence on policies such as that of doping or betting (Chappelet, 2020). For example, from WADA and certain specific sport NGBs such as rowing and World Athletics (World Anti-Doping Agency (WADA), 2023; World Athletics, 2021a; World Rowing, 2023). There are however still debates around even if sport NGBs obtain boards of athletes how much of their voice is actually being implemented into policies and the unbalanced distribution of different genders and ethnicities amongst boards of athletes (Chappelet, 2020; Geeraert et al., 2014; Macedo et al., 2019). Additionally, regarding this matter of trans women in sport there is limited evidence to believe that athletes have been consulted on this topic. Therefore, the benefits observed in the research of taking a stakeholder approach, for example with it adding to the efficiency and credibility of decisions. Similarly, with athlete's placing a huge amount of time, effort and for some athletes, sport being their livelihood, it seems necessary and a moral entitlement to understand their voices on this topic. Athletes' voices should not play the only role in policy making on this matter, however their voices and perspectives should be considered and incorporated with other research, such as the scientific data.

Approaches to Category Organisation

To support NGBs in creating suitable policies, Pike (2021) considers a lexical priority approach which goes against the idea of balancing as illustrated by Devine (2019) above, who balances

the idea of fairness, safety and inclusion, whereas a lexical approach involves ordering components by considering how significant they are to the sports' fundamental values. Pike (2021), reflects upon the example of rugby, and with the collision nature of rugby and it being a fundamental part of the sport, there is more emphasis on safety risks and there need to be controlled (Pike, 2021). However, if all risks were to be eliminated, it would be incompatible with the essence of rugby. In contrast, when considering a component such as fairness, if the game became too fair it would not detract from the status of the game (Pike, 2021). Therefore, under this perspective rugby needs to place safety at the forefront of any decisions made compared to fairness or inclusion, even if this means the exclusion of trans women. As previously mentioned, at present World Rugby share a similar perspective, prohibiting transgender women from playing in the women's category (World Rugby, 2021b). Pike (2021), acknowledges this exclusion of certain individuals and thus suggesting a different approach in category organisation.

Pike (2021) proposes a *closed/protected* category that focuses on non-androgenised individuals, excluding anyone who has gone through male puberty. This is under the standpoint that male advantage exists within sport and significantly arises from androgenisation (Pike, 2021). For individual's ineligible for the *closed* category, Pike (2021) proposes an *open* category. This category has no criteria, thus is accessible to all individuals regardless of their sex or gender, consequently men, women, transmen, transwomen, non-binary individuals are welcome in this category (Pike, 2021). According to Pike (2021) male advantage cannot be ignored, removed by testosterone suppression, or replaced by gender identity within sport. Pike (2021) adopts the position when it comes to sport how one identifies does not matter, thus rather than using categorises defined by gender, sport should be categorised using *open* and *closed* categories, with exclusion based on physiological development.

Similarly, the difficulty in universally defining a woman and a man is further explored by other papers, according to Takemura (2020) using a single scientific variable such as testosterone to define men and women starts to fall into medical reductionism and is considered too simple. However, the same argument occurs using legal recognition with sport being a universal discipline and legal procedures differing among countries, sex changes are not even acknowledged in certain countries (Takemura, 2020). Takemura (2020) understands issues arise but states in the context of elite sport it is necessary to define female and male categories. For example, when considering the World Athletic case with differences in sexual development

athlete, Caster Semenya (South African middle-distance runner who has naturally high testosterone compared to other female athletes, meaning under World Athletics' regulations unless she lowers her testosterone levels, she is barred from competing in races from 400m to 1 mile) (Court of Arbitration of Sport (CAS), 2019). Semenya claims World Athletics' regulations put female athletes at a disadvantage and are discriminatory. The Court of Arbitration of Sport (CAS) recognises this however sport NGBs have a responsibility to maintain fair play, "*discrimination is a necessary, reasonable and proportionate means of achieving the legitimate objective of ensuring fair competition*" (CAS), 2019, p. 1). Takemura (2020) concludes how context is significant and there are times in competitive sport where the execution of sport takes priority over human rights, for example in doping controls athletes' privacy is invaded when urine is checked. Female criterion is not set out with the intention to degrade individuals, it is isolated to the context of elite sport only, where as a result of the role sex plays in physiological sporting factors, exclusion of certain individuals can be accepted.

Whether there is agreement with Tamaruku's (2020) perspective, or Pike's (2020) view, it may not be that simple to separate sex/gender from sport. Sex, gender, sport and society are all interlinked and a group of individuals being seen as inferior or hyper-superior in sport, can have impacts on society and vice-versa. Secondly, even if sport was not separated by physiological sex or if different gender-neutral categories were created, the groups would still be largely identifiable as male and female (Shin, 2018). This would then debatably bring about further controversy of what is a 'real' woman or a 'real' man (Shin, 2018).

The Relationship Between Gender, Sex and Society

Just as it is demonstrated how categorisation is encompassed with sex and gender, this is also reflected throughout sport. Flores et al. (2020) indicates how sport is seen as a highly gender stereotypical focused environment. This is because certain sports are seen as masculine or feminine, a large focus of sport is encompassed by hyper-masculinity and even gender stereotypes play a role for fans in sport (Flores et al., 2020). The research aimed to understand whether gender identity conformity and gender traditionalism, impact views on transgender athletic inclusion. Gender traditionalism was defined as the beliefs in the traditional gender roles of women and men (measured using an adapted version of a gender role belief scale) (Flores et al., 2020). Gender identity conformity was defined as how the participant perceives their gender (measured using an adapted version of Adult Gender Identity scale) (Flores et al., 2020). Flores (2020) reported individuals who are less supportive of the inclusion of

transgender athletes are participants who identify most with their self-reported gender and have greater gender traditionalist views.

This is similar to what was found in a paper by Riseman (2021) that reviewed the progression of trans women throughout the history of Australian sport. It revealed how gender presentation and in/visibility influences opinions (Riseman, 2021). For example, trans women were more likely to be accepted within their sports clubs when they fitted to feminine gender stereotypes. Such as many consciously making an effort to appear feminine with cosmetics, the way they dressed, the activities they participated in and the behaviours they displayed, in order to be accepted by their cis female teammates (Riseman, 2021). The articles demonstrate how influential and connected gender stereotypes are within sport and society. With the challenges trans women pose to these stereotypes it highlights how challenging it is for them to have a place in sport and wider society. Additionally, it is implausible to simply suggest sport is not connected to gender, or for sport to be able to step away from gender. This proposes challenges for NGBs as to what to do next to allow for the acceptance of trans women in sport. This supports the motion that more research should be done to help support sport NGBs in creating policies that provide the most appropriate outcomes. This thesis aims to understand athletes' outlooks on the most sufficient way to categorise sport and to find an appropriate way to include trans women in different types of sport. In order to provide guidance in how to produce appropriate policies on trans inclusion that have considered athletes' voices.

In order to meet the research aims, the thesis will use a mixed method design. Primarily, an online survey will be used to collect the quantitative data and semi structured interviews will be used to collect more qualitative data. The quantitative data from the surveys will provide causality and generalisability of the findings and the interview data will invite participants to elaborate their survey responses in further depth and give an enhancement of the quantitative data (Becker et al., 2012). Therefore, using this mixed method approach means that both the survey and interview data will allow for a better overall picture of the research to emerge (Becker et al., 2012).

Chapter 3:

The Perspective of Current and Retired World Class/Elite Athletes on the Inclusion of Trans Women in the Female Category of Elite Sport

3.1 Introduction

Currently, trans women are at the forefront of issues surrounding eligibility to participate in the female category of sport and NGBs are frequently updating and reviewing their transgender inclusion policies. For example, on 6th April 2022 British Cycling abruptly suspended their transgender and non-binary participation policy, in response to elite trans cyclist Emily Bridges, who was set to race in the women's category at the National Omnium Championships (Bridges, 2022; British Cycling, 2022). After being in contact with British Cycling and the UCI and receiving authorisation to compete in the female category six months prior, Bridges announced that the unexpected British Cycling decision to suspend the policy had left her surprised and confused (Bridges, 2022). The increase in media attention also led to "*targeted abuse*" (Bridges, 2022, para. 4). Before the policy suspension trans athletes could compete under the conditions that their testosterone was below 5 nmol/L, 12 months prior to competing and whilst competing (Union Cycliste Internationale (UCI), 2022a).

This is an ever-changing space and as of 16th June 2022 the UCI released its new transgender policy. Changes include lowering testosterone level to 2.5 nmol/L, and the transition period to 24 months (Bigard, 2022). Three days later the FINA released a policy only allowing individuals who "*have not experienced any part of male puberty beyond Tanner Stage 2 or before age 12*" (p. 7) to be eligible for the women's category (FINA, 2022). This was published less than 3 months after transgender swimmer Lia Thomas won a women's event at the National Collegiate Athletic Association Division I swimming championship. When updating the policy, FINA considered the views of an internally recruited "*athlete group*" (p. 2) (n= unknown) that consisted of current and retired Aquatic athletes and coaches (FINA, 2022). On 21st June 2022, the International Rugby League, published a press release stating "*male-to-female (transwomen) players are unable to play in sanctioned women's international rugby league matches*" (para. 2) until further research is accomplished, including consulting eight Women's Rugby League World Cup 2021 finalists (International Rugby League, 2022). Under alleged

safety risk concerns, World Rugby Union (governing body for Rugby Union) have been excluding transgender athletes since at least 2021 from the women's category (World Rugby, 2021b). World Rugby also conducted an internal survey involving yes/no response questions about transgender women in rugby and sport (n= 193) (World Rugby, 2021a). Similarly, after a detailed internal review (which involved a n= 11,000 response game wide survey, a consultation from experts in the field and a review of the available scientific research), this decision has since been to be upheld by England Rugby in July 2022 (Rugby Football Union, 2022).

These policy updates have led to a large online and offline outreach from athletes and stakeholders. A number of letters and statements have been published, including Haley Hunter Smith a current Olympic mountain bike cyclist, retired cyclist Marion Clignet, swimmer Sharron Davies and marathon runner Mara Yamauchi (H. Smith, 2022; Yamauchi, 2022). This was followed up along by a number of petitions, including a cycling feminist union movement petition and a 'PRiDE OUT' petition (Hearne, 2022; Union Cycliste Feminine, 2022). One example, comes from current two-time Olympic champion, Katie Archibald, stating how she felt "*let down*" (para. 5) by sporting NGBs not being proactive with this matter, leading to either personal impacts on transgender people, or sport NGBs "*sacrificing one of the foundational pillars of sport: fairness*" (Parker, 2022, para. 8). There have been several internally conducted surveys produced by sport NGBs, but to the authors knowledge, only one peer reviewed article exists where Devine (2021) reflected on the voices of athletes competing in the female category at the top level. This study included Olympic athletes (n= 19) completing a questionnaire focusing on topics such as fairness, the guidelines and the available scientific evidence (Devine, 2021). Devine (2021) showed that athletes were unsatisfied with the lack of scientific research and athlete communication with athletes from sport NGBs had completed. The majority of participants disagreed or strongly disagreed that they were able to ask questions and speak freely without accusations of transphobia (32% strongly disagreed; 63% disagreed), or that their sport governing body had consulted female athletes regarding transgender inclusion (32% strongly disagreed; 42% disagreed) (Devine, 2021). Additionally, 94% of participants agreed or strongly agreed that more scientific research is needed (Devine, 2021). The data is of great interest but larger samples of athletes and opinions of those currently competing and retired would add significantly to our understanding. This is of particular importance as the IOC's new guidelines, recommend that individual sport NGBs to obtain their own "*robust and peer reviewed research*" (p. 4), and "*consult with a cross-section of athletes*"

(IOC, 2021e, p. 5). Therefore, the aim of this chapter was to provide athletes with the opportunity to voice their opinions on trans athlete inclusion in elite sport, and for those directly affected by sport NGB policy decisions to provide an input in what should happen next. Athletes' voices are fundamental in order to understand their experiences within elite sport for NGBs to produce policies that provide the most sufficient outcomes for their athletes. This is crucial as ultimately, they are the individuals whose sporting success, incomes and lives will be impacted by any policy changes. It should be noted that the researchers took care, as far as is possible, to adopt a neutral perspective on the issue of trans inclusion. This thesis therefore aims solely to represent the opinions of the athletes who were surveyed.

3.2 Methods

Study Design

An anonymous survey (LimeSurvey Version 2.64.3+170327) was distributed to Olympic recognised sport NGBs to gauge their potential interest in participating in the study (IOC, 2021c, 2021a). The survey was also distributed via personal networks and social media platforms. Each individual participant provided informed consent and ethical approval was granted by the Faculty of Science and Engineering Research Ethics and Governance committee, Swansea University.

Survey Format

Having provided informed consent, participants were asked for characteristic information such as athlete status and highest achievements, currently competing or retired, gender identity, sex assigned/observed at birth etc. Participants were also asked if they had been diagnosed with a difference in sex development. To identify participants' opinions in relation to trans athlete participation in elite sport, participants were presented with questions on trans athlete participation as a trans focused sub-set of the DATES (the Difference in Sex Development and Transgender Athletes in Elite Sport) questions. These consisted of Likert and multiple-choice questions (Becker et al., 2012). Further, each question had an open text box for participants to add further context to their answers and additional opinions (Patton, 2002). The questions related to general opinions on fairness and inclusion in different contexts of elite sport (e.g. precision sports such as archery, sports that are heavily reliant on physical capacity, such as sprinting and contact sports such as rugby union).

An online survey was used as it was able to be completed anonymously with the intention that it would result in a truer representation of athletes' opinions; can be distributed quickly allowing more time for data collection; and online questionnaires have higher response rates (Lonsdale et al., 2006; Munn & Drever, 1990; Murdoch et al., 2014; Testa et al., 2005). Further, online surveys have better access to a wider population with no geographical limitations and have fewer missing values compared to other formats (Gratton & Jones, 2010; Lonsdale et al., 2006). Before release, the survey went through pilot testing and critical evaluation first by academics with experience in this space that were not involved in the question design (n= 3). Then further revised by known individuals including those competing in the female category and a diverse group of the general public (n= 11). This was done to ensure the survey was respectful, justifiable and gave the best opportunity to help improve the understanding of the participants' opinions. At each stage, the questions and survey were adjusted based on the feedback.

Participants

The inclusion criteria for the study were as follows; over 18 years old when completing the survey; give full informed consent; eligible to compete in the elite female category in their identified sport before 13/06/2022 (this cut off was required due to the fast-moving changes in various NGB inclusion policies); be a world class (tier 5) or elite athlete (tier 4), current or retired. This resulted in a total sample of 123 world class and elite athletes. This sample consisted of retired (n= 44, 20-72 years) and current (n= 79, 18-59 years) athletes. Athletes ranged in nationalities (e.g., British, Canadian, Swiss and German) and the sports they competed in (e.g., swimming, synchronized skating and athletics).

To be recognised as an elite or world class athlete, participants first self-selected as either retired elite or elite athlete. Then participant responses to athlete status questions were used to classify them as either world class (tier 5) or elite (tier 4), following McKay et al.'s (2022) participant classification framework. Tier 4 athletes must have either competed at an International level or have a score/time within 7% of the world record of that sport/event. Tier 5 athletes need to be/have been an Olympic or World Championship medallist or finalist or be within 2% of the world record of that sport/event (McKay et al., 2022). In this study, athletes who commented that they were medallists or finalists in World Games were also acknowledged as Tier 5 athletes. World Games are defined as sports that are competed at an International level but not included in the Olympic Games (The World Games, 2022). This information was

equated as athletes reported their sporting discipline, their personal best time/distance/points scored, their highest standard they reached during their sporting career, and their placement within that competition.

The study also characterised athletes that were competing in Olympic Sports at the time of publication (e.g., rugby 7's and athletics etc.) and those competing in 'Olympic Recognised' sports (e.g., flying disk sports and lacrosse etc.). The reason for analysing the data in these specific subgroups was due to the additional competitive nature and public interest in Olympic sports, but also to allow for direct comparisons between the present data and the only other of its kind Devine (2021).

Statistical Analysis

The data was collected between August 2021 and August 2022, presented as percentages and analysed using descriptive and inferential statistics. There is debate relating to analyse Likert questions but, with no attempt to combine the responses from the Likert questions into a composite scale, they were analysed as Likert-type questions (Jamieson, 2004; Boone & Boone, 2012). Furthermore, the numbers assigned to the Likert data items expressed a “*greater than*” relationship, however in this instance how much greater by was not implied, thus the data has to be of an ordinal measurement scale (Boone & Boone, 2012; Jamieson, 2004).

The multiple-choice data was represented as nominal data. Inferential statistics compared athlete status (tier5/tier4) and retired versus current athletes. The Chi-square test was used to determine differences between dependent variables measured at a nominal level. The Chi-square test was selected and with data as ordinal and nominal a non-parametric tool had to be used and assumptions of the test were met (Jamieson, 2004; McHugh, 2013). When the data was too small to meet the sample size assumption of the Chi-square test (80% of the cells have expected values of 5 or more), the maximum likelihood ratio Chi-square test was used (McHugh, 2013). The tests were performed using SPSS Statistics (SPSS Inc., Chicago, IL) with alpha set at $p=0.05$ (tendency results were also seen as significant for interpretation $p<0.07$).

3.3 Results

Current Olympic Sport (COS) versus Olympic Recognised Sport Athletes (OR)

There was a statistical difference between COS and OR sport athletes for statements on the fairness of transgender inclusion and their treatment across sport (Table 4). OR athletes consider it fairer for trans women to compete in the female category ($p<0.029$) and believe trans women get treated more unfairly across sport ($p=0.047$) when compared to COS athletes (Table 4). However, COS athletes consider it more unfair for trans men to compete in the male category ($p<0.020$) (Table 4).

Table 4
Current Olympic Sport Athletes and Current Olympic Recognised Sport Athletes.

Questions	N	Olympic Recognised Sport Athletes					N	Olympic Sport Athletes					
		1	2	3	4	5		1	2	3	4	5	
How fair is it for a trans woman to compete in the elite female category?													
Contact sports	30	36.7	3.3	16.7	10.0	33.3	48	50.0	6.3	25.0	16.7	2.1	**
Sports heavily reliant on physical capacity	30	43.3	0.0	13.3	10.0	33.3	48	47.9	14.6	18.8	16.7	2.1	***
Precision sports	30	23.3	6.7	23.3	3.3	43.3	48	27.1	18.8	22.9	16.7	14.6	*
Your sport	26	38.5	3.8	3.8	7.7	46.2	39	43.6	12.8	12.8	15.4	15.4	°
How fair is it for a trans man to compete in the elite male category?													
Contact sports	29	13.8	6.9	27.6	10.3	41.4	48	31.3	18.8	20.8	18.8	10.4	*
Sports heavily reliant on physical capacity	29	17.2	10.3	20.7	10.3	41.4	48	33.3	18.8	16.7	20.8	10.4	*
Precision sports	29	6.9	10.3	27.6	6.9	48.3	48	27.1	8.3	20.8	27.1	16.7	**
Your sport	26	23.1	3.8	7.7	15.4	50.0	39	33.3	7.7	20.5	17.9	20.5	
How fairly do you think transgender athletes get treated across all sports?	28	46.4	28.6	21.4	0.0	3.6	45	17.8	37.8	26.7	6.7	11.1	*
How fairly do you think transgender athletes get treated in your sport regarding the regulations they have to meet in order to compete?	24	16.7	16.7	45.8	4.2	16.7	34	20.6	5.9	47.1	17.6	8.8	

Note. N = Number of participants; Statistical differences are indicated by * $p<.05$, ** $p<.01$, *** $p<.001$ and °Tendencies = $p<.07$; 1 = Very unfair; 5 = Very fair; Olympic and Olympic Recognised sports determined by International Olympic Committee (IOC), (2021).

Table 5
Current Olympic Sport Athletes and Current Olympic Recognised Sport Athletes.

Questions	N	Olympic Recognised Sport Athletes		N	Olympic Sport Athletes	
		Yes	No		Yes	No
Do you think sporting authorities and governing bodies could be doing more to make sports more inclusive for transgender athletes?	30	83.3	16.7	48	72.9	27.1
Do you agree that someone should be able to transition from one gender to another, in society in general?	30	93.3	6.7	49	89.8	10.2
Should there be a separate category of sports for those who are trans women or trans men?						
Contact sports	29	44.8	55.2	45	57.8	42.2
Sports heavily reliant on physical capacity	29	44.8	55.2	46	60.9	39.1
Precision sports	29	31.0	69.0	46	41.3	58.7
Do you think an athlete who has previously competed at an elite level in a sport in one gender category should be allowed to compete in the same sport under a different gender category?						
Contact sports	29	58.6	41.4	48	39.6	60.4
Sports heavily reliant on physical capacity	29	55.2	44.8	48	35.4	64.6
Precision sports	29	65.5	34.5	47	53.2	46.8
Do you think the IOC criteria for female transgender athletes to compete in certain athletic events are fair?	29	34.5	65.5	47	40.4	59.6
Do you believe sport should be categorised by biological sex?	26	38.5	61.5	40	60.0	40.0
Do you believe sport should be categorised by gender identity?	26	34.6	65.4	39	38.5	61.5
Do you believe sport should be categorised by body size (height/weight) of the athletes irrespective of gender identity?	25	28.0	72.0	41	22.0	78.0
Should your sport's governing body make it be possible for people to switch sex categories (i.e. from competing in the male category to competing in the female category)?	25	64.0	36.0	38	42.1	57.9
Have you witnessed any negative attitudes or discrimination towards transgender athletes?	26	42.3	57.7	37	35.1	64.9

Note. N = Number of participants; Statistical differences are indicated by * $p<.05$, ** $p<.01$, *** $p<.001$ and °Tendencies = $p<.07$; Olympic and Olympic Recognised sports determined by International Olympic Committee (IOC), (2021).

Tier 4 and Tier 5 athletes

There was a statistical difference between tier 4 and tier 5 COS athletes for statements on the fairness of transgender inclusion (Table 6) and categorisation of sport (Table 7). Tier 4 athletes consider trans athletes get treated more unfair across sport (p=0.059) and think the regulations are more unfair for trans athletes (p=0.022) compared to tier 5 athletes (Table 6). The comments suggest the reason for this is because athletes are either unclear on the trans regulations, or have no experience of trans athletes in their sport. Tier 4 athletes consider it more unfair for trans men to compete in the male category compared to tier 5 athletes (p<0.038) (Table 6). However, for both tiers there is not one clear dominant rational for their opinions (Table 6).

Table 6
Examine Athlete Sporting Level for Current Olympic Sport Athletes (Tier 5 and Tier 4).

Questions	N	% Tier 5					N	% Tier 4				
		1	2	3	4	5		1	2	3	4	5
How fair is it for a trans woman to compete in the elite female category?												
Contact sports	11	63.6	0.0	27.3	9.1	0.0	37	45.9	8.1	24.3	18.9	2.7
Sports heavily reliant on physical capacity	11	63.6	9.1	18.1	9.1	0.0	37	43.2	16.2	18.9	18.9	2.7
Precision sports	11	27.0	16.2	21.6	21.6	13.5	37	27.0	16.2	21.6	21.6	13.5
Your sport	9	44.3	22.2	11.1	11.1	11.1	30	43.3	10.0	13.3	16.7	16.7
How fair is it for a trans man to compete in the elite male category?												
Contact sports	11	18.2	18.2	36.4	0.0	27.3	37	35.1	18.9	16.2	24.3	5.4 *
Sports heavily reliant on physical capacity	11	9.1	27.3	36.4	0.0	27.3	37	40.5	16.2	10.8	27.0	5.4 **
Precision sports	11	18.2	9.1	36.4	0.0	36.4	37	29.7	8.1	16.2	35.1	10.8 *
Your sport	9	11.1	33.3	22.2	11.1	22.2	30	40.0	0.0	20.0	20.0	20.0 *
How fairly do you think transgender athletes get treated across all sports?	7	0.0	28.6	42.9	28.6	0.0	36	22.2	38.9	19.4	5.6	13.9 °
How fairly do you think transgender athletes get treated in your sport regarding the regulations they have to meet in order to compete?	9	0.0	28.6	42.9	28.6	0.0	27	25.9	0.0	48.1	14.8	11.1 *

Note. N = Number of participants; Statistical differences are indicated by *p<.05, **p<.01, ***p<.001 and °Tendencies = p<.07; 1 = Very unfair; 5 = Very fair; Tier 4 = Elite athletes and tier 5 = World class athletes determined by Mckay et al. (2022).

Table 7
Athlete Sporting Level for Current Olympic Sport Athletes (Tier 5 and Tier 4).

Questions	N	% Tier 5		N	% Tier 4	
		Yes	No		Yes	No
Do you think sporting authorities and governing bodies could be doing more to make sports more inclusive for transgender athletes?	10	70.0	30.0	38	73.7	26.3
Do you agree that someone should be able to transition from one gender to another, in society in general?	11	90.9	9.1	38	89.5	10.5
Should there be a separate category of sports for those who are trans women or trans men?						
Contact sports	8	75.0	25.0	37	54.1	45.9
Sports heavily reliant on physical capacity	9	88.9	11.1	37	54.1	45.9 *
Precision sports	9	55.6	44.4	37	37.8	62.2
Do you think an athlete who has previously competed at an elite level in a sport in one gender category should be allowed to compete in the same sport under a different gender category?						
Contact sports	10	20.0	80.0	38	44.7	55.3
Sports heavily reliant on physical capacity	10	10.0	90.0	38	42.1	57.9 *
Precision sports	9	33.3	66.7	38	22.2	77.8
Do you think the IOC criteria for female transgender athletes to compete in certain athletic events are fair?	10	30.0	70.0	37	43.2	56.8
Do you believe sport should be categorised by biological sex?	9	77.8	22.2	31	54.8	45.2
Do you believe sport should be categorised by gender identity?	9	33.3	66.7	30	40.0	60.0
Do you believe sport should be categorised by body size (height/weight) of the athletes irrespective of gender identity?	9	11.1	88.9	32	25.0	75.0
Should your sport's governing body make it be possible for people to switch sex categories (i.e. from competing in the male category to competing in the female category)?	9	22.2	77.8	29	48.3	51.7
Have you witnessed any negative attitudes or discrimination towards transgender athletes?	9	22.2	77.8	28	39.3	60.7

Note. N = Number of participants; Statistical differences are indicated by *p<.05, **p<.01, ***p<.001 and °Tendencies = p<.07; Tier 4 = Elite athletes and tier 5 = World class athletes determined by Mckay et al. (2022).

For categorisation questions, tier 5 athletes favour, more than tier 4 athletes, a separate transgender category ($p=0.039$) and prevention of athletes who have previously competed in a sport in one gender category from competing in the same sport under a different gender category ($p=0.041$) (Table 7). The comments suggest the reason tier 5 athletes oppose changing gender categories, is the view trans women will still hold an advantage from male puberty. For example:

‘The advantages trans women have from years of training, competition, and physical development as elite men are unfair, irreversible, and contrary to the protection of the women's sport class’ (Current tier 5 Biathlon athlete).

‘Research states that once a male has gone through puberty they retain their additional muscle mass. This applies to trans females who have transitioned after puberty.’ (Current tier 5 Curler).

COS versus Retired Olympic Sport (ROS) Athletes

There was a statistical difference between ROS and COS athletes for statements on the fairness of transgender inclusion (Table 8), on categorisation and transgender individuals in society (Table 9). ROS athletes are more supportive of trans individuals transitioning in general society ($p=0.038$) (Table 9). However, ROS athletes are less supportive of trans individuals in sport, as they consider it more unfair for trans women to compete in the female category compared to the opinion of COS athletes ($p=0.019$) (Table 8). In the comments both ROS and COS athletes suggest trans women maintain a male advantage, but ROS athletes place a larger emphasis on safety concerns. For example:

‘Male bodies are larger and stronger than females. It would be dangerous as well as unfair.’ (Retired tier 4 Cross-country Skier).

Table 8
Athlete Sporting Level for Olympic Sport Athletes (Current and Retired).

Questions	N	% Current					N	% Retired					
		1	2	3	4	5		1	2	3	4	5	
How fair is it for a trans woman to compete in the elite female category?													
Contact sports	48	50.0	6.3	25.0	16.7	2.1	26	57.7	19.2	3.8	7.7	11.5	*
Sports heavily reliant on physical capacity	48	47.9	14.6	18.8	16.7	2.1	26	57.7	11.5	15.4	3.8	11.5	
Precision sports	48	27.1	18.8	22.9	16.7	14.6	25	32.0	8.0	28.0	8.0	24.0	
Your sport	39	43.6	12.8	12.8	15.4	15.4	21	61.9	9.5	0.0	14.3	14.3	
How fair is it for a trans man to compete in the elite male category?													
Contact sports	48	31.3	18.8	20.8	18.8	10.4	25	20.0	12.00	12.00	12.00	44.0	**
Sports heavily reliant on physical capacity	48	33.3	18.8	16.7	20.8	10.4	25	16.0	12.0	16.0	8.0	48.0	**
Precision sports	48	27.1	8.3	20.8	27.1	16.7	27	12.0	0.0	16.0	12.0	60.0	
Your sport	39	33.3	7.7	20.5	17.9	20.5	21	19.0	14.3	14.3	14.3	38.1	
How fairly do you think transgender athletes get treated across all sports?	45	17.8	37.8	26.7	6.7	11.1	24	15.0	10.0	45.0	5.0	25.0	
How fairly do you think transgender athletes get treated in your sport regarding the regulations they have to meet in order to compete?	34	20.6	5.9	47.1	17.6	8.8	20	20.8	20.8	41.7	0.0	16.7	

Note. N = Number of participants; Statistical differences are indicated by * $p < .05$, ** $p < .01$, *** $p < .001$ and $^{\circ}$ Tendencies = $p < .07$; 1 = Very unfair; 5 = Very fair.

Table 9
Athlete Sporting Level for Olympic Sport Athletes (Current and Retired).

Questions	N	% Current		N	% Retired	
		Yes	No		Yes	No
Do you think sporting authorities and governing bodies could be doing more to make sports more inclusive for transgender athletes?	48	72.9	27.1	25	76.0	24.0
Do you agree that someone should be able to transition from one gender to another, in society in general?	49	89.8	10.2	25	100.0	0.0
Should there be a separate category of sports for those who are trans women or trans men?						
Contact sports	45	57.8	42.2	24	50.0	50.0
Sports heavily reliant on physical capacity	46	60.9	39.1	25	60.0	40.0
Precision sports	46	41.3	58.7	23	39.1	60.9
Do you think an athlete who has previously competed at an elite level in a sport in one gender category should be allowed to compete in the same sport under a different gender category?						
Contact sports	48	39.6	60.4	22	36.4	63.6
Heavily reliant on physical capacity	48	35.4	64.6	22	31.8	68.2
Precision sports	47	53.2	46.8	22	40.9	59.1
Do you think the IOC criteria for female transgender athletes to compete in certain athletic events are fair?	47	40.4	59.6	24	20.8	79.17
Do you believe sport should be categorised by biological sex?	40	60.0	40.0	20	85.0	15.0
Do you believe sport should be categorised by gender identity?	39	38.5	61.5	19	21.1	78.9
Do you believe sport should be categorised by body size (height/weight) of the athletes irrespective of gender identity?	41	22.0	78.0	21	28.6	71.4
Should your sport's governing body make it be possible for people to switch sex categories (i.e. from competing in the male category to competing in the female category)?	38	42.1	57.9	18	27.8	72.2
Have you witnessed any negative attitudes or discrimination towards transgender athletes?	37	35.1	64.9	21	42.9	57.1

Note. N = Number of participants; Statistical differences are indicated by * $p < .05$, ** $p < .01$, *** $p < .001$ and $^{\circ}$ Tendencies = $p < .07$.

Additionally, ROS athletes consider it fairer for trans men to compete in the male category of sport, whereas COS athletes voice it to be more unfair ($p < 0.009$) (Table 8). The comments demonstrate this approach is taken by ROS athletes under the impression that as trans men cause no threat to cis male athletes, or any disadvantage or unsafeness was their own choice, it is not considered unfair.

For categorisation questions, ROS athletes support categorisation by biological sex more than COS athletes ($p = 0.050$). However, ROS athletes are less supportive of the IOC 2015 categorisation focusing on testosterone compared to COS athletes ($p = 0.065$) (Table 9). The comments demonstrate ROS athletes disagree with the criteria because it is not based on

scientific data. However COS athletes disagree because testosterone levels for trans women need to be brought into the female range:

‘No it is not fair as trans women are allowed to have higher testosterone levels than ciswomen’ (Current tier 4 200m athlete).

‘The criteria allow for circulating testosterone levels that exceed normal levels for most cis women which perhaps gives advantage to trans women that cis women cannot achieve within antidoping rules.’ (Current tier 5 Wheelchair Curling athlete).

3.4 Discussion

Overall, COS athletes suggest that in certain sport categories they are in favour of exclusion of transgender athletes, but the majority agree that, in certain circumstances, biological sex or a separate category for trans men and women in certain elite sports (contact sports) may be the most favourable option. Participants in Devine’s (2021) study highlighted additional categories, however no overriding categorisation for sport was identified. In both the current study and Devine’s (2021) study, there is a tone of acceptance for using testosterone levels if trans women’s levels were to be brought within the female range. This is crucial for sport NGBs to consider as, until more scientific research is completed, this may be a plausible option, in the opinion of current Olympic athletes, that will not completely exclude trans women from the female category. Medical treatments for endocrine transitioning do vary, but the majority of methods achieve testosterone levels for trans women within the cis female range, with the average range being around 0.1-2 nmol/L (Handelsman et al., 2018; Harper et al., 2021). Conversely, the International Federation of Sports Medicine has suggested a serum testosterone concentration at a level of 5 nmol/L as the most justifiable current option for fairness and inclusion (Hamilton, Lima, et al., 2021). However, still ~40% of COS athletes disagreeing with biological sex categorisation and for a separate trans category, it would be useful to understand what the opinions of female athlete’s would be on this specific recommendation considering this is still not within the female average range, but this was outside of the scope of the present investigation.

The inclusion of trans men in the male category of sport produced a variety of views, with statements regarding trans men generally leading to no overriding conclusion. Certain athletes

indicate that trans men hold no “*threat*” to cis men (athletically speaking), or any safety/disadvantages that arise are a result of their “*own choice*”, causing limited concern for their involvement in sport. This may help to explain why they receive limited attention in the media or within criteria. Devine’s (2021) study also did not include data on trans men. However, with this data resulting in split views, and injury risks still a prominent sentiment, they are still a group that cannot be dismissed when producing policies and more work is needed (The BASES Expert Statement, 2021; World Rugby, 2021b)

A difference of opinion was produced by different types of sports and athlete status. Athletes express more support for the inclusion of trans women in precision sports. However, overall COS athletes are against the inclusion of trans women in the female category of contact sports and sports heavily reliant on physical capacity (examples of athletics, swimming, cycling, and weightlifting were given in the questionnaire notes). This could be because there are beliefs that differences between trans women and cis females that lead to advantages that are still present during competition. If these differences are not assumed, as many athletes believe is the case for precision sports, then COS athletes accept inclusion of trans women. Hamilton, Guppy et al. (2021) considered the different advantages that equate with each sport, and the effect gender GAHT has on these advantages for trans women, with a focus on archery and shooting. It was reported that after one year of transitioning, non-athletic trans women lose in the range of 5–10% of muscle mass and strength, with these differences no longer apparent after two years, thus the report recommended trans athletes should compete in the female category of archery two years after GAHT (Hamilton, Guppy, et al., 2021). It is imperative, due to the different advantages associated with each sport and the different opinions generated by each sport, that sport NGBs consult their own athletes and create their own criteria based on rigorous peer reviewed evidence.

Both tier 4 and tier 5 athletes express that they are unclear on their own sport’s transgender regulations and have limited experience of trans athletes in their sport. In certain circumstances this is because their sport NGB has not produced or highlighted trans inclusion policies, emphasising how education and proactiveness is required in this topic. It further reveals the perceived threat trans women may have to the female category could be distorted, considering that the number of athletes who have knowledge of trans women in their sport to be very limited. The number of trans women in elite sport is small and thus athletes have had little engagement with these athletes. For example, in an internal survey (not in the peer-reviewed literature)

nearly 60% of Six Nation Rugby Union players (2021) survey never had, or were unsure if, they had competed with a trans women (World Rugby, 2021a). The number of trans athletes applying for sport inclusion through trans policies in Olympic sports was 1 out of 15,429,409 members/participants, so this is unsurprising (V. Smith, 2022).

The present data also highlighted differences between the athletic levels of sport, with tier 4 athletes showing more support and understanding for trans individuals than their tier 5 counterparts. Tier 5 athletes communicated that they believe trans women hold an unfair advantage because they have gone through male puberty. This is a similar view that was found by Devine (2021). Elite (tier 4) athletes' lives are intertwined with sport, however maybe not to the same degree as world class (tier 5) athletes. For example, at the world class level financial reward is potentially more of a priority - in tennis the number 1 ranked women tennis player in the WTA rankings earned around \$6,000,000, compared to around \$900,000 for the average ranked top 10 women tennis players (excluding the number 1) (Stats Perform, 2022). Additionally, the number of athletes who will reach the world class level is much smaller. Out of the global population the number of tier 4 athletes is around 0.0025%, compared to less than 0.00006% for tier 5 athletes (McKay et al., 2022). Both tier 5 and tier 4 athletes experience challenges throughout their career, and heavily commit large amounts of time and efforts to their sport. However, with fewer numbers of world class athletes and potentially higher stakes involved in world class sport, even a slight increase in the numbers of trans women in elite sport will have more of an impact towards tier 5 athletes. This potentially could be why world class current athletes hold their view, and why it may be harder for them to support trans women inclusion at the top level. However, this needs to be subject of more qualitative research.

ROS athletes express less support for the inclusion of trans women in the female category of sport compared to COS athletes, with ROS athletes voicing more concern for the safety aspects when given the opportunity to make additional comments on the survey. A large proportion of voices around this topic, especially in the media, are coming from retired athletes. For example the cycling feminine union movement petition was signed by predominantly retired athletes (UCI, 2022). FINA's use of an 'athletic group' contained both retired and current athletes, but the specifics of the proportions were not publicised to the authors knowledge (FINA, 2022). The majority of IOC members (those who represent and promote the IOC and its movement) who participated in the Olympics are considered retired athletes, with only 7 out of the 103 members having competed in the 2018 Olympics or later (International Olympic Committee,

(IOC, 2021b). In the present study, over 70% of retired athletes opinions have not changed since competing, meaning some of these attitudes are 15+ years old. If policies are being produced as a result of consultations made up of primarily of retired athletes, sport authorities need to be aware these attitudes may differ from athletes that are currently competing in their sport, as shown in the present data.

Concluding Remarks and Limitations

It should be acknowledged that there were weaknesses with the methods chosen to collect the data, for example due to how the online survey was distributed there is the possibility of lack of representation in the sample. This has the potential to lead to sample bias such as, individuals who have a greater bias towards the research topic may be more inclined to complete the questionnaire (Andrade, 2020; Becker et al., 2012; Bryman & Cramer, 2002; Evans & Mathur, 2005). Similarly, due to the community aiming to be obtained there was challenges in seeking permission and limited access towards certain athletes (Andrade, 2020; Wright, 2006). This inhibits the ability to generalise the findings (Andrade, 2020; Bryman & Cramer, 2002; Wright, 2006). Furthermore, due to the self-administration of online surveys in general there are always the potential issues with respondents' understanding questions/instructions, participants technology expertise and technology configuration (Evans & Mathur, 2005).

Sport authorities should be mindful of who they are consulting or entrusting in making decisions around this topic as it will ultimately affect policies on trans participation. Different groups of athletes and athletes at different competitive levels can represent alternative attitudes. Similarly, different sports will also bring out different mindsets. If athletes' voices are going to start informing on the exclusion/inclusion of certain individuals from certain categories/sports to protect a specific group of athletes, sporting authorities need to be aware of the sensitivity and impact this can have, whilst also providing support for excluded athletes. There is now no room for a "one size fits all" policy, as recognised by the IOC, and sport governing bodies are beginning to understand that a blanket approach is no longer the answer. There is a need for more studies on the athlete voice but there appears to be a reluctance from researchers and sport NGBs. This data is a step closer and future research should focus on data from individual sports, include questions relating to safety concerns held by athletes and query the impact of these inclusion policies on athletes' mental health.

Chapter 4:

An In-Depth View on Current Elite Athletes Opinions Surrounding Trans Women Inclusion in the Female Category of Sport

4.1 Introduction

To this date there is no semi-structured interview data collected on the opinions of cis women athletes on the inclusion of trans athletes. Devine's (2021) study used questionnaire data to reflect on the voices of Olympic elite athletes (n= 19), but to the author's knowledge, this is the only paper to gain an insight into athlete's opinions. Therefore, there is a need for semi-structured interviews, as this type of method permits flexibility, which allows for different conversations and themes to emerge (Braun & Clarke, 2006; Clarke & Braun, 2017). This has the potential to lead to more detailed responses and insights, that may not have been discovered through questionnaires or if a strict interview format was used (Corbin & Morse, 2003). This will enable a deeper understanding and provide an explanation into why athletes have the opinions that they have. The aim of the research is to gain athletes' outlook but also understand their perspective to be able to offer guidance for sport NGBs to provide the most appropriate policies and environments.

4.2 Methods

Procedure

The anonymous survey (LimeSurvey Version 2.64.3+170327) used to collect the questionnaire data and granted ethical approval by the Faculty of Science and Engineering Research Ethics and Governance committee, Swansea University, was how initial contact was made with participants to arrange interviews. The survey allowed athletes to leave their email if they wished to take part in an interview. Once the interview was confirmed participants were emailed an information sheet and a consent form. Each individual participant (digitally) signed the consent forms and agreed to the interview. All interviews took place over Zoom and participants could choose to have their camera on or off. In the interview all athletes gave informed consent and confirmed that the interview could be recorded. It was made clear to participants that they could end the interview at any time or choose not to answer certain

questions, their identify and sport would be anonymised, and data would be stored following GDPR guidelines.

Interviews followed a semi-structured format. Similar questions were formatted to all participants to allow for comparisons between athletes' responses. The interviews followed a similar procedure advised by Smith and Sparkes (2016). To begin the interviews participants were firstly reminded of the purpose of the study. This was followed by background questions to ease participants into the interview, for example questions related to their participation in sport and how they got involved. The next set of questions were aligned to key aspects of their sport and benefits associated to their sport. The next part of the interview allowed athletes to demonstrate their knowledge and understanding surrounding trans individuals in sport and related policies. Athletes were then asked to express their attitudes or other athletes' attitudes surrounding the inclusion of trans women and fairness, this was related to their sport but also started to be developed surrounding other sports. The last section of the interview obtained participants' opinions on future considerations, such as who should have a voice regarding this matter and what can be done to allow for trans gender individuals to compete in sport. All questions were open ended and free for interpretation. Participants were encouraged to develop their answers and share any concerns or questions. Interviews ranged from 25-60 minutes. When the interview was finished, the recording stopped, and the participant left the meeting. Interviews were transcribed and stored securely following the GDPR protocol, along with the recordings. Interviews were conducted between April and May.

Participants

All participants who completed the anonymous survey (LimeSurvey Version 2.64.3+170327) and left their email were considered for interviews, as long as they fitted the criteria. The inclusion criteria for the interviews were as follows; over 18 years old when completing the survey and interview; give full informed consent; eligible to compete in the elite female category in their identified sport before 13/06/2022 (this cut off was required due to the fast-moving changes in various NGB inclusion policies); be a world class (tier 5) or elite athlete (tier 4) (recognised using the survey criteria) (McKay et al., 2022). This resulted in a total of 5 athletes to be interviewed, ranging from a variety of sports (Table 10).

Table 10.
Participants interviewed and their sport

Participant	Sport
Participant 1	Tug of War
Participant 2	Athletics
Participant 3	Disc Frisbee
Participant 4	Disc Frisbee
Participant 5	Freestyle Frisbee

Thematic Analysis

The interview data was interpreted using Thematic analysis (TA). TA was selected, as it embraces the subjectivity of the researcher and allows for fluidity and flexibility in response to the context (Braun & Clarke, 2006; Clarke & Braun, 2017). This is because TA is unrequired to follow strict criteria unlike other methodologies, allowing for “*rich and detailed*” (p. 78) analysis of the data (Braun & Clarke, 2006). Once recordings were transcribed, audio files were re-listened to, and transcriptions were re-read. This allowed for familiarisation, which highlighted less visible thoughts of the athletes (Braun & Clarke, 2006; Clarke & Braun, 2017). Following familiarisation, coding of the data took place, where quotes were highlighted that shared similar meanings or were concerned with the same topics. This facilitated myself the researcher to construct themes through the analysis (Braun & Clarke, 2006; Clarke & Braun, 2017). Once themes were clear, names and brief description were associated with each theme, allowing for clarity when presenting the results (Braun & Clarke, 2006; Clarke & Braun, 2017).

4.3 Results

Themes

The results are presented under 4 central themes. Each theme builds upon athletes’ views surrounding trans inclusion and future considerations.

1. The benefits of sport

This theme highlights the importance athletes place on sport and the benefits involved. However, what benefits athletes prioritise affects their attitude on trans women’s place within sport.

2. What is fairness in sport?

It was established within this theme the complex nature of fairness. Certain athletes believed it to be unfair to deny an individual from sport, whereas others believed it unfair for an individual to be included who had an advantage. This led to different ideas on the eligibility for the female category.

3. Complexity of sport

This theme identifies how there are multiple differences between sports and numerous aspects that create a successful athlete. Therefore, athletes are highlighting how certain criteria can be seen as taking a reductionist approach.

4. Representation

The key point of this theme is that athletes' voices are essential on this topic and how beneficial it will be for future policies. However, understanding and being aware of whose voices and how these voices are being represented is significant due to the personal nature of the topic.

The benefits of sport

This theme highlights why athletes are involved in their sport and the different benefits the participants associated with their sport, and how these affect the way they feel about the inclusion of trans athletes.

The interviews demonstrated the love and passion all athletes had towards sport: "For me, being involved in (*my sport*) it helps me fulfil what I feel like I was put on this earth to do" (Participant 2, athletics) and "I'm kind of addicted to the sport" (Participant 1, tug of war). Athletes are involved in sport due to their dedication and passion they have to their sports, it is part of their identity. Further, there was a consensus from all athletes that sport provided them with a community and place they belong to help them grow as individuals. For example, participants explained why they got involved in their sport: "For me personally it was the community that got me into the sport I really had the feeling they wanted me there" (Participant 5, freestyle frisbee), and "Helps you in your everyday life so yeah for the younger generation I would say definitely confidence, you make loads of friends" (Participant 2, athletics).

On the other hand, some athletes identified how health benefits were important: “I feel I am getting fitter and fitter and I’m having fun with my team” (Participant 1, tug of war), and “health is very important for me personally” (Participant 5, freestyle frisbee). Similarly, only certain athletes identified benefits that depended on their success in their sport, such as money and travel: “I have been able to travel all over the world” but “Definitely not financial benefits at this point” (Participant 4, disc frisbee). Whereas, for certain participants (Participant 2, athletics) being successful in their sport was their financial income.

What benefits the athletes associated with their sport and prioritised, affected their support for trans women inclusion. When participants placed more of an importance on community within their sport, they supported trans women:

If she says she (a *trans women*) feels that the woman category is the right place to compete then who are we to tell her no this is not the place to be, I mean she has to feel welcome. (Participant 5, freestyle frisbee)

We’re just not going to make these people (*trans women*) feel as they don’t have a place to belong, just because we are worried there is some biological component to this. (Participant 3, disc frisbee)

Whereas, for other athletes who placed more focus on success in their sport, they have more concern with trans athlete inclusion. This was particularly true for participants who valued the financial component of their sport (Participant 2, athletics). When an athlete’s sport was their financial income, doing well in their sport can be significant for their whole life: “I’ve got a friend in (*certain competition*) and she made the finals in Tokyo and her lives completely changed” (Participant 2, athletics). This is further emphasised when sport sponsorships lead to better access to better resources: “The more money you have you can pay to see the best doctors and the best physios, so it just has a ripple effect on to everything” (Participant 2, athletics). Doing well in certain sports allows for opportunities to help even further progress in performance. For athletes in these sports, trans women are seen as individuals who take the place of cis women and thus take these potential opportunities away.

Depending on the benefits the athletes associated with their sport, it shows that they either see trans women as individuals who belong in that space, or individuals who are taking the place of cis women:

Not through any means of their own, it's the rules but yeah, in my opinion that has taken that (*final place*) from 2 female athletes. (Participant 2, athletics)

People of all genders all sexuality, completely should be included and should not feel as though they do not deserve to take up the space that they do within the sport. (Participant 5, freestyle frisbee)

When athlete's benefits are primarily focused on success in sport, athletes tend to have less support for trans females in the female category, due them jeopardising these benefits. Whereas athletes who place more emphasis on community and team, as core benefits within their sport, there is support for trans athletes because they enhance these benefits.

What is fairness in sport?

This theme identifies how with athletes having different ideas in what fairness is within sport, there is always going to be conflicts in how to include trans women.

It became clear from the interviews that participants struggled with defining the term of 'fairness' within sport: "I think fairness is a really weird term to use in sports generally" (Participant 5, freestyle frisbee). This was because for athletes it incorporated a large number of variables: "fairness is sort of like a really large concept" (Participant 3, disc frisbee). Athletes demonstrated how it is not just the differences in sex that lead to unfairness, but there are many other variables that affect whether an individual will be successful in sport:

There institutional practices in which people are not able to compete at the same level within a sport and that goes beyond gender identity, I mean that goes to racial identity that goes to economic...and all these things (Participant 3, disc frisbee)

In general some people are privileged, some are not privilege just by birth...and some people have to put more effort into it, some people can put less effort into it" (Participant 5, freestyle frisbee).

With athletes incorporating different variables into the concept of fairness, it led to a range of different views in what is considered fair in sport. Similarly, all athletes acknowledged this perceived advantage trans women have over cis women, but whether or not this advantage was seen as unfair depended on the athlete's definition of fairness: "I think to me anyone should be able to compete in a sport and that is fair" (Participant 3, disc frisbee) and "If she (*a trans woman*) is winning it all then she is winning it all, I don't know, it's kind of is not her problem" (Participant 5, freestyle frisbee). Whereas for some participants it was seen as unfair if an individual who has gone through male puberty were to compete in the female category: "I think the trans-woman issue feels a bit more obviously not fair, because people see that they've gone through male puberty and they have the male advantage" (Participant 2, athletics).

Furthermore, this developed a wide variety of views of what should happen next with the inclusion of trans women in the female category. It can be seen from the previous paragraph that certain participants (Participant 5, freestyle frisbee and Participant 3, disc Frisbee) favour trans women inclusion with gender identity as a way of categorising sport. Whereas others believed that fairness and inclusion could never coexist:

I just don't think there's any way that they go hand in hand (*fairness and inclusion*), because it makes things unfair for females but also, that inclusion argument actually excludes females anyway, so by including trans women and DSD athletes in the female category, yeah it actually excludes females. (Participant 2, athletics)

This led to the conclusion that it would be impossible for trans women to be able to compete in the gender they identified with. Equally, certain participants identified how fairness and inclusion could not both be incorporated but lacked a solution in what to do: "I don't have a solution for this in our sport, like the only fair solution could be to make several classes but that's so unfair, that's so against the feeling of the persons so I don't know" (Participant 1, tug of war). Additionally, for inclusion and fairness to both be incorporated participants (Participant 5, freestyle frisbee) proposed new ways into categorisation and to move away from binaries but understood how that would require an extensive amount of research. Overall, there are large questions that need to be considered in what should happen next.

Complexity of sport

This theme identifies how sport is complex and using simple criteria to place individuals into simple categories is often problematic.

The interviews identify that when sport NGBs consider categorisation in sport, there are multiple aspects to reflect upon depending on their sport. One variable highlighted by participants was the way different sports are measured. For some participants (Participant 5, freestyle frisbee) their sport was measured using judges, whereas for other participants (Participant 2, athletics) everything was measured by thousandths and hundredths of a second. It was identified how in different sports due to the different degree of detail involved, it will lead to different discussions in how trans women potentially can be included. For sports that focus on such a degree of detail on who wins or loses, participants express this idea that even a slight advantage an athlete may have can make a huge difference in these sports:

I think there's times where I'm sort of like...if you're a swimmer and you know like what you are doing matters down to 10th of a second is that like when a conversation needs to be had, maybe I don't know. (Participant 3, disc frisbee)

Everything is measured in thousandths hundredths of a second, so kind of every single thing you put in you get out. (Participant 2, athletics)

The complexity in each sport was further identified, when athletes were asked what variables are significant within their sport: "it's very hard to answer because there's like so many aspects" (Participant 5, freestyle frisbee). It highlighted that no athlete was able to express one main variable crucial for their sport, and instead regarded multiple skills to be relevant. Equally, athletes didn't just identify physiological variables they also emphasised the psychological aspects: "I think the main thing has definitely been the discipline and the work ethic and mindset" (Participant 2, athletics), and "you need to have athleticism, you also need to have a mental state" (Participant 3, disc frisbee). This highlights how there are multiple aspects involved in sport and an athlete with a physiological advantage may not always be the most successful athlete. The complexity of sports, led to split views on how sport should be categorised:

People are saying you can make it fair by reducing the testosterone, but from my beliefs there is so much more that is different between male and females and not just

testosterone, um like heart size, lung capacity so many different things that make men and women different. (Participant 2, athletics)

In this instance, athletes believed with multiple different variables involved in sport, using a single variable such as testosterone to define sex categories led to over inclusion. On the other hand, certain athletes voiced the opposite, with so many aspects involved in sport, using a categorisation method such as sex, it is excessively exclusive: “Trans-athletes are also dealing with a lot emotionally and a lot of like other factors just at any given time” (Participant 5, freestyle frisbee). Therefore, even though there is potential for trans women to have a physiological advantage over cis women, with multiple other aspects involved in sport, they could be disadvantaged in other areas compared to cis women athletes. Thus, using a categorisation method such as gender identity that would allow for trans athletes to partake in sport, was emphasised as a sufficient solution.

Additionally, there was the idea of stepping away from gender/sex: “We should get rid of it (*the female category*) because it is super binary way of thinking, and we all know that this is not the reality” (Participant 3, disc frisbee), and “Like sporting in general is pretty binary thing, you know you’re really put into two categories” (Participant 5, freestyle frisbee). Additionally, it was furthered expresses this idea of focusing on different skills rather than sex to categorise sport: “We should find out what makes you good in (*your sport*) and then find a way to make different categorisation” (Participant 5, freestyle frisbee). This theme crucially identities the differences within sports and how different sports will need to have different inclusion criteria.

Representation

This theme discusses how representative the information is on trans athletes; how representative trans athletes are in elite sport; and who’s views need to be represented in discussions on this topic.

When athletes discussed who should be incorporated within sport decisions, the majority of athletes commented how the science and medical professionals needed to be incorporated into decisions made. However, all participants expressed the need for athletes’ voices to be heard on policy decisions, this was both trans and cis athletes: “I think first and foremost the athletes” (Participant 4, disc frisbee), and “I cannot imagine trying to make policies for people who don’t have a voice at the table” (Participant 3, disc frisbee). One participant even demonstrated the

how their sport had already included trans athletes into policy decisions, and how beneficial it was: “Athletes spoke up and shared their experiences and there are lots, well there are several transgender athletes that actually helped framed the USA (*their sport*) guidelines” (Participant 4, disc frisbee). This highlights how significant it is for sport NGBs to receive and understand athletes’ voices as fundamentally they are the ones who will be affected by decisions made and if sport NGBs want to provide sufficient policies for their athletes, it will be implausible without their voices.

However, due to the delicate nature of the topic, there are key considerations that need to be incorporated in discussions. For example, the safety issues of talking to trans athletes in their sport: “We need the transition people to talk and I don’t know to be honest if it feels safe enough in our sport to talk about it” (Participant 1, tug of war). This was identified about cis women as well: “(*Cis women*) athletes are really really scared to speak out” (Participant 2, athletics). For both cis women and trans women it is a very personal topic and a large number of emotions were expressed around the potential impacts on cis women athletes: “Yeah I would have not been mentally okay right now because that’s how it feels when you work so so hard and train so so hard” (Participant 2, athletics). Similarly, the transphobic and emotional stress sport has placed on trans athletes was also discussed: “You are not going to get people who are enthusiastic if you as an organisation have historically said a lot of trans phobic things” (Participant 3, disc frisbee). This identified how sport is a very brutal environment, but there is minimum wellbeing support for athletes. This is also of further concern with participants demonstrating how what happens at the elite level will impact the lower levels, thus discussions need to go about with even more care.

To assist discussions, athletes suggested how sports need to provide safe and emotionally supportive environments. For example, this idea of developing “allies” in sport was demonstrated for trans athletes, so discussions could happen with more care: “trans people of different sports together and that they can discuss and put together their experiences” (Participant 5, freestyle frisbee). This was associated to hopefully aiding in providing support for trans women who may have not always felt comfortable in sport, or if there is only a very limited number of trans women in one sport. There was varied ideas of the number of representatives of trans athletes within the different sports. One athlete mentioned how they knew one open transitioned woman, and one who knew quite a few trans athletes, due to the

open nature of their sport. However, others either didn't mention any in their sport particularly or didn't know any directly.

Furthermore, it was identified how athletes have limited knowledge around the topic: "there's a lot of questions, people don't really understand what a trans person is" (Participant 4, disc frisbee) and "Yeah it's a very new subject for me" (Participant 1, tug of war). Additionally, athletes are unsure in where to get their information from: "I do not always trust the news because they have kind of a point of view on these matters" (Participant 1, tug of war). This is because many athletes' sport boards had not shared any information regarding the topic and with the uncertainty of the news and social media, many athletes seemed lost into where to get their information from. On the other hand, one participant (Participant 2, athletics) voiced how they had attempted to learn more around the topic (DSD focused mainly), through certain books and articles. This was beneficial as the athlete did have more insight into the topic than other participants, for example she was aware of their sport's trans policy. However, most sources looked at by the athlete were focused on the exclusion side of the argument, this therefore affected their opinion on the topic. This theme crucially identifies more needs to be completed, in regard to providing information and discussions involving the science and athletes' views. However, it is of significance of how these discussions happen, as they will create environments that will affect cis and trans women at all levels of sport.

4.4 Discussion

It was clearly identified in the interviews that athletes interpreted fairness in multiple different ways. This was due to certain athletes expressing how sport is never fair, due to biological, psychological and sociological background differences. Thus, excluding individuals based solely on fairness of competition alone was seen as unfair. Other athletes placed fairness in sport as this idea, that athletes should be placed in a category with other individuals equally matched to them. The use of biological sex to define categories was therefore viewed as fair. Loland (2021) provides an explanation to why some inequalities are seen as unfair in sport and some not. They use the fair equality of opportunity principle and apply it to sport. It is a normative principle that focuses on 3-point criteria that needs to be met for an inequality to be used as a bases for categories (Loland, 2021). The inequality must be significant on performance, have a significant impact on all (or at least most) competitors, and it is outside the competitor's impact and control (Loland, 2021). Considering the example of sex

inequalities, men outperform women by a significant amount, due to equalities out of control from athletes, leading to the majority of female athletes to be affected if there were no sex categories. Thus, under the fair equality opportunity principle, sex is an inequality that needs to be controlled by categories to ensure equal opportunity in elite sport (Loland, 2021).

Currently, when looking at the literature, elite sport encompasses the definition of fairness as players being more or less evenly matched. This is due to certain values encompassing sport, such as the need for comparative excellence and meaningful competition (Martínková, 2020; Sailors, 2020; Shin, 2018). Thus, with participants acknowledging a potential advantage trans women may have, it can be considered unfair for trans women to compete in the female category. However other values have been associated with sport, Gleaves and Lehrbach (2016) disregard that sport even requires fairness and instead suggest that individuals participate in elite sport to demonstrate meaningful narratives. When it comes to categorisation individuals should be included even if it leads to unbalanced competitors, because everyone should be able to express their meaningful characteristics, and this overall priority on fairness should not be what sport is concerned about (Gleaves & Lehrbach, 2016).

Certain athletes due to benefits associated to their sport, would support a similar idea to Gleaves and Lehrbach (2016). For example, certain athletes expressed the importance of everyone being included within sport and personal achievement. Additionally, all participants voiced the idea of community within their sport. However, a paper presenting data on Australian elite athletes' (n= 1257) perception of the values derived from sport participation, did not communicate values of community to be of a priority (Jalleh et al., 2010). Only 33% of athletes thought these community values would be developed through regular participation (Jalleh et al., 2010). On the other hand, athletes in Jalleh et al.'s (2010) study did prioritise values such as "*Drive to be one's best*" (87%), "*Looking after one's health*" (82%), "*Self-control/self-discipline*" (80%) and "*Perseverance*" (79%). Participants in the current study also expressed the health aspect of sport, but more significantly also emphasised this idea of how determination and hard work were extremely important values within sport. This psychological aspect of sport is a key variable that needs to be considered in trans women's potential advantage, considering the mental health of the majority of trans women being poor (Bradlow et al., 2017; Faye, 2021).

The psychological variables were identified to be significant, due to athletes expressing the brutality of elite sport. Similarly, this brutal nature of sport can lead to this topic becoming very

personal and emotional for athletes. Certain participants expressed the idea of trans women unfairly taking the place of cis women athletes. This feeling of replacement was further enhanced when key benefits such as economical gain and opportunity to access better resources were involved in their sport. When cis women take this perspective, it can be hard to accept the inclusion of trans women in their sport. This is because athletes put large amounts of effort and time into their sport, and then to feel like they have no opportunity to succeed if trans women are involved, it has the potential to lead to mentally draining affects, as demonstrated by participants in this study. This is especially true with career dissatisfaction being seen as a predictor of signs of depression and anxiety (Foskett & Longstaff, 2018). However, certain athletes had also identified how this type of language and the hostile environment created in certain sports, also plays an impact on trans women's wellbeing. This is of particular concern, due to the poor mental health already associated with trans women and how impactful elite level sport can be on the lower levels (Barras, 2021). Thus, sport NGBs need to consider how they represent their sport on this topic and how they go about producing new policies and discussions.

Elite sport places a large amount of pressure on athletes, with the competitive nature, high training loads and performance demands (Henriksen et al., 2020). This can have detrimental mental health effects if the right strategies are not provided to support individuals (Henriksen et al., 2020). There is increasing investigation into improving support for athletes and their mental health, but currently elite athletes as a group are vulnerable to anxiety and depression (Foskett & Longstaff, 2018; Henriksen et al., 2020). Thus, when it comes to a topic like this that could lead to further strains on athletes' mental well-being, providing support for this needs to become a crucial aspect. This needs to be embedded in sporting environments, discussions and new policies. Presently, participants in this study demonstrate certain sporting environments can be seen as transphobic and both cis and trans women are afraid to share their opinions on this topic. Therefore, there is significant work to be completed to help athletes feel supported. Participants in this study identified the idea of providing allies for marginalised groups in discussions. Research has demonstrated the benefits of allies, with one study examining the role of different levels of support on sexual orientation disclosure (n= 125 Lesbian Gay and bisexual employees) (Wessel, 2017). The research illustrated how having one strong key supportive co-worker (ally) is a major predictor in individuals disclosing their sexuality in the workplace. It was further inferred how this supportive co-worker had even more of an impact on disclosure compared to having a whole group that is averagely supportive

(Wessel, 2017). Therefore, demonstrating how influential and positive, it will be to provide and demonstrate to trans women that they have allies in this debate. It has the potential for trans athletes to be more confident and open in sharing their opinions in discussion around inclusion in the female category. When research or sport NGBs aim to obtain trans voices on this topic, providing them with an individual they trust and is supportive potentially will be influential in attaining their voice. Furthermore, this potentially will also include having a specific individual a trans athletes can voice their concerns or worries to.

In addition, participants also suggest for there to be more open resources surrounding the topic. This should derive from sport NGBs when producing new policies. For example, British Rowing recently published their trans inclusion guidelines, alongside a document involving how rowing clubs can provide supportive environments for trans individuals (British Rowing, 2022b, 2022a). This involves providing education and the right facilities for trans individuals e.g., gender neutral changing rooms, to having clear information readily available to all athletes to know the regulations/rules for competing in certain competitions and reasoning behind them. Therefore, no matter the NGBs view on trans inclusion in sport competitions, trans athletes are may still be provided with unhostile environments and support in maintaining participation in that sport through other routes (British Rowing, 2022b). Using techniques such as these and aiming to have a focus on athlete's well-being, has the potential for athletes to feel more supportive, lead to better discussions and more athletes to express their views. This was a crucial necessity identified by participants for the most appropriate policies to be produced by sport NGBs.

When it comes to what should happen next, participants expressed the requirement for athletes' voices but also more scientific research. This is especially crucial, with participants identifying multiple physiological variables involved in their sports. This led to different ideas on category organisation. Certain participants expressed, because of the multiple aspects involved in their sport and the multiple differences between cis men and cis women, using a single measurement such as testosterone to define categories still does not combat the advantage trans women have. There is still debate in the physiological literature if testosterone suppression can reduce the potential advantage trans women have. For example, research suggests testosterone suppression reduces muscle mass and strength for trans women, but not within a similar range to cis women (Hilton & Lundberg, 2021; Wiik et al., 2020). Other athletes developed the idea, that with so many aspects involved in their sports leading to multiple advantages and

disadvantages for individuals, thus any differences trans women have compared to cis women should just be considered an accepted advantage/disadvantage. Presently, there is debate if trans women even have an advantage in certain sports. Hamilton, Guppy et al. (2021) demonstrates how testosterone suppression in sports such as shooting after 1 year, and archery after 2 years, can remove any advantage. Thus, this further enhances this idea highlighted in the interviews, that all sports are different and complex, involving a range of variables (psychological and physical), values and benefits.

On the other hand, certain athletes expressed the idea of moving away from sex/gender categories in sport. For example, considering the physiological variables significant to their sport and creating a categorisation based upon this. This is a similar discussion that Loland (2021) acknowledges. For example, suggests how in sports such as basketball and volleyball, height plays such a significant role on performance that it has the potential to be used as a categorisation method (Loland, 2021). Similarly, weight can be used to categorise sports, such as ski jumping, as it provides a significant and systematic competitive advantage. Loland (2021) concludes, for some sports other classification methods not involving biological sex may create better options, as will allow for more precise and fair competition and allow for more inclusion. This idea expressed by certain participants and the literature, of moving away from biological sex/gender categories, has the potential to be a new way to organise sport. But as mentioned by participants, a lot more scientific research is required, and with biological sex being so socially accepted within sport organisations, it will take a large amount of time and discussions to change views on this.

Concluding Remarks

The interviews aimed to provide a further, more in-depth insight into athlete's opinions and discussions around this topic. The themes that emerged were the different benefits associated with different sports; the different interpretations of fairness; the complex nature of sport; and the importance of representation and how voices are represented. The themes highlight the need to breakdown sports individually, to understand what is prioritised by different athletes and prioritised within different sports. Similarly, athletes disregarded simple categorisation and developed the need for more scientific research to be completed, to develop more appropriate categories. Further, there needs to be more research completed with athletes in representing their voices, but for this to be done athletes need to be provided with further knowledge on the topic and more significantly, they need to have safe environments where they feel supported.

Similarly, this chapter demonstrates certain ways to provide support for athletes, specifically trans women, however more research needs to be completed surrounding accommodating trans individuals in sport and the psychological support required if NGBs continue to exclude trans women from the female category of sport.

Limitations and Future Directions

In general, the use of interviews can produce their own weaknesses, such as this type of method relies on subjectivity due to the specific meeting between the interviewer and interviewee (Brinkmann, 2013). Similarly, there is always questioning about what can be generated from interview data, for example from just one interview it can be hard for the interviewee to trust the interviewer thus debating how much truth and useful data is being generated at each interview (Brinkmann, 2013). In addition, using the volunteer sampling method of allowing athletes to leave their email after the survey to take part in the interviews, is likely to result in a distorted sample population due to volunteers usually being different from non-volunteers or those who are not conveniently available to those who are (Becker et al., 2012). Furthermore, the study did not include any trans athletes as it proved too difficult to include and connect with trans athletes who compete in the female category to share their opinions. It is therefore still vital for data to be collected on trans athletes' opinions on this topic. The small sample size on limited sports may also be viewed as a possible weakness, however it was felt by the researchers that a variety of opinions were gained, with all points being valuable and have provided guidance for future research. There was a possibility to interview more participants, however their survey responses came from a similar position as participants already interviewed. Future research should consider the most suitable and supportive ways to include trans athletes on this study, and for the development on different ways to support athletes and their NGBs in creating the most appropriate categorisation for their sport.

Chapter 5:

An Overall Discussion Surrounding the Findings from the Current Research and the Literature

5.1 Proactiveness

This chapter will bring together the findings from the survey and the interviews in the context of my learnings from the relevant literature to be able to provide a holistic discussion and conclusion of athletes' attitudes towards trans women in the female category of sport.

Representation

This section provides an insight into the lack of reliable information readily available, the crucial need for athletes' voices and the significance of how voices are being represented due to the self-interests of athletes. Hence sport NGBs need to have a fundamental role in this matter. Within chapter 3 and 4 elite/world class athletes reflected upon how they were unsure on their sport's transgender policies and commented on the limited proactiveness of their sport NGBs. In chapter 4 athletes voiced hesitation in where to receive information, with social media already playing such an impact surrounding the matter. Whether an athlete's sport NGB have or have not produced a transgender inclusion policy, cis and trans athletes need to have guidance in where they can go if they require constructive information regarding this topic and be provided with balance arguments. Further, the present thesis empathises how athletes' voices do need to be a significant step within discussions and policy formations, as it is imperative to understand their experiences within sport. However, athletes need to be aware of other perspectives and all information surrounding this issue, when providing their outlook. Similarly, sport NGBs need to be mindful that athletes are going to have biases towards their best interests, when sharing their viewpoint.

If a sport NGB has produced a policy, it is crucial athlete's voices have been taken into consideration, as well as for all athletes to understand their place in sport and to feel supported by their NGB. Previous policy announcements, such as the sudden suspension of British Cycling's transgender and non-binary participation policy (reflected upon in the literature review), demonstrated the detrimental effects it can have on athlete's lives when this matter is not handled with care and support (Bridges, 2022; British Cycling, 2022; Parker, 2022).

Chapter 3 further validates the minimal support there is for trans athletes, with current Olympic athletes, especially tier 4 level athletes acknowledging the unfair treatment of trans athletes (Table 6). Further the interview data allowed for more detail to be expressed, where athletes commented on the transphobic environments of certain sports and the limited support available.

The inadequate support provided to athletes surrounding trans women inclusion/exclusion is further shown in chapter 4 where it was recognised how both cis and trans athletes are afraid to speak out. Devine's (2021) study duplicates this, with over 90% of cis female athletes either disagreeing or strongly disagreeing that they were able to ask questions and speak freely without accusations of transphobia. Including this thesis and Devine (2021), only around 200 elite cis female athletes have been able to share their opinion through the peer reviewed literature. Furthermore, trans athletes' voices are even more limited. One paper by Phipps (2021), was only able to achieve the voice of one trans individual, and a paper by Barras (2021) reflected upon the views of eighteen trans individuals and non-binary participants. However, for both studies only lower-level sport participation was included. To the authors knowledge there is still no peer-reviewed study that has considered the voices of elite trans athletes at the top levels of sport on this matter. This current thesis acknowledges the limited number of trans individuals in society as a whole (around 200,000 to 500,000 in the UK), and also within sport (1 out of 15,429,409 members/participants applying for Olympics sports in 2021) (Coleman et al., 2022; Faye, 2021; Reed et al., 2009; V. Smith, 2022). Therefore, there is always going to be challenges in gathering the views of large numbers of trans athletes. However, the data from this thesis demonstrates the situation is not being improved by the already transphobic nature of sporting environments, and the limited support provided. Thus, even when elite athletes are provided with the opportunity to safely share their opinions, they still may not feel this is the case.

Athletes require avenues to be able to safely share their opinions. However, with this topic being personal to certain athletes and the requirement as demonstrated above for supportive environments, there needs to be awareness in how sports are being represented around this topic. This is especially crucial, with the majority of these public online voices coming predominantly from retired athletes, whose attitudes towards this topic vary compared to current athletes (Table 8 and 9). Thus, the main representation of this topic on social media, potentially may not be the accurate voice represented by those currently involved in elite sport. The thesis is not denying how it is essential for all athletes' voices to be heard on this topic.

However, sport NGBs need to be aware of whose voices and how these voices are being represented when it comes to discussions, as ultimately it will affect athlete's lives and decisions made.

Along with differences seen between current and retired athletes, there was also difference between athletic levels. This validates how a universal approach is no longer the answer. Exclusion in one type of sport or at one level should not lead to exclusion at all levels or in all sports. This is why it is so crucial that there needs to be care in how these voices are reflected in discussions and policies. The well-being of athletes is key in any decisions or policies made. Athletes in chapter 4 and the research already establishes the brutality and high-pressure environment of sport, and the strain this can have on athlete's mental well-being (Foskett & Longstaff, 2018; Henriksen et al., 2020). This matter should attempt to have as limited impact on this as possible. This is further emphasised with the also vulnerable mental health of trans individuals (Barras, 2021; Faye, 2021; Stonewall, 2016). Evidently there are challenges with the passion and emotion athletes put into their sport. However, in discussions and policy making, providing allies, supportive language and other pathways into sport, will attempt to allow individuals to feel that they still have a place.

5.2 The Advancements in Sport and Society

The Journey of Cis Women

The perspective of women in society and sport has changed significantly, from the Victorian era where women were represented as weak and had no place within sport, to the World Wars which changed these attitudes and gave women more of a role (Dumenil, 2017; Gregg & Gregg, 2017; Lemmon, 2019). For women to get to the place where they are today it took a considerable amount of effort. However, a gap still prevails in equality for women in society and sport, for example pay gaps, sponsorship deals, feminine stereotypes, managerial and coach roles (IOC, 2021f; Weatherford et al., 2018). With the number of difficulties and challenges women have had to contest and still face to get to a place in elite sport, it is understandable women athletes have such emotions and defence regarding their place in sport. In this thesis, chapter 4 allowed athletes to demonstrate the passion and the physical/mental effort they put into their sport. Thus, when considering the emotions and battles women have taken to achieve a place in sport and the barriers they still face, it is plausible to understand how cis women can be against individuals competing in the female category who may still hold

some physical attributes of the male sex, as this may lead to unfair advantages. These unfair advantages have the potential to affect cis females place within sport. Similarly, it reduces them having equal chances of reaping the benefits that come from competitive sport.

Currently, the financial prospects of elite sport are increasingly becoming a priority, with the majority of sports becoming increasingly evolved around money (Weatherford et al., 2018). Chapter 4 demonstrates when financial benefits were involved in sport, certain cis women athletes would express the view of trans women taking their place in elite sport, and there was more emphasis on a potential unfair advantage held by trans women. In chapter 3, this similar view was shared more prominently by world class athletes compared to elite athletes, where it can be argued that the world class environment is likely to have more money involved in it than at the elite level (Burke & Simpson, 2022; Stats Perform, 2022). When money becomes a key benefit into why that athlete participates in their sport, it is understandable to consider why athletes are less supportive of trans women in the female category. Especially, with women already receiving a much smaller financial percentage compared to men. When you compare the women's salaries of the top-class WSL footballers with the top-class male premier league footballers, it demonstrates how much less money is put into women's sport (Burke & Simpson, 2022; James, 2022). For example, the highest paid female footballers are receiving around £400,000 a year, compared to men who receive that salary per week (James, 2022). It is no surprise with the limited funds and the significant difference between the top and the lower levelled athletes in women's sport, cis women find it hard to accept trans women in sport, when they would be competing with individuals who may still hold an unfair advantage. Further, the limited support for trans women, is not just expressed by cis women athletes, for example the same is seen in the study by Cleland et al. (2021) with sports fans. It was indicated how trans women involvement in elite sport may not be positively received by audiences of sport, leading to potential reductions in popularity, hence money (Cleland et al., 2021). Therefore, with money increasingly becoming a priority to sports and their athletes, there is less chance trans women are going to be accepted into elite sport.

The Comparisons

Comparing the current journey of trans individuals to the historic experience of cis women similarities start to appear. For example, just as certain acts were created to improve women's rights in the 1970s (such as CEDAW and Title IX of the Education Amendment Act), recently there have also been improvements in transgender rights. For instance, being included within

Discrimination Acts (Discrimination Act, 2008; Equality Act, 2010; Office for Civil Rights (OCR), 2021; United Nations General Assembly, 1979). Furthermore, considering the Britons and Gender Identity report it demonstrates how currently the majority of Britons are compassionate and support trans individuals in most contexts. For example, more people agree than disagree in every demographic subgroup bar one (Disengaged Traditionalists) that a trans man is a man and a trans woman a woman (Tryl et al., 2022). There is support for schools to express and talk about the topic of trans in age-related contexts, with 31% believing talks should happen at primary school (Tryl et al., 2022). Additionally, there is support for trans women using women's changing room (if they have undergone gender reassignment surgery) (Tryl et al., 2022). This highlights that the UK are currently more open to trans individuals.

Furthermore, this can be seen in other areas of Europe, with certain places starting to address more gender-fair language for women, for example stepping away from the generic 'he', to 'he/she' on forms and applications (Gustafsson Sendén et al., 2021). This is a similar shift that is starting to be seen for trans and non-binary individuals, for example the use of 'they' is becoming more commonly recognised. A Swedish study investigated this by comparing participants' attitude to the word 'hen' (equivalent to 'they' in English) in 2015 (n= 1,203) when it was first added to the Swedish Dictionary, compared to attitudes of participants in 2018 (n= 2,009) (Gustafsson Sendén et al., 2021). It was found that there was a more positive attitude to 'hen' in 2018 than in 2015 (Gustafsson Sendén et al., 2021). The study reflected how it is important to acknowledge how even in only a short period of time (3 years) there has been significant effects, and how as time went on 'hen' was likely to continue to increase in popularity. This is replicated in the current thesis, with participants in chapter 4 acknowledging how the world is no longer functioning in a binary way and sport should follow.

Conversely, it should not be ignored that there are still inequalities between cis men and cis women in society and sport. However, the sporting environment aims to amend this as much as possible. For example, a prime reason for sex categories is to allow for cis women to receive equal recognition (Shin, 2018). Similarly, as reflected upon in the lit review there is a number of campaigns to encourage cis women in sport at all levels (Mastercard, 2020; Ratcliffe, 2021; Sport England, 2022b; The Football Association, 2021; Women's Cricket World Cup, 2022; World Athletics, 2021b). This encouragement is not reflected to the same degree for improving trans women or trans men's position within sport. For example, 29% of trans pupils report being bullied during PE lessons, 35% of trans people expressed how they avoid going to the

gym or participating in sports groups because they fear of discrimination and harassment, as well as 66% of LGBTQ+ community felt that there were problems with homophobia and transphobia in sport, which lead to barriers in them wanting to be involved (Stonewall, 2016). However, the number of sporting campaigns to combat and encourage trans individuals in sport is limited, with ultimately only one campaign having significant effects (Rainbow Laces campaign) (Stonewall, 2022).

Additionally, if anything sport is going in a negative direction. For example, as previously mentioned in the literature review, the new SCEG guidance published in 2021 fundamentally promotes exclusion and provides no guidance in how to support trans individuals within the sporting environment. Thus, there may be a positive shift towards trans individuals in society and more acceptance of a gender fluid culture, however this same positive movement is not being represented in sport. Similarly, as much as the Britons and Gender Identity report identifies the support the general UK population have for trans individuals, this support is not reflected within sport. 57% are unsupportive of trans women partaking in female category of sport (19% support and 25% don't know) (Tryl et al., 2022). These discussions are usually placed at the elite level and not on the participation/voluntary level (Tryl et al., 2022). However, the debate is not concentrated on the definition of a man or a woman but a focus on the advantage trans women hold being born biologically male (Tryl et al., 2022). The focus of the debate is on the fairness and level playing field required in sport (Tryl et al., 2022).

Aspects may have improved in society for trans individuals from where they once were however there is still a significant and vast amount of work required for full acceptance. For example, Faye (2021) highlights how trans individuals are still one of the most vulnerable groups within society. For instance, in 2021 trans individuals are still reporting transphobia in employment (63%), seeking housing (40%), and from family members (26%) (Transactual, 2021). These figures don't even begin to express the struggles and issues trans individuals face on a daily basis, with this group being extremely vulnerable to depression, self-harm and suicide (Bradlow et al., 2017; Faye, 2021). One significant issue faced by trans women, as mentioned in chapter 2, is transmisogyny. This involves the perception of trans women being seen as threats to cis females (Faye, 2021). A weakened version of this is sometimes seen in sporting environments. For example, certain cis women athletes in chapter 3 and 4 felt trans women threatened their place in sport. Olufemi (2020) highlights how trans women's femininity is not fraudulent nor do they jeopardize or threaten feminist advancements. Cis

women are not the inferior sex, or free from violence or the lowest paid workers, because of trans women, but because of the way our society functions and how society has accepted women historically (Olufemi, 2020). It tends to be neglected that trans women are a group who are extremely vulnerable to violence and face complex and deeply personal journeys (Olufemi, 2020).

Furthermore, research that has focused on healthcare for trans individuals still demonstrates how a large amount of work is required. For example, research that analysed data from the Transwomen Empowered to Advance Community Health (TEACH) Studies in San Francisco demonstrates how trans women are still facing stigma and discrimination. The TEACH studies aim to measure HIV behavioural risk factors and prevalence amongst trans women through cross-sectional surveys and the paper by (Arayasirikul et al., 2022) aims to analyse the data over 3 different time periods, 2010 (n= 314), 2013 (n= 233) and 2016-17 (n= 318). It was found trans women experienced transphobic discrimination and violence in all 3 periods with limited improvement (Arayasirikul et al., 2022). It was emphasised in the study how physical violence and housing discrimination were reported as significant issues for trans women and even worsened over the time period (Arayasirikul et al., 2022). This is even more of a shock as at the time San Francisco were aiming to improve and invest in the public health and community-based initiatives for trans women (Arayasirikul et al., 2022). Therefore, establishing how these developments did not materialise. Although certain improvements were demonstrated across the trans women community such as enhancements in gender affirming, mental health and HIV services (Arayasirikul et al., 2022). The study uses cross-sectional data thus it cannot be classed as a longitudinal study, however it begins to display that over the years there is work being completed to attempt to increase acceptance for trans women in communities and health spaces, although it is not being materialised, meaning there are still significant improvements and support required for trans women. Additionally, the journey for trans women in society still has a long way to go, especially when comparing suicide rates amongst trans individuals with the general population (McNeil et al., 2017). A systematic review validates how rates are significantly higher for trans individuals compared to the general population and they face many different and more complex issues compared to other groups (McNeil et al., 2017). For example, suicide risk factors demonstrated within the review were legal recognition and being unable to transition (McNeil et al., 2017). Even after transitioning, stressors still maintained including unsafe gendered spaces and as represented in the above study, discrimination and violence were also highlighted (McNeil et al., 2017).

Similarly, when considering the medical transitioning of trans individuals, it provides a slight outlook into how complicated the process can be. For example, with experiences varying for each trans individual, how they are medically treated will be modified based to “*their clinical need, biological, psychological, and social situations, as well as their access to health care*” (Coleman et al., 2022, p. S31). Further, individuals go through rigorous diagnosis, which involves a “*comprehensive multidisciplinary assessment*” (Coleman et al., 2022, p. S41). This is just a fragment of the process experienced by trans individuals, and it needs to be acknowledged this is not an easy change for trans people, nor do they have choice in the way they experience their gender. Similarly, it needs to be remembered trans women are not aiming to oppress cis women or threaten their place within sport. Sports and certain athletes tend to disregard this when considering the inclusion/exclusion of trans individuals. However, it can be argued due to male physical attributes playing a role within sport performance on who becomes successful in elite sport, is this a place that needs to remain fixed to binary sex? Or when sport supports these ideas of transmisogyny, will it just be enhancing this idea within society. If trans women ever want to feel accepted within society, do they also need to be accepted within sport?

Fairness in Sport

In chapter 4 it was demonstrated how some athletes viewed that for sport to be fair everyone should have the opportunity to partake in it at all levels, even the elite. However, others valued the idea of fairness of the requirement of equally matched competitors, even if that meant exclusion of a group from a category they identify with. This section will provide an outlook into the different ideas of fairness within sport, and how they are relevant because of the benefits and the values incorporated within elite sport. This will lead to proposals in how sport should be categorised, in the hopes to achieve both concepts of fairness.

The importance of sport has been demonstrated throughout this thesis, due to the significance sport has within society and vice versa. This significance is further emphasised through the benefits that come from sport participation. From the literature and the research participants it is understood how there are a range of benefits that are available to all, at all levels of sport. For example, sport provides physical and mental health benefits, community aspects, the development of teamwork, leadership and dedication traits (Allender et al., 2006; Barras, 2021; Buzuvis et al., 2021; English, 1978; Grasdalsmoen et al., 2020; Mountjoy et al., 2019). These

are benefits found at all levels of sport and known by English (1978), as the basic benefits of sport. On the other hand, there are benefits available from sport that only encompass the elite level of certain sports. This involves financial aspects, university offers/scholarships, sponsorships and access to better sporting resources, as reflected in the wider literature and athletes in this thesis (English, 1978; Shin, 2018).

This thesis focuses on elite level of sport, and there is debate around what is considered fair in who should be able to compete in the elite level of sport and reap the benefits of it. It is understood not everyone is able to participate at this level. In principle the most skilful athletes at that sport should be the most successful athletes and should be the ones to reach this level and reap the benefits (English, 1978). As demonstrated by the athletes in this current thesis, there are multiple aspects that make an athlete skilful at that sport. This can include the biological makeup of that individual, their psychological aspects, their economical and sociological factors (Foddy & Savulescu, 2011; Loland, 2020; Martinková, 2020). For example, as acknowledged by Loland, (2020):

“Athletic performances depend on genetic predispositions for developing basic biomotor capabilities of strength, speed and endurance, and for technical and tactical skills including mental qualities. These performance phenotypes are outcomes of a high number of interplaying factors from the chance event of conception and formation of a unique genetic makeup in the so-called ‘natural lottery’, via numerous gene–gene–environment interactions in the physical, psychological, social and cultural contexts in which athletes find themselves, and all the way up to situational factors (a sudden gust of wind, a comment from a competitor, an acute injury) at the moment of performance. Each athletic performance is unique and ‘authentic’ in the sense of being an expression of one particular individual’s life-long developmental history.”

(Loland, 2020, p.586)

Therefore with multiple factors involved, should it just be considered fair that some individuals are just lucky in sport, or do we have to control these variables? However, with the majority of characteristics that make a successful athlete favouring male attributes, if these variables were not controlled males would dominate the majority of sports (English, 1978; Pike, 2021; Shin, 2018; Takemura, 2020). Reflecting upon the importance of sport in society and the benefits related to the elite level, it is considered fairer to control certain factors to enable more individuals the chance to succeed at elite sport (Shin, 2018). However, there are debates around what to match individuals on.

Equally, what also needs to be considered when grouping similar individuals is the values incorporated in sport. Elite sport encompasses the value of matched competitors (Martínková, 2020; Sailors, 2020). This is relevant in elite sport due to the importance and benefits already demonstrated that are associated to this level. Along with the idea that elite sport would be pointless, as the winner would always be decided. This encompasses the idea that when athletes are placed on that starting line, or about to kick off or perform their routine, they need to have a fair opportunity to succeed compared to their competitors. Therefore, if an individual possesses an advantage that would prevent other individuals in that category from even having a chance of winning, it would be considered fair and more consistent with the values of sport to exclude that athlete from that category (Shin, 2018). However, issues originate when what is being used to match competitors, ends up excluding another group from having the opportunity to partake in elite sport completely. Is it fair for sport to exclude a group of individuals from entirely having the opportunity to partake in elite sport, in order to maintain fairer competition? The reasons behind categorisation are to provide more individuals with the opportunity to partake at the elite level, and to provide matched competitors, can sport offer both concepts equally or is one needed to be prioritised?

Can Current Categories Include Both Concepts of Fairness?

The current thesis demonstrated mixed opinions on categorisation methods. It is understandable the data from the questionnaires and interviews were inconsistent with one reason being that different athletes prioritised different ideas of fairness. Some athletes value the idea that it was unfair to exclude a group of individuals, whereas others prioritised the idea of unfair advantages. When it comes to categorisation, is there a method that can incorporate both fair opportunity and a fair level playing field.

The idea of using sex to match competitors is historically accepted, because fundamentally it allows cis women the opportunity to participate and succeed in elite sport (English, 1978; Shin, 2018). Most individuals believe it would be unfair if cis women were not being represented in elite sport. This was reflected in the current thesis with 60% of athletes agreeing with biological sex categorisation. However, issues are observed when using this categorisation. For example, it can be argued that it does not provide all the opportunity to partake at elite sport, especially in the case of trans individuals. Trans individuals' biological sex does not correspond to their gender identity, thus using this categorisation would lead to trans individuals having to compete in a category they do not identify with, arguably leading to their exclusion in sport (Coleman

et al., 2022; Devine, 2019; Shin, 2018). Considering that when cis women were excluded from elite sport, it was considered unfair, it should also be considered unfair for trans individuals not to be represented in sport and not be able to reap the elite sport benefits.

The further issues with biological sex categories are how to define them. For example consider the multiple variants of gender verification testing (Shin, 2018; Sullivan, 2011; Takemura, 2020; Teetzel, 2014; Wiesemann, 2011). Currently, a number of sports use testosterone levels to define sex categories (Bigard, 2022; World Athletics, 2019b; World Triathlon, 2022). Testosterone levels arguably can be considered a method that allows for the participation of trans individuals whilst maintaining matched competitors (Pike, 2021; Takemura, 2020). However, there are debates surrounding this. Firstly, when athletes lower their testosterone, and in such their performance, it potentially reinforces the idea that women are inferior to men (CAS), 2019; Takemura, 2020). On the other hand, there is various evidence in whether testosterone suppression actually reduces the advantages obtained through male puberty (Hamilton, Lima, et al., 2021; Harper et al., 2021). This was reflected by athletes in the current thesis. Certain individuals established the view that testosterone was not sufficient, especially currently with regulations not being within the female range. However, there still needs to be a large amount of research completed. Research currently focuses on differences between cis men and cis women, with limited acknowledgement to the fact that trans women are not the same as cis men (Hilton & Lundberg, 2021). Similarly, there is minimal research around the actual performance of trans women in sport (Harper, 2015; Roberts et al., 2021). The performance advantage held by trans women may not be of a significant magnitude to exclude them from the female category (Devine, 2019; Foddy & Savulescu, 2011; Loland, 2021). It needs to be remembered sport does not attempt to control every advantage. Thus, it can be argued this unfair advantage held by trans women, potentially could be considered fair or even non-existent. If it is found that using testosterone levels allows more or less evenly matched competitors for trans and cis women, it could be considered a justifiable option. It allows all individuals the opportunity to partake in elite sport in the category they identify with, whilst also providing a fair level playing field.

With there still being debates around whether trans women have an unfair advantage with or without testosterone regulations, should they be placed into separate trans category? It can be argued it provides matched competitors and allows everyone the opportunity to partake in elite level sport. However, with such limited numbers of trans women in sport as demonstrated

previously, there would be lack of competition. Similarly, would this lack of competition mean trans athletes would not actually reap the benefits of elite sport? Additionally, the majority of trans women want to be considered women thus preventing them from competing in the women's category, seems detrimental to trans women's mental health and their place as women within society (Barras, 2021; Devine, 2019; Shin, 2018). Thus, if a separate category is not plausible, whilst there is still dispute as to whether or not trans women hold an advantage it can be argued sports should define categories through gender identity. This would enable the inclusion of trans individuals within sport. However, this would potentially be at the expense of cis women. This is something that cannot simply be disregarded, given what has been demonstrated with the importance of sport in society, the barriers within women's sport and the intensity of elite sport.

Athletes within chapter 4 demonstrated mixed opinions on both types of categorisations, some athletes saw the unfairness with using a separate transgender category, with it just being an unpalatable option to encompass the values and benefits of sport for trans women. Whereas others saw the unfairness of allowing individuals with a potential unfair advantage to just ultimately be allowed to compete and dominate the sport. Using gender identity, or a separate transgender category, seems to put sport NGBs or individuals in a position where they are required to choose between trans women or cis women. Whatever conclusion is decided will leave one group feeling inferior within their place in sport and society, which will have detrimental effects on individuals' well-being. Therefore, with categorisation based on sex leading to trans women and cis women being pitted against each other, and one group being left secondary should sport move away from sex/gender categories. This becomes even more evident, with athletes in chapter 4 demonstrating the multiple skills involved in making a successful athlete, with the idea sex is not the only advantage/disadvantage involved. Therefore, with sport being encompassed by a range of complexities, is using a binary, universal categorisation method no longer acceptable? Especially as society starts to move away from a gender binary, is there a need for sport to do the same to not be left outdated?

There are a number of debates on why sex is considered an unfair advantage in sport when there are multiple other variables that influence whether an athlete is successful. Loland (2021) acknowledges this and considers how there is the potential for some sports to move completely away from sex/gender categorisation. For example, in some sport the performance differences between cis men and cis women are non-existent, thus the use of unisex competitions can be a

plausible option (Loland, 2021). Or as reflected within the literature review, a variable such as height plays a considerable and predictable role in basketball (and sports similar). To the point that an average height individual is at such a disadvantage that there are excluded from this sport. Thus, using height to categorise certain sports may be a more justifiable option compared to sex/gender (Loland, 2021). Loland, (2021) shares a similar outlook for weight classification, where for example being lighter in sport such as ski jumping can be a considerable advantage. Using other methods unrelated to sex, can prevent the unfairness of excluding individuals from sport, as allows for more individuals to be represented and reap the benefits. Whilst, also providing the idea of fairness of matched competitors. There are still issues related to this categorisation, for example the majority of athletes within chapter 3 were against this idea (Table 9). In chapter 4 athletes reflected positively on it but understood how it would take a large amount physiological research and work to change the social acceptance around sex categorisation. Similarly, elite sport is meant to focus on the best of the best. Thus, for example in height categorisation will there be the same degree of popularity for sports that focus on shorter athletes compared to taller athletes? Likewise, will these taller height categories be largely dominated by cis men (Shin, 2018)? However, this method highlights how all sports are different, and sport NGBs need to consider what categorisation method will allow for the most individuals to have the opportunity to be able to compete in elite sport, whilst also providing as fairly matched competitors as possible.

Conclusion

This thesis may not provide a full solution in how sport NGBs should handle the inclusion of trans women in the female category of sport. However, the voices of athletes eligible to compete in the female category recognise that sports are complex, involving a range of skills, values and benefits that are going to affect the inclusion/exclusion of trans women in sport. Thus, there will never be a simple universal conclusion to a complex matter. However, athletes' voices have provided guidance in different aspects that need to be considered in discussions and categorisation as well as more guidance in how to handle the situation. For example, placing athletes' well-being at the forefront of any discussion/policy making to prevent certain groups from feeling inferior or underserving of a place in sport.

Chapter 6:

Concluding Remarks

6.1 Limitations of the Research

The sensitive nature of the topic means it was extremely difficult to attain athletes' opinions. This leads to the limitation that the sample is not representative of the population, such as respondents may be more interested or may have more of a significant attitude towards the topic (Becker et al., 2012; Bryman & Cramer, 2002). This may lead to a source of bias (Bryman & Cramer, 2002). Therefore, to an extent increasing sampling size will make the results more accurate and more generalisable (Becker et al., 2012; Bryman & Cramer, 2002). However, it should be recognised no study has before interviewed elite athletes or surveyed this number of elite athletes regarding this matter. On the other hand, the interviews strived to provide understanding in the context specific to the subjects interviewed and each athlete's unique environment (Becker et al., 2012; Brinkmann, 2013). Therefore, sample size for chapter 4 is not an issue with no interest in generalising the findings. However, to provide understanding to a wider range of contexts, more variety of athletes from multiple sports could have been used. Or to enhance the depth of the data collected in the interviews, further questions or more than one interview for each participant may have been beneficial (Brinkmann, 2013). Lastly, in regard to the sample the thesis was unable to provide the outlooks of any trans women athletes due to how personal the topic is to these individuals and the limited number of elite trans women in sport. Therefore, it should be recognised the thesis is only able to represent the opinions of the athletes who were surveyed and interviewed. Hence, future research should consider the possibility of including the outlooks of trans individuals.

Furthermore, the survey and interviews did not include questions regarding the safety aspects of trans women in sport, however it was a concern highlighted by a certain number of athletes. Therefore, future research should place more emphasis on the safety risks of trans women in the female category of sport. Similarly, the main concentration of the thesis was focused on trans women's eligibility for the female category of sport. Conversely, considering the inconclusive data on trans men and the thesis highlighting safety and athlete wellbeing concerns, future research should also place more emphasis on trans men inclusion in sport.

6.2 Recommendations and Addressing the Research Aim

The aim of the research is to provide athletes the opportunity to voice their opinions on the inclusion on trans women in the female category of elite sport. The survey gained the attitudes of 123 elite or world class athletes. This number of athletes has never been completed before for this topic. Thus, the survey enabled an insight into athletes' experiences and concepts surrounding trans women inclusion in multiple different sports. The interviews further allowed for an in-depth explanation from athletes to begin to understand reasons behind athletes' outlooks. It also allowed athletes to express their personal experiences and emotions towards the topic which is difficult to convey through the survey data. Therefore, a number of athletes and a range of views were able to be represented in this thesis in order to provide guidance on categorisation methods and trans women inclusion.

The thesis demonstrates how athletes' voices do differ in context. Therefore, when completing discussions surrounding this topic a range of athletes should be represented and both sides of the discussion should be understood. Similarly, it is a deeply personal topic for some athletes, therefore athletes need to be provided with guidance and support. For example, providing allies for minorities and supportive spaces. This is because it is vital all athlete's wellbeing is being reflected within policies, for appropriate creation and announcement.

Further, this thesis identifies how sports are complex due to the multiple factors involved. For example, physiological, psychological aspects, the different measurements, the different skills and the variations in fairness and benefits. Hence, with multiple differences between sports, there is always going to be differences in opinions between categorisation methods. Therefore, this thesis is unable to provide a concluding solution to future categorisation in sport, however it is able to provide guidance. Sport NGBs should move away from universal policies and blanket bans and should consider their sport's skills, levels and athletes. Similarly, with there being insufficient research in all areas surrounding this topic, there should be apprehension when making swift, sudden changes to policies when still large amounts of investigation is vital. This is especially true with sport being such a fundamental aspect within society and what can be gained from participation, as a result no decision should be made without large amounts of consideration for athlete's wellbeing. Sports need to start to consider what is a priority to their sport and their athletes and produce categorisation around this.

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