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Medicine, Sport and the Female Body

Introduction

In 2007, tucked away in the *Daily Telegraph's* sports round, it was reported that the Indian middle-distance runner, Santhi Soundarajan, was in hospital following a suicide attempt. The previous year she had been stripped of the silver medal she won in the 800 metres at the Asian Games. The reason: she had failed a gender test.¹ It is not known if the two events were linked but two years later the issue of gender testing would be given greater prominence following the victory of the South African Caster Semenya in the women's 800 metres at the 2009 World Athletics Championships in Berlin. As questions were raised over the exact status of her sex, people asked whether it was 'fair' that she should be competing against other female athletes. It is ironic, as Vanessa Heggie has pointed out, that whereas there are probably hundreds of genetic variations that lead to 'unfair' advantages in sport, 'only those associated with gender are used to exclude or disqualify athletes'.² While the subject of gender testing is a relatively extreme example which has recurred intermittently throughout the twentieth century, it has reflected not only how the bodies of women continued to be politicized within sport but also that the relationship between female athletes and medicine continued to perpetuate wider discourses regarding the role of women in society.

Jennifer Hargreaves has argued that 'the whole of the history of modern sports has been based on gender divisions'³ with the presence of women in sport traditionally not only marginal but also marginalized. As Osborne and Skillen have pointed out with regard to sport, 'no realm of social or cultural life is exclusively the property of any given group, but is merely appropriated and in turn constructed as such'.⁴ While feminist scholarship has emphasized the 'experience' and changing 'meanings' of leisure in the life-cycle of women,⁵ the aim here is to establish how the relationship between women, sport and medicine has been shaped through the prevailing social and medical discourses that this relationship has engendered.

Throughout the twentieth century though there was a significant growth in women's sport and participation generally. At the Olympics, for example, whereas there were no female competitors in 1896, by 2008 they made up 42 per cent of the 11,196 athletes. However, this growth has also reflected contradictory aspects. While there has been rising participation rates mirrored

by greater liberalization of women's rights, the growth of women's sport has continued to reinforce gender stereotypes and dominant discourses, which has been mirrored in the representation of female athletes in the media.⁶ In sports like gymnastics and figure-skating, for example, an emphasis has been placed on so-called feminine attributes while through their coverage some areas of the media have sexualized female athletes, such as during the Wimbledon tennis championships.

There has never been a consensus over the ideology of female sport. Because sport, especially at elite level, has been about excess it has been more commonly associated with notions of masculinity. As a consequence, images and perceptions of female athletes overstraining have conflicted with prevailing ideals of femininity. Zweiniger-Bargielowska has argued how through sport, physical culture and the life reform movement, the rise of modern female and male bodies was part of a trend towards greater equality between the sexes during the period 1880–1939. Yet this only went so far because the modern woman was still ultimately seen as the 'race mother'. As a consequence,

the female ideal of a normal body was grounded in long-established notions of femininity, competitive sport remained controversial, and women's pursuit of excessive slimness was widely condemned in the 1930s because these practices were thought to threaten reproductive capacity.⁷

In the British military, however, the ideology of service sport was 'apparently transferred wholesale from the men's services to the women's'. In the 1950s Brigadier Barclay of the Army Physical Training Corps listed among the benefits of physical training for women 'health, morale, contentment, physical efficiency, team spirit and the "psychological outlook"'. Barclay subsequently claimed that 'women who have no aptitude for sport are unsuitable as Leaders'.⁸ By contrast, the 2008 edition of the *Diagnostic and Statistical Manual*, published by the American Psychiatric Association, identified an 'intense desire to participate in the games and pastimes of the other sex' as one of the five criteria that psychiatrists may draw on 'to diagnose gender identity disorder in childhood'.⁹ Of course this begs the question how do you decide what are the games of the other sex?

Early women's sport and medical theories

Women's sport was not exclusive to the late twentieth century. Foot-races – or smock races, so termed because there was a prize of a dress – between girls and women at village fairs had been common since the seventeenth century.¹⁰ Some women even took up pugilism while the benefits of exercise had also been promoted by Mary Wollstonecraft in her 1792 tract, *A Vindication of*

the Rights of Woman.¹¹ By the end of the nineteenth century the nature of women's sport had changed. First, women's sport as well as many other leisure activities were mainly restricted to the middle classes as up to 1914 the harsh realities of working-class life meant that most women could only snatch a few moments of respite from their arduous daily routines.¹² The administration of women's sport and its attendant values concerning the perceptions of women more generally can be seen in this middle-class context. Second, the nature of women's sporting activity provided fertile debating ground for doctors that revolved around both contemporary medical theories, especially eugenics, and attitudes towards the role of women in Victorian society. A social ideology and practice emerged that preferred to separate rather than mix the functions of the sexes. It was assumed that a women's role was suited to domestic and childrearing duties, whereas men, reinforced by notions of masculinity, were supposedly endowed with greater intelligence and muscular strength more suitable to the sphere of work and competitive sport, symbolizing a modern industrial society.¹³

Importantly, medical theories, particularly the 'vitalistic' theory, contended that the human body contained only a limited, unrenewable amount of energy. As a result, women had to conserve their energy for their essential purpose in life i.e., to bear children.¹⁴ The establishment of gynaecology as a specialist branch of medicine in the nineteenth century was important in shaping medical attitudes towards female athletes because (male) physicians were considered experts on the subject of the female body.¹⁵ Patricia Vertinsky has argued that the late nineteenth century woman was seen as 'eternally wounded' because medical practitioners viewed menstruation as pathological. As a result, women were viewed as chronically weak with only finite amounts of both mental and physical energy due to their menstrual cycle, and energy, therefore, had to be conserved for childbirth.¹⁶ In 1904 the *Practitioner* reported that some gynaecologists and obstetricians had argued that exercise, despite its attempts to produce 'a more vigorous race' and 'advanced muscular development', would make labour more difficult. Physically active British women were compared to oriental women who led 'indolent lives' but who, apparently, had an easy time in labour.¹⁷

In a social context 'Women were obliged to show restraint, be refined and respectable and confirm at all times the "ladylike" modes of behaviour prescribed for them.'¹⁸ They were also looked upon as 'physically limited', something that the scientific and medical establishments helped to institutionalize. In 1887, for example, the chairman of the BMA proposed that,

In the interests of social progress, national efficiency and the progressive improvement of the human race, women should be denied education and other activities which would cause overstrain and inability to produce healthy offspring.¹⁹

In addition, Greg Moon has argued that,

Doctors continued to view female athletes as women first and sportswomen second, which contributed to the myth of female frailty and made it particularly resistant to change. Early athletes had to fight against the consensus of medical opinion, which still dictated that intense physical activity would harm their potential for reproduction.²⁰

However, Moon perhaps overstates the emphasis of the 'consensus'. No doubt this was the dominant idea but like other theories medical ones are always in flux. In particular, with the growing idea that the body was akin to a machine and needed some form of maintenance, doctors began to realize that exercise for women was beneficial to their health. During the late nineteenth century, through their sheer visibility, fit, physically active women challenged the discourse of the 'eternally wounded woman'.²¹ During the 1890 to 1914 period physical culture was increasingly thought to promote femininity amongst British women.²² Most importantly was the growing realization that physical fitness was essential to women, especially those from the upper and middle classes, to produce healthy babies. Due to eugenic-based fears and the strictures of Social Darwinism, physical fitness was now seen as increasingly important to increase fertility levels amongst upper- and middle-class females to both maintain national efficiency as well as preventing too great an imbalance between the numbers of the middle and working classes.²³ How vigorous though and what form this exercise should take continued to be part of the debate. While the need for exercise was accepted, competitive and physical contact sports were condemned. In 1904 it was reported in the *Practitioner* that some gynaecologists and obstetricians felt that 'a moderate amount of exercise tends to promote health in all directions, while undue indulgence in athletics is bad for both man and women'. It was then suggested that regarding the dangers of athleticism in the case of women, practitioners should 'point out the risks in no uncertain language'.²⁴ One of the fiercest contemporary critics against women's sports was actually a female doctor, Arabella Kenealy. She argued that the development of a woman's muscular structure through sport would jeopardize her brain and reproductive organs²⁵ and in her *Feminism and Sex Extinction* (1920), she outlined the sterilising influences of competitive games.²⁶

Doctors were not just guided by medical knowledge. According to Allen Guttmann the opinions of doctors were also based on their cultural preference for 'refined women', part of what Catherine Horwood has termed a 'patriarchal prudery'.²⁷ Doctors were sincere in their judgement and when it was realized that an inactive life for women was unhealthy they responded by advocating moderate exercise.²⁸ Adolphe Abrahams, one of the most outspoken doctors on the pros and cons of women's sport, followed this line of argument. While not completely discouraging girls and women from

undertaking exercise, his views were typical of patriarchal attitudes towards women. In 1928, in conjunction with his brother, Harold, they stated that, although they were in favour of exercise for women, they were opposed to any 'severe competition' or 'violent exercise' for girls, women and 'potential mothers'. It was felt that 'woman with her more sensitive nervous organization is much more susceptible to strain than is man'.²⁹ As late as 1956 Adolphe Abrahams still felt that the exercises of women should help towards 'a better capacity to bear the burdens of womanhood and possible maternity'.³⁰ As a consequence of medical opinion, women were steered towards certain sports and activities that were deemed feminine and were also moderate. In general vigorous sports were deemed masculine.

The majority of women's modern sports in the nineteenth century developed through the growing female education system plus specialist colleges of physical education for middle-class females. At first the Ling system of gymnastics was promoted as a suitable activity for young women. In 1887 a Swedish woman, Martina Bergman-Österberg, had launched her own college at Dartford in which girls practiced the Ling system. Later, girls also played competitive sports like hockey, cricket, tennis and netball.³¹ These were felt to be suitable sports, involving less physical contact compared to the football codes.³² The first set of rules for netball had been published in 1901; the game had been originally devised by female students at Bergman-Österberg's Physical Training College in Hampstead. Although the American sport of basketball had been introduced into England in the 1890s, it was considered to be too physical for young women and netball was invented as an alternative.³³ In 1894 the *British Medical Journal* had published an article condemning women who played football, stating that, 'We can in no way sanction the reckless exposure to violence, of organs which the common experience of women had led them in every way to protect'.³⁴

The major sports that both men and women competed in were golf and lawn tennis. Tennis was originally seen as a social pastime for the middle classes where future partners could meet – a function that continued well into the 20th century. Due to its popularity, the first ladies' singles championship at Wimbledon was introduced in 1884. By 1890 there were 30 ladies' golf clubs and in 1893 the first Ladies' Amateur Golf Championship was played. Hockey was also a popular sport and in 1895 the All-England Women's Hockey Association was formed. In 1911 300 clubs and around 10,000 players were affiliated to the association.³⁵ Their involvement in the Olympic Games, however, was strictly limited. Women first competed in the 1900 Paris games but they only numbered six and were restricted to tennis.³⁶ In 1912 women were permitted to compete in swimming, although this was only one event, the 100 metres freestyle. A Greek woman, Melpomene, had actually run in the 1896 marathon despite being refused permission; women's track and field athletics was not seen in the Olympic arena until 1928.³⁷

Women and sport in the inter-war years

For British women and sport the inter-war period, as Jennifer Hargreaves has argued, was a time of 'tremendous unevenness and contrasts' and 'spawned new values and practices *and* held on to old ones'.³⁸ Women in general were becoming more assertive. The First World War had proved an important watershed in the lives of women. Many women during the war had been thrown into previously male-only roles and by 1918 over one million women were working in munitions factories (although most returned to a life of domesticity). In that same year women finally received the vote. In addition, from the 1920s popular culture became increasingly commercialized, stimulating the growth of sports and hence, women's participation.

Many sports continued to be specific to upper-class and middle-class women with certain activities such as climbing, sailing and skiing, only available to these groups. However, there was beginning to be a wider acceptance of women's sport. In 1921, for example, the conference of the Medical Officers of Schools of Association had rejected the view that athletics and gymnastics were bad for the health of girls.³⁹ Through an expanding physical education curriculum, middle-class girls now enjoyed games like hockey, lacrosse, netball, cricket, tennis and rounders. Working-class girls in contrast were mainly restricted to drill at school and exposed to very little physical recreation once they had left education and started a family.⁴⁰

Nevertheless, during the 1920s 'a changing cultural image of femininity ... began to subvert the old idea that athleticism was desexing women'.⁴¹ This transformation was highlighted by a number of sportswomen who came to international prominence, including the American, Mildred Didrikson. An all-rounder, she excelled at high school in team sports like baseball and basketball. At the 1932 Olympics she won two track and field gold medals before turning to professional golf and winning 17 tournaments in a row in 1946.⁴² Another American, Gertrude Ederle, became the first woman to swim the English Channel in 1926. The aviators Amelia Earhart and Amy Johnson were able to match and surpass the achievements of men in their field. The most famous female athlete of the 1920s was the tennis player Suzanne Lenglen from France, who, it was claimed, was a bigger draw than her male equivalent, Bill Tilden.⁴³ Fanny Blankers-Koen later gained notoriety when she won four gold medals at the 1948 Olympics. Women's football also enjoyed a brief period of popularity during and just after the First World War. On Boxing Day 1921 a crowd of 53,000 watched a game at Everton FC's Goodison Park between two women's teams, Dick, Kerr from Preston and St. Helens. It was one of a number of matches organized to raise funds for ex-servicemen and other war-time causes. In that same year, however, the Football Association banned women from playing on the grounds of clubs affiliated to the governing body. Part of the reason given by the FA Council

was that it felt 'that the game of football is quite unsuitable for females and ought not to be encouraged'.⁴⁴

From the inter-war period the fashion for physical culture developed greater momentum.⁴⁵ In light of debates over the fitness of the nation, for example, one of the original aims of the Women's Amateur Athletic Association (WAAA) had been 'to improve the physique and physical efficiency of the nation'.⁴⁶ This was also the era of the 'body beautiful', exemplified by the establishment of physical culture movements throughout Europe and North America. Although originally designed for men, the Health and Strength League opened up its membership to women in 1919. Its magazine, *Health and Strength* regularly extolled women athletes and female physical culture, and also defended women's expanded employment opportunities. With membership at over 100,000 in 1931, a 'Health and Strength' annual display that included physical excellence competitions for men and women was the highlight of the league's activities from the late 1920s.⁴⁷ The Women's League of Health and Beauty was founded in 1930 and by 1939 had a membership of 166,000. Rather than competitive sport, it emphasized a clean and healthy lifestyle and put on mass exercise demonstrations based on the nationalist Sokol Movement in Czechoslovakia. It also promoted its own ideals of femininity like healthy motherhood through the 'free' use of the body through exercises and display.⁴⁸ During the 1930s the state, in preparation for war, also concerned itself with improving the health of women through the National Fitness Campaign.⁴⁹

With the increase in participation of women, some authors began to give advice on the training methods for elite female athletes. Many of the recommendations advocated a more moderate approach. Although this would perhaps be expected in light of the prevailing medical opinion, Moon has argued that training advice for men was also moderate in tone and the earliest books on athletics for women made recommendations that were similar to those for men. One such publication was F.A.M. Webster's *Athletics of Today for Women* (1930), which recommended a lesser degree of intensity of training for women.⁵⁰

Women's sporting activities, however, were inextricably linked to their life-cycle with the stage of youth – between leaving school and marriage – the pre-eminent period of sport for women.⁵¹ Girls were advised to reduce their levels of physical exertion once they experienced the onset of puberty and this could have had a bearing on the scope and nature of future female sporting activities. Even Webster, an advocate of women's athletics, argued that during the ages between fourteen and eighteen, the athletic activities of girl should be watched and closely regulated as, it was stated, this was the most important period in female life.⁵² But the advice of moderation was not just due to the perceived threat to a woman's reproductive function but also reflected notions of femininity. In 1938 Douglas Lowe, 800m Olympic champion in 1928 and 1932, advised that it would be safer for women 'to concentrate on style and grace ... and only compete with moderation' as 'they will retain their femininity'.⁵³

In addition to the idea of constitutional overstrain and its supposed effects on reproduction, much stress was placed in the literature on women's nerves and emotions. Charles Heald, for example, felt that a woman's recovery from injury would take longer than a man's because 'women were more liable than men to nervous instability'.⁵⁴ At the 1936 Olympics it was reported that female athletes were unhappy with their accommodation. The IOC official report stated that it wasn't due to any deficiencies in the hotel 'but merely to the fact that after long and intense training, women are very high strung immediately before difficult contests'.⁵⁵ In 1955 the Belgian Medical Society of Physical and Sporting Education announced that women should no longer compete in sport. One of the reasons they gave was that women were 'over vulnerable to emotional factors'.⁵⁶

Female athletics and the Olympics

How did these debates play out in the world of women's sport? What impact did they have on its development? Here the example of the relationship between women's athletics, particularly in England, and the Olympics is used to illuminate the answers. First, there was a significant increase in the development of women's athletics in England during these years. In 1921 the Women's Amateur Athletic Association was formed and four years later it had spawned 25,000 members from over 500 clubs.⁵⁷ The WAAA had been very conscious of contemporary debates about the effect of sports on female athletes. Due to persistent criticism about the advisability of athletics for women, the WAAA felt that it was essential to provide evidence that the sport was not harming those participating. To achieve this, the WAAA adopted a policy of moderation. It gained the support of many doctors who in turn were supportive of women's involvement. As much as a pragmatic compromise, the WAAA was led by medical opinion. Tug-of-war, for example, was banned by the WAAA because as one of the 'more trying events', it was considered to be a health risk.⁵⁸

Moreover, through its own medical commissions and testing, the WAAA was always careful not to be seen as putting their athletes at physical risk.⁵⁹ Testing athletes was an important policy of the WAAA from the 1920s well into the 1960s.⁶⁰ Rather than to ascertain sex,⁶¹ these were tests to confirm femininity, or at least its dominant ideal. Supported with the information of the medical examination of female athletes from these trials, it allowed women's athletics to approach the IAAF and argue for the inclusion of certain events. In 1923 a medical commission, composed of two doctors and Sam Mussabini, had looked into the possibilities of including the pole vault and triple jump in the WAAA programme of events. For reasons unknown, however, the events were considered unsuitable. The following winter a medical commission was reconvened in order to judge whether cross-country

racing was suitable for women. The panel consisted of several leading doctors including Dr Shirley Smith from the National Heart hospital. Female runners were examined and doctors 'expressed their great surprise at the runners' condition', adding that cross-country 'in moderation and with proper training was suitable for women'. In 1928 more precise scientific tests were conducted regarding 'stride, oxygen in-take, exhaustion and recovery tests after running. As much as athletes' bodies, the WAAA was concerned with perceptions of women's bodies. During its early years, for example, throwing events were performed with both hands with the two results combined for an overall distance, and was designed to prevent uneven body development.⁶²

How was women's athletics received by the IOC? As Kevin Wamsley has argued no other institution has provided more opportunities for female athletes to participate in elite sport than the Olympic Games. Yet on the other hand no institution has shaped more the consumption of women's sport. In this sense, an Olympic culture 'actively promoted the feminized athlete, while tolerating but systematically criticizing those who participated in traditional men's events or who did not exude the typically expected feminine physical traits'.⁶³ While more women began to compete in the Olympics, participation continued to be limited and there was much resistance within the IOC. It was not only dominated by a male social elite but it was also built on the bourgeois values of the English gentleman-amateur. Pierre de Coubertin, the founder of the modern day games, had wanted the games to be male-only and where the rewards for winners would include female applause. De Coubertin felt that athletics made women appear indecent, improper and ugly.⁶⁴ In addition, newspaper reports on the Olympics from the 1920s tended to sexualize female athletes, and after 1932 women were channelled into so-called 'feminine' sports like swimming, gymnastics, figure skating and fencing.⁶⁵

Despite the opposition though the number of women in the Olympics did continue to grow. Why did this happen? Why did the IOC, given de Coubertin's position, not block them? Because historians can sometimes be led by their sources the views of important and more high-profile officials, like de Coubertin, can be given greater prominence over lesser figures despite evidence to the contrary. At the early Olympics where women had competed, these had been organized by local committees who had invited them and it was only after 1912 that the IOC took control over the programme. It is difficult to know why these early Olympics permitted their entry. Reasons may have ranged from voyeurism to people on these committees having feminist sympathies. Certainly, the early female Olympic sports – golf, tennis, archery and figure skating – were those popular amongst the middle classes and so had a social acceptability for the gentleman-amateur.⁶⁶

There was a gathering momentum to modernize and include more women in the Olympics. Some of this was a product of growing political pressure within international sports federations whose members sat on the IOC. Swimming

was the first to promote women's participation following the formation of the Federation Internationale De Natation (FINA) in 1908. In 1921 Alice Milliat from France pioneered female international competition, founding the Federation Sportive Feminine International (FSFI). In 1922, under the auspices of the FSFI, the first Women's Olympic Games was held in Paris, and between 1921 and 1936 Milliat organized nine international events, under the title of 'Women's World Games'.⁶⁷ The success of the FSFI gatherings caused some embarrassment within the IOC. Sigfrid Edström, who was more politically astute than other members, accepted that women's participation was inevitable if the IOC was to promote itself as the leading body of world sport. However, like de Coubertin his successor as IOC President, Baillet-Latour, he did not favour women's participation.⁶⁸

To a certain extent, women's athletics, in their desire to compete at Olympic level, was willing to conform to dominant male ideas of what constituted a female athlete. In 1925 women's athletics became the subject of the IOC's Pedagogic Conference where one of the key speakers was England's Sophie Elliott-Lynn, vice-President of the WAAA. Moon has argued, however, that the overall effect of her paper 'was to hinder the development of athletics on the world stage for several years' and that in general the opinions of the people supporting women's athletics did not differ greatly from the general attitudes of the day.⁶⁹ Elliott-Lynn proceeded to highlight the differences between men and women when they participated in sport, and stressed the possible detrimental effects on the female reproductive system by endorsing the concept of constitutional overstrain. Sports usually suitable for men, therefore, should be modified 'so that they cannot in any way injure the woman'.⁷⁰

In addition, the WAAA had supported the limiting of distances to 1,000 metres to fall in line with other European countries by 1925 – and a reduction in weights for throwing events.⁷¹ In practice, 800 metres or 880 yards, was usually the longest track-distance. Even this was too long for some members of the WAAA, including Elliott-Lynn. She felt that running 'in moderation [was] an ideal sport for women' but that 300 yards should be the longest distance allowed until 'time has proved that damage is not done'. The FSFI recommended lighter throwing objects for women and their ruling became standard for female competitions. For instance, in the shot putt the women threw an 8lb shot; the men 16lbs. The WAAA and the FSFI may have been pioneering a new activity for women but partly through Elliott-Lynn's thinking, it allowed every male-administered governing body to justify restricting women's participation in athletics. The governing bodies were determined that any development would remain within accepted boundaries. The hurdles barriers, for example, were restricted to 2 feet 6 inches by the IAAF whereas the WAAF had wanted a height of 3 feet. It was agreed that the primary role of women was motherhood, and this was not to be altered by the emerging sporting opportunities.⁷² Women's track and field first entered the Olympics – in

limited numbers – in 1928. However, this would have long-term consequences for the FSFI as it was now doomed to a slow suicide due to its efforts to gain admittance to the Olympics.⁷³ During the Games themselves there was criticism of the 800 metres because it was felt – incorrectly – that some of the women finished in a distressed state. As a consequence, this event was not put back on the programme until 1960.

The British state and the female athletic body

Debates regarding the nature of women's sport now encompassed a wide range of opinion from what might be termed the modern to the more traditional in which motherhood was seen as their key role in society. These debates were illuminated within the National Fitness Council (NFC). The NFC had been formed following the Physical Training and Recreation Act of 1937, which had the overall aim to improve the fitness of the entire British nation. However, the ideal of 'fitness' was not gender neutral with different ideas on how it could be achieved regarding men and women, as well as boys and girls. There was also an eugenicist context to the issue. Although the Eugenics Society worried about the effects of 'vigorous exercise on the female reproductive organs', it was in their interests to promote physical exercise due to mounting evidence that fitter women produced healthier offspring.⁷⁴ Between 1938 and 1939 an NFC Medical Sub-Committee on the 'Desirability of Athletics for Women and Girls' was established to investigate that very subject, especially with regard to competitive sport. In particular, this sub-committee revolved around contemporary debates concerning the effect of competitive sport and certain events on a woman's menstrual cycle, and as a consequence her ability to bear children.⁷⁵

The committee was originally set up, ironically, following a request for a grant by the WAAA to the NFC. Instead, an investigation was set up to consider whether athletics could actually be regarded as beneficial exercise for women.⁷⁶ The medical sub-committee was then formed with Adolphe Abrahams in the chair.⁷⁷ A disagreement over an initial report led to another more extensive and wide-ranging enquiry. While Abrahams chaired it, four out of its five members were women: Muriel Cornell (nee Gunn), the secretary of the WAAA and holder of the British long jump record; Dr Anna Broman of the Women's Medical Association; Phyllis Spafford of the National Playing Fields Association and the Ling Association of Teachers of Swedish Gymnastics; and Dr Lili Blackett Jeffries, a consultant gynaecologist.

Interestingly, as part of the committee's remit, it was decided that 'any type of violent exercise which might be detrimental to the essential function of women *should not* necessarily be ruled out'.⁷⁸ A number of leading figures on women's sport and physical activity were interviewed about their area of expertise. All reflected the largely middle-class make-up of women's sport.⁷⁹ Questions

revolved around not just any potential ill-effects on menstruation and their ability to reproduce from strenuous exercise and competitive sport but also an athlete's femininity. For example, they were asked, 'Is the athletic girl at least as "feminine" in appearance and temperament as the average of her sex or does she tend towards aggressiveness and masculinity?' All interviewees felt that there were few if any dangers concerning competitive sport and few precautions were taken. Rowers and swimmers, for example, seldom pulled out of races or stopped training during their period. When Doman was asked 'Is there reason to suppose athletic girls suffer more or less at their periods than the average or non-athletic?' she thought that the athletic girls suffered less. When questioned on taking precautions for swimming only the wearing of ear-plugs was suggested. There was though a continuing concern that sportswomen should be seen to be feminine in appearance and style.

In addition, through Cornell the WAAA circulated 600 questionnaires to its members. Questions again focussed on menstruation, the health positives and negatives of athletics as well as the impact of competition on 'nerve strain'. None of the respondents were 'aware of any ill-effects resulting from their athletic activities'. With married women, there was no evidence of relative sterility or complications during pregnancy and parturition due to their participation in athletics.⁸⁰ Following those from the world of sport, a number of women from an educational background – and maybe from a self-improvement tradition – were interviewed.⁸¹ Perhaps unsurprisingly, they were more critical and cautious of women's elite sport because educational establishments aimed to produce 'ladies' with refined tastes and manners rather than elite athletes. Although they did not discourage physical training they did make a distinction between this and highly competitive sport.

Some of the evidence seemed contradictory. Miss Foster, for example, argued that under the strain of regular competition, some first-class tennis players became aggressive and hysterical but that this did not necessarily apply to the 'really great tennis players who were exceptional people'. Dr Garrow said that few girls broke down in training and was generally relaxed over the issue of menstruation and sport. However, 'from the aesthetic point of view, she thought that women looked dreadful when taking part in some highly competitive events, and seriously reduced their sex appeal and corresponding opportunities'.⁸² The seemingly robust attitudes of these British women towards menstruation were perhaps beginning to ape those in America. Lara Friedenfelds has argued that a new outlook towards menstruation developed during the Progressive era. More women took seriously the health advice from experts and let go of 'old concerns about protecting their bodies during menstruation so they could work and play all month'. Menstruation was managed in a modern and rational way as women now drew upon expert advice, popular education and consumerism.⁸³

As a result, there was little evidence to criticize women's sport on the grounds of its threat to their ability to reproduce. Adolphe Abrahams' only response

seemed to be exasperation. He commented that the sub-committee 'had endeavoured to obtain adverse criticism on violent exercise for women and girls but up to the present without success'.⁸⁴ A fellow member of the medical committee, Kaye le Fleming, then the chair of the council of the BMA, was critical of highly competitive sport's impact on the female form because it caused 'muscular development'.⁸⁵ However, in view of the evidence provided it seemed a weak response. The final witnesses called provided completely different views. Cedric Lane Roberts, a leading gynaecologist and an advocate of abortion,⁸⁶ on the whole did not disapprove of the principle of highly competitive sport.⁸⁷ In contrast to him, a German gynaecologist, Stephan Westmann, was of the opposite opinion. In his book *Sport, Physical Training and Womanhood* (1939), he had argued that the uterus was the most vulnerable and endangered part of the female body, and that excessive physical exercise – although moderate exercise was recommended – would have an inhibiting effect of the development of the pelvis and, as a result, it would cause difficulties in childbirth.⁸⁸ But his medical opinion was also conditioned by social and cultural assumptions. He further argued, 'Competitive sports are alien to the characteristics of the female constitution and are useless as well as harmful in relation to the primary task of woman's life, maternity'.⁸⁹ He also warned that, 'Every woman should remember that exaggerated sports involve her in the danger of becoming masculine'.⁹⁰ Westmann instead recommended eurhythmics and gymnastics for women because they helped prepare them for maternity.⁹¹ He reiterated this point during his interview adding that violent exercise may lead to sterility. He further failed to endear himself to the female members of the committee by arguing that, psychologically, women were trying to compensate for an inferiority complex through competitive sport. Yet Westmann's views were considered extreme, and Abrahams was even a critic.⁹² The committee failed to dig up any substantial evidence that competitive and strenuous sport was a danger to women. Cornell subsequently pushed for the medical sanctioning of events such as the long jump and hurdling.⁹³ However, before any action could be taken, or medical approval given, the war intervened and the National Fitness Council was disbanded.

Women, sport and medicine in the post-war period

In post-war Britain, partly as a result of the 1944 Education Act, which made physical education compulsory for boys and girls at secondary school, there was a surge in interest and participation regarding women's sport.⁹⁴ Nevertheless, some doctors continued to see women's sport in terms of its feminine qualities. Adolphe Abrahams, for example, claimed that:

Feminine accomplishments require grace, lightness, and rhythmicity, and these attributes should characterize the exercises towards which there is perhaps an

instinctive impulsion. Golf, lawn tennis, croquet, swimming, archery, fencing are to be favoured. All forms of violent exercise, especially when accompanied by the nervous tension of serious rather than friendly competition, tend to aggressiveness and to disappearance of that softness and ductility some are glad still to identify with womanhood's charm.⁹⁵

However, the medical debate around women's sport was starting to shift. While some continued to argue that menstruation reduced performance by the 1950s, other medical opinion was providing scientific support for women athletes to counter this argument. A report on the 1952 Olympics, *Sports in the Cultural Pattern of the World*, found that sportswomen were stronger and more physiologically able to cope with physical exercise than had previously been thought. It concluded that even competitive exercise did not affect the menstrual cycles of trained athletes.⁹⁶

Moreover, women's athletics found increasing support from men. In 1955, in an article in *Athletics Weekly*, the coach, George Pallett summed up the history of medical opinion regarding women in athletics and dispelled many of the fears about the detrimental effects of athletics on women's bodies, childbirth and menstruation. Also in 1955, Harold Abrahams now took a different position to that of his brother. He challenged the medical profession to produce any real evidence to support the idea that athletics was bad for women. He argued that women had now been competing around the world in sports for many years and that even if hundreds of women had suffered physically or psychologically, all it proved was that competitive sport was not good for some women just as it had not been good for some men.⁹⁷

Despite the opposition of many male doctors, men like Pallett, played an important role in the development of women's sport. In the preface to her book, *Athletics for Women and Girls*, Sophie Eliott Lynn acknowledged the assistance of a number of male athletes and coaches, in particular, Sam Mussabini.⁹⁸ In addition, the foreword was written by Lord Desborough, a member of the British Olympic Council while Brigadier-General R.J. Kentish, another member of the BOC, penned an appreciation. Both were founding supporters of the WAAA. At the grass-roots level of local athletics clubs in England male support was widespread. As Lynne Duval states: 'Wherever a club was based and regardless of whether it catered solely for women or not, the influence of men in the development of women's athletics cannot be denied.'⁹⁹ This influence could take the form of coach or officials. In addition, it was fathers and brothers who encouraged their daughters and sisters to play sport. The British sprinter, Dorothy Hyman admitted that her father was the driving force behind her athletics career while the father of swimmer Anita Lonsbrough taught her to swim.¹⁰⁰ Both women were from West Yorkshire, allegedly a traditional bastion of masculinity. It perhaps begs the question of how many men actually took seriously the medical warnings about women playing sport.

However, opposition to women's sport was still deep rooted at the higher echelons of the IOC and IAAF. Avery Brundage, IOC President between 1952 and 1972, was still of the view that women should conform to a certain feminine type, and that they should compete in sports like swimming and gymnastics. However, he was against them competing in masculine events like the shot putt, which was not introduced into the Olympics until 1948.¹⁰¹ Similar views were expressed by IOC representative, Dr Messerli. He was an historian of the IOC and founder of the Swiss Olympic Committee. In 1952, writing in the *Olympic Bulletin*, he felt that although women's sport was making steady progress there should still be restrictions. It was a view based on both the perception of a woman's role in society and medical opinion that warned against strenuous exercise.

We are of the opinion, that these restrictions are all for the good, seeing that woman has a noble task in life namely to give birth to healthy children and to bring them up in the best conditions. We must do everything in our power to improve her conditions of living, but on the other hand, we must avoid everything which can be injurious to her health and harm her as a potential mother.¹⁰²

These views were justified for the restriction of women's participation in a number of Olympic events. After the 1936 games certain track and field athletic events – middle and long-distance races plus the triple and high jumps – had been deemed 'unsuitable' for women. Messerli had actually dismissed the reports that women athletes had finished in a distressed state after the 800 metres at the Amsterdam games but instead stated that there was nothing wrong with them, 'they burst into tears, thus betraying their disappointment at having lost the race, a very feminine trait'.¹⁰³ He also felt that it was right to exclude women from some skiing events like jumping and Nordic cross-country races as well as long-distance swimming races. Moreover, the exclusion and inclusion of some events was based on notions of femininity. Regarding water polo, for example, 'only men can practice this rough sport' while it was felt that figure skating 'is eminently suited to women' (see below for a critique of this perception).¹⁰⁴ In addition, Messerli disapproved strongly of women's boxing or wrestling. After attending the women's wrestling championships he said that 'I can safely say that I never saw anything more grotesque or less womanly'. He also noted that in 1928 'it seemed to us that some women competitors running the 800 metres were handicapped by too full a bosom'.¹⁰⁵

Sport, the Cold War and gender testing

Women's sport took on a greater significance in light of the Cold War. The entry of the USSR into the Olympics for the first time in 1952 and its rivalry with the USA for supremacy in the medals table meant that a gold medal won

by a woman was as good as that won by a man and Soviet bloc female athletes were more successful than their men. However, their success brought both suspicion and criticism in the West and ultimately ushered in the widespread implementation of sex/gender testing.¹⁰⁶ As Heggie has pointed out, testing for the sex of athletes gives an insight into social attitudes towards gender and in particular 'how the co-option of science in sport ... can act to essentialize social categories', when in fact matters of gender are more complicated than a strict male-female divide.¹⁰⁷

Concerns over the 'true' gender of female athletes were not new. In the 1920s Mary Weston won a number of WAAA throwing titles then in 1934 had a sex change operation. The Czech, Zdenek Koubek, won female athletics titles during the 1930s before in 1936 requesting that the state should recognize him as a man. At the 1936 Olympics questions were raised over the 'masculine' physique of Helen Stephens, the winner of the women's 100 metres. She was subsequently 'tested' and 'passed'. Dora Ratjen, who won a silver medal in the women's high jump at the same Games, was actually called Heinrich and was a case of 'gender uncertainty'. The IAAF introduced a form of sex testing in 1946, which required female athletes at the London Olympics two years later to bring a medical certificate to confirm their sex.¹⁰⁸

Debates over the 'correct' gender of athletes gained momentum during the Cold War and were reflected in the Western media. Wiederkehr has argued that press coverage showed 'a clear tendency to juxtapose attractive females from the West with ugly and virilised sportswomen from the Soviet bloc'.¹⁰⁹ As a consequence, there was a persistent questioning of the femininity of female athletes from Eastern Europe and their record-breaking performances. In 1968 the German sports physician and former athlete, Ingrid Bausenwein, claimed that five out of eleven track and field female world recordholders were 'not really women'. The achievements of the Press sisters, Tamara and Irina, were given particular attention – they were called the Press brothers.¹¹⁰

Sex testing, or at least the calls for it, also needs to be set in the context of debates over cheating due to contemporary anxieties over doping and altitude during this period. In 1967 the newly formed IOC Medical Commission prescribed procedures for drugs and sex testing.¹¹¹ Sex tests had been first introduced at the European Athletic Championships in 1966 at which the Press sisters withdrew. These were physical examinations which female athletes found degrading. Mary Peters, Olympic Pentathlon champion in 1972, described it as 'a grope'.¹¹² Following a series of examinations the Polish athlete, Ewa Klobukowska, then world record holder for the 100 metres, failed the test. In 1970 the IAAF removed her name from the record books. Two years later the IOC introduced a more 'scientific' examination – the Barr body test. It was a sex chromatin or buccal smear test that involved the screening of epithelial cells scraped from inside of the cheek. The cells are then stained to reveal the presence or absence of the Barr body i.e., cellular artefacts. This is caused

by the inactivation of one of the two X chromosomes in female cells. Male cells do not show this Barr body as they only have one active X chromosome. The chromosome constitution for a female would be XX, while for a man it would be XY.¹¹³

Between 1972 and 1990 it was estimated that one in 504 female athletes failed the gender verification test. However, it was also found to be an unjust process because of the number of genetic disorders that could interfere with sex development. This could lead to paradoxical findings between the anatomical sex (which is determined by the type of sex chromosome contributed by the father and forms the social and legal sex of a person) and the chromosomal sex. Thus, some individuals with an apparently normal male chromosome constitution develop to adulthood as girls i.e., XY females.¹¹⁴ Tests on female athletes were not restricted to finding out their gender. Again, reflecting dominant ideas about the perceived frailty of women's bodies, the WAAA, following the death of Lillian Board from cancer, introduced a (voluntary) scheme for all athletes to allay fears that her disease had been the product of the effects of hard training.¹¹⁵ In addition to gender testing, the case of Renee Richards further illuminated the physiological debates taking place regarding women's bodies. Richards had a sex change operation in 1975. She was formerly known as Richard Raskin who had been a useful junior tennis player in America. In 1976 Richards made a return to tennis playing on the women's circuit. She refused to take the test but was admitted entry to the 1977 US Open because a Supreme Court judge ruled that there was overwhelming evidence that she was a female. Richards reached the last eight of the tournament but retired soon after.¹¹⁶

During the 1980s, after failing the Barr body test, a Spanish athlete, Maria Martinez-Patino, successfully challenged its suitability, backed by human rights activists. While the testing for sex was not too problematic, it was ruled that using the test to judge sporting ability was inappropriate. This led first to the IAAF in 1992 and then the IOC to dispense with the test, and by 2000, despite a brief return to physical examination, sex testing had ended.¹¹⁷ However, the controversy over Caster Semenya in 2009 would re-ignite these debates and anxieties over an issue that sport – because of the idea that it is based on and perpetuates clear gender divisions – has found difficult in coming to terms with.

Women, sport and the second wave of feminism

Despite the technical and scientific driven disputes over the 'correct' gender of athletes, from the 1960s there was a significant growth in females participating in sport. This was not confined to elite sport but also at the recreational level, especially in the United States. In the 1960s the emergence of identity politics in which feminism and women's liberation had been in the vanguard led to women and girls adopting new lifestyles, including a growing invasion of

traditional male activities like sport. Of great symbolic importance was the victory of Billie Jean King over Bobby Riggs in tennis's so-called Battle of the Sexes in 1973. In America this process was reinforced through Title IX of the Education Amendments Act of 1972. It legalized parity between the genders in educational opportunities, including sport, and led to the rise in female educational, recreational and professional competition. Between 1973 and 1998 the number of women engaged in American intercollegiate sport increased by 112 per cent while the rate for men decreased by 11 per cent.¹¹⁸

These developments, along with persistent gender inequalities, had initially been highlighted following the 1967 Boston Marathon. Despite being banned, women had reputedly been running marathons at least since the 1896 Olympics. In 1967, however, it was widely publicized that two women, Millie Sampson and more notoriously Kathrine Switzer, had competed in and completed the Boston race. It had been thought within medical circles that a marathon would be harmful to the health of females. Medical opinion though took a significant turn. In 1979 the ACSM, in its first major declaration, stated that 'there exists no conclusive scientific or medical evidence that long-distance running is contraindicated for the healthy, trained female athlete'.¹¹⁹ Ernst van Aaken, a German coach, actually promoted long-distance running for women. In the face of opposition he had used women and children in experiments to demonstrate that endurance training was not dangerous and concluded that women were better suited to it than men.¹²⁰ However, as Jutel has pointed out, changing attitudes towards women's long-distance running were as much the result of reassuring the public that running did not upset traditional gender roles and values as it was about medical opinion.¹²¹ Nevertheless, due to the growing popularity of jogging generally and the improving standards in the event, the women's marathon was included in the Olympic programme in 1984.

In England opportunities were generally restricted for women compared to developments in the States. The 1975 Sex Discrimination Act outlawed the inequality of opportunity and access on grounds of gender but it did not apply to private sports clubs, such as the Marylebone Cricket Club, which could maintain their single sex status. However, the rise in the number of sports centres during the 1970s increased the opportunities for women to play sport, although participation here was largely restricted to the middle classes. The Women's Football Association though was recognized by the Football Association in 1972, fifty years after women's football had been banned from the grounds of clubs affiliated to the FA. More girls began to play the game but when to draw a line between differences between boys and girls had become a matter of legal debate for sporting organizations. In 1978 Theresa Bennett, a twelve year-old girl from Nottinghamshire, took the FA to court under section 44 of the Sex Discrimination Act for refusing to allow her to play for a boys team of the same age. At the time girls under twelve were banned from playing with boys. The FA argued – and was supported by the Women's

FA – that the average woman would be disadvantaged on account of physical strength and stamina compared to the average man. Bennett won her case but lost on appeal.¹²² The FA continued to argue that after a certain age there could be ‘unacceptable risk of injury to girls’. This decision had been taken on the advice of experts in child development. The ruling was based on the age where puberty would alter the strength and other physical characteristics that differentiate males from females. It was further argued that the muscle strength and power differentials between boys and girls, compounded by different rates of physical development, could lead to these unacceptable risks.¹²³

The modern female athlete?

To what extent has this greater liberalization changed women’s sport? At the level of pure numbers, there was an exponential increase in the number of female competitors at Summer Olympics. In 1968 they made up 14 per cent of total athletes; by 1996 this had increased to 34 per cent; and by 2008 the percentage was 42 per cent. More sports accepted women but even here dominant ideas about women shaped the nature of their acceptance. Furthermore, due to the growing influence of television, notions of femininity were reinforced through the popularity of ‘traditional’ female sports.

Some sports like rowing, which first admitted women at the 1976 Games, and were male-dominated, continued to resist female entry on both ideological and political grounds. For women’s rowing it had been the initial influence of the Soviet Union that expedited its entry into the Games, reflecting a wider policy concerning women’s sport in the Eastern bloc whose governments targeted female athletes for success at international level. According to Schweinbenz, there was a disregard for medical and aesthetic dogma in Eastern European countries in the pursuit of Olympic medals; and in women’s sports they were easier to obtain because the standard in depth was not as great as in men’s competitions. By contrast, it was expected of female athletes in the West that they remained attractive, did not appear masculine in appearance and retained their femininity.¹²⁴

To a certain extent, these ideas began to break down in the West late in the twentieth century. With a greater emphasis placed on national sporting prestige, women’s sport was taken more seriously, certainly at Olympic level. Tennis was also successful from a commercial viewpoint largely due to the efforts of Billy Jean King. However, the development of individual women’s sports also needs to be seen in their own particular context. Up until the 1920s, for example, figure skating was a mixed-sex sport in Britain. From the inter-war period it became increasingly feminized and hence segregated. The women were more innovative and reached greater technical levels than the men, while the success and subsequent celebrity status of Sonja Henie meant women’s figure skating events were more popular.¹²⁵

Similarly, gymnastics has traditionally represented divisions based on perceptions of masculinity and femininity.¹²⁶ In competition these differences have been illustrated through the different apparatus they use. Yet within the sport gender differences have become more complicated as the sport became more competitive. Following the 1972 Olympics and the feats of Olga Korbut, for example, there was much criticism that female gymnasts had been turned into pixies and acrobats. It signalled a significant body change in female gymnasts from previous Olympics. In 1968 Vera Caslavskaya, the Czech gymnast, won four gold medals and two silvers. Her performances represented a 'demonstration of a mature gymnastics body performing graceful ballet-type routines and typified the model of mature femininity in this sport'.¹²⁷ In this period female gymnasts were largely judged on their 'harmonious flexibility and feminine grace', which was founded predominantly on ballet and artistic skills. However, these qualities were soon replaced with ones that were a product of the Soviet Union's sports policy. The Soviet Union led (or forced, along with other Eastern bloc countries) a move towards innovation in female gymnastics. Ironically, this entailed copying men's gymnastics that consisted of more aerial and tumbling elements. For female gymnastics, therefore, to perform these new acrobatic moves the gymnasts needed to be young girls. Not only could undeveloped female bodies perform the same elements as male gymnasts but it was also thought that young girls were not as fearful of performing riskier routines, such as back flips on the beam.¹²⁸

The change in the nature of the sport was further confirmed with the emergence of Romania's Nadia Comaneci at the Montreal Games. In 1976 female US gymnasts were, on average, seventeen and a half years old, stood 5ft 3in and weighed 106 pounds. By 1992 these averages were sixteen years old, 4ft 9in and 83 pounds.¹²⁹ It was perhaps ironic that as the bodies of women's gymnastics began to transform in to the shape of little girls, this was partly a product of traditional masculine values. Not only had they borrowed techniques from the men's code but female gymnasts also now developed traditional masculine traits as they trained harder and were now subject to more danger. Just before the 1980 Olympics the Soviet gymnast Yelena Mukhina suffered a debilitating neck injury, which ultimately caused her death in 2006 while Julissa Gomez died in 1991 three years after an accident on the vault apparatus.¹³⁰ Moreover, female gymnasts competed through the pain barrier on many occasions and now required strapping on their feet due to the stresses put on them. At the 1996 Games the American Kerri Strug forced herself to take a vault despite a severe injury in order to ensure that the US team won the gold.¹³¹ These developments also brought suggestions that gymnastics – as well as other sports involving young girls like tennis and ice-skating – is a form of child abuse and where athletes are not only bullied by their coaches but they are also subjected to the 'pushy parent' syndrome.¹³² In 1995 Joan Ryan stated: 'There simply is no safety net protecting these children. Not the parents, the coaches or the federations.'¹³³

Within female gymnastics the changing shape of their bodies due to the pressures of training and the changing regulations of the sport has given rise to eating disorders such as anorexia nervosa and bulimia (conditions which have also been found in female distance runners, figure skaters and ballet dancers).¹³⁴ In 1994 the American gymnast Christy Henrich died aged twenty-two after spending six years battling against anorexia. During an international event when she was fifteen years old, a judge had told her that to make the US Olympic team she had to lose weight.¹³⁵ Numerous other elite American gymnasts suffered from eating disorders, a number of whom were coached by Bela Karolyi, the former coach of Nadia Comaneci. It became a worldwide issue. In 1995 a former gymnast at the Australian Institute of Sport (AIS) lodged a lawsuit against the AIS, claiming that the Institute's training methods caused her to suffer from anorexia nervosa.¹³⁶ In response, in 1997 the International Gymnastics Federation raised the age limit for women to sixteen from fifteen for entry into the Olympics.¹³⁷ Moreover, in 2004 British Gymnastics launched a Child Protection Policy in line with the NSPCC's Child Protection in Sport Unit, which reflected increasing public concerns regarding female gymnasts as well as children. Interestingly, there currently seems to be a drift back towards more mature female gymnasts, reflected in the success of Chellsie Memmel and Britain's Beth Tweddle.

In addition to eating disorders, another condition that has been identified specific to female athletes has been the Female Athlete Triad. It was first identified in 1992 and is defined by a combination of disordered eating and heavy training leading to amenorrhea and eventually osteoporosis. It is most common in endurance sports such as running and swimming and those like figure skating, diving, and gymnastics in which appearance is deemed important. Delays in the menstrual cycle of young female athletes because they were underweight became common. Olga Korbut was nineteen at puberty while US Olympic gymnast, Kathy Johnson, did not have her first menstrual period until she was twenty-five. As a consequence, low estrogen levels can diminish bone mineral density and hence lead to osteoporosis.¹³⁸ To what extent has the attention been given to this injury/condition reflected older anxieties and patriarchal sensibilities that woman are 'different'? While it could be argued that the focus within the sports medicine press has overshadowed other 'normal' sporting injuries, the female athlete triad does have serious implications. Whether this had any impact on the participation of women in sport and other physical activities is difficult to judge.

Conclusion

In 2005 the last bastion of male sport was penetrated with the announcement that women's boxing was to be included in the 2012 Olympic Games; it had been the only Olympic sport in which women were not represented.¹³⁹ Of all

sports boxing was the one where for many men 'it just wasn't right' for women to participate. Beyond the rather clichéd reasons of 'a woman's place' etc., most were unable to articulate a coherent response. In crude terms, boxing was perceived to be the epitome of masculinity while fighting was the antithesis of what was considered to be ladylike. The debate over women's boxing continues to echo what Osborne and Skillen have argued, that 'the body has been revealed as a critical site upon which understandings of women's experience have been inscribed'.¹⁴⁰ These understandings though have been social and cultural as much as medical assumptions regarding women's sport. The idea of 'gendered participation' has been based upon prevailing ideas of sex differences, which medical rhetoric has underpinned; and which, in turn, has underpinned medical rhetoric. As a consequence, 'sport remains one of the most resilient bastions of male power and gendered participation'.¹⁴¹

What has this meant for women's sport or to be less gender specific, women in sport? Jennifer Hargreaves has argued that with the expansion in the number of women playing sport there has been a blurring of traditional ideas of masculinity and femininity. Moreover, there has been a greater acceptance and evidence of women competing on equal terms in some sports, especially those that place an emphasis on endurance in which women may actually have a physiological advantage. Even in the 1960s British cyclist Beryl Burton held the world record for a twelve-hour time trial in competition with men.¹⁴²

Yet these ultra-distance events are not 'sexy' at this current time if measured in terms of popularity such as television viewing figures. Instead, it is sports that place a higher value on the modern attributes of speed and power that attract most attention in terms of commercial value and it is these sports where differences between the sexes are more pronounced from a physiological perspective. However, as Mary Louise Adams has pointed out with reference to her work on ice-skating, that because the social organization of gender is historically and culturally contingent the 'games and pastimes of the other sex in one era might at another time be the games and pastimes of one's own'.¹⁴³ Due to changing ideas of masculinity and femininity, sports in the future may hold different meanings for their audience and place less emphasis on speed and power and more on qualities such as endurance and artistry. Of course, it is difficult to predict the future and it should also be pointed out that many women enjoy participating in and watching traditional masculine sports. Moreover, to what extent has the reality of women's sport reflected these wider perceptions? It has been difficult to assess the impact of these debates on women themselves and their attitude to sport. Joyce Kay has criticized work on the history of women's sport for overly concentrating on the negative aspects. Looking at Britain, she argues that instead, women mostly just 'got on with the job' and paid little attention to the attitudes and opinions of other parties.¹⁴⁴