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Published in:
Sport in Society

Publication date:
2018

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The final published version is available direct from the publisher website at:
[10.1080/17430437.2017.1388786](https://doi.org/10.1080/17430437.2017.1388786)

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Citation for published version (APA):
Dumbell, L., Rowe, L., & Douglas, J. (2018). Demographic Profiling of British Olympic Equestrian Athletes in the Twenty-First Century. *Sport in Society*, 21(9), 1337-1350. <https://doi.org/10.1080/17430437.2017.1388786>

Demographic Profiling of British Olympic Equestrian Athletes in the Twenty-First Century.

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The Version of Record of this manuscript has been published and is available in Sport in Society (in press) <http://www.tandfonline.com/> 10.1080/17430437.2017.1388786

Abstract

Analyses of the determinants for participation in specific sports have been neglected and the use of demographic profiling in equestrian sports is limited. The aim of this research was to compare demographic profiles of British Olympic equestrian athletes, across and within disciplines, and suggest implications for the national federation's micro-level athlete development strategy. Data were collected about all Team GB equestrian competitors over the last five Olympic Games. Equestrian sports are not organised by sex segregation, however no female showjumping competitors have represented Team GB in the twenty-first century. Competitors range in age over five decades and support the unusual early start-late specialisation paradigm, introduced by the national federation in 2007. Horse ownership is unusual amongst competitors, although it is more common amongst male athletes. The inter-athlete variation and inter-discipline variation these athletes show post challenges to the single development strategy currently in use.

Introduction

Demographic profiling is widely recognised as a popular research method within sport. It has been used in a number of areas including: sport spectatorship, injury, tourism and marketing (Beech and Chadwick 2007; Finch et al. 2002). Researchers in sport have investigated to understand the psychological attraction a consumer has to sport and differences based on demographics (James and Ridinger 2012), sporting type (Wann, Schrader, and Wilson 1999) and the developmental process that occur due to sustained participation. Sport participation and physical activity can be viewed from a demographic-economic perspective (Breuer and Wicker 2008) and the determinants of general sport participation have been investigated in previous research (Berger et al. 2008; Downward and Riordan 2007). Analyses of the determinants for participation in specific sports have been sparse and the use of demographic profiling in equestrian sports is particularly limited (Dumbell, Johnson, and De Haan 2010).

There is limited empirical research that supports previously cited views that equestrian sporting disciplines are examples of events that epitomise social inequality and elitism (Guttmann 2004; Merlini 2004) where most discussion has focussed on ownership of the horse. Great Britain has competed in the modern Olympics since its inception in 1896 and in Olympic equestrian sport since 1900 (De Haan and Dumbell, 2016). Despite this equestrian sport invokes significant social inequality stereotypes amongst the British media (Fletcher and Dashper 2013). Dumbell, Johnson and De Haan (2010) reported that it was in fact the lower levels of competition where riders were more likely to own their own horse, and that at the elite level an external partnership (an owner) provides funding. Substantial financial resources (of the rider) are therefore not required at the elite level. The research

did however indicate that more riders require ownership to compete at the lower levels. This may present as a barrier to participation in equestrian sports and restrict progression through competitive ranks. This paradox of equality and elitism could be seen in the British media reports of Team GB Equestrian's unprecedented success in the Dressage competition (Fletcher and Dashper 2013).

Sports must demonstrate broad appeal and additionally compete for financial support to complete initiatives and subsidise national representation. A lack of knowledge on sports participation can have implications in terms of identifying requirements for athlete support, funding, talent identification and performance analysis. The British Equestrian Federation, post a successful 2012 Olympics for Team GB Equestrian, have launched specific initiatives to increase participation. 'Hoof' is the equestrian legacy brand and campaign, which aims to encourage more people to participate in equestrian sports (see: <http://www.hoofride.co.uk/>). Elite athlete success and hosting international events have been purported to generate numerous positive outcomes. These outcomes include improved national identity, pride, international prestige and diplomatic recognition, individual development of talented people and the capacity to inspire increased mass participation in sport (Houlihan, Bloyce, and Smith 2008; Wicker et al. 2012). This relationship is captured by the sport pyramid analogy, that suggests that a large base of mass participation provides a positive breeding ground for elite sport and in turn elite athletes are believed to attract young athletes to particular sports, an assumed effect of the demonstration effect (Weed 2009).

An athlete's development in their chosen sport can be broadly understood using several different models, all aimed at revealing factors that determine elite sport success. At a micro-level models include the Long Term Athlete Development model (LTAD) (Bayli, Way, and Higgs, 2013) that has been established from sports specific physiological and psychological requirements. The British Equestrian Federation have utilised the LTAD model within their athlete development programme and have published the Long Term Participant Development Framework for Riders, Drivers and Vaulters (BEF 2015b). Within generic LTAD models, an athlete's development is based on biological rather than chronological age, and windows of opportunity when optimal training and performance can be achieved. As previously established, equestrianism does not appear to fit into the 'early-' and 'late' specialisation paradigm set out by the generic LTAD model and therefore provides a unique case for demographic profiling (Dumbell, Johnson, and De Haan 2010). Additionally equestrian sport is the only Olympic-level sport not organised around binary sex segregation in any form of official competition. Three equestrian disciplines, dressage, eventing and showjumping, have been included within the summer Olympic programme since the Stockholm Games of 1912 (FEI Games of V; De Haan and Dumbell 2016). These disciplines do occasionally offer non-Olympic competitions exclusively for male or female athletes, or young athletes, however that is not usual practice and Olympic representation by both

sexes in all three disciplines has been seen since the Helsinki Games of 1964 (Olympic Studies Centre 2015).

Equestrian sport does encompass many disciplines that are likely to make different physiological and psychological demands on the athletes involved. The British Equestrian Federation's Long Term Participant Framework recognises this even within its title, which refers to riders, drivers and vaulters (BEF, 2015b). Interestingly other sporting bodies that cover varied disciplines have athlete development programmes that contain specialised and specific models within them. For example UK Athletics has a UKA Generic Athlete Development Model and also four specific models, 'The Sprints and Hurdles Athlete Development Model', 'The Endurance Athlete Development Model', 'The Jumps Athlete Development Model' and 'The Throws Athlete Development Model' (UKA 2010). Currently the British Equestrian Federation has a single, generic framework for all disciplines that does refer to development stages appropriate for different age groups, with differentiation between genders but not disciplines (BEF 2015b). To ensure the relevance of the Long Term Participant Framework and that it moves beyond a policy document to affecting practice the suitability of this approach to the different disciplines would benefit from regular review.

There is clearly a need to further understand demographic profiles of all levels of equestrian athletes, to enable evidence-based provision of information around social inequality and the impact of different strategies (including development strategies) to be monitored and evaluated. With its long history of participation in equestrian sport, both outside and within the Olympics, Great Britain provides an interesting focus for this investigation. This paper aims to compare the demographic profiles of elite equestrian athletes representing Great Britain across and between Olympic equestrian disciplines since 2000 and assess whether the national federation's micro-level athlete development approach is likely to support high level sporting performance in these equestrian disciplines in the future.

Method

Demographic data were collected for all Dressage, Showjumping, and Event riders representing Great Britain (GB) at the Sydney 2000, Athens 2004, Beijing 2008, London 2012 and Rio 2016 Olympic Games. Data were collated from competition schedules, official reports from Olympic Games, public documents that indicate riders' full names and information and details regarding ownership which are widely available on official Olympic websites. Sex was confirmed by direct observation of competition recordings. Age of competitor at time of the competition in question was noted, and age the rider started riding was taken from official biographies or athlete websites. The descriptive and exploratory nature of this study resulted in categorical and frequency data. Ethical approval was granted via the institutional ethics committee (Hartpury College Ethics Committee).

Results

Team GB Equestrian has sent sixty one national representatives to the Olympics since Sydney 2000 (see table 1). These sixty one national representatives actually equate to thirty four athletes, as thirteen athletes have represented Team GB Equestrian more than once (an odds ratio 0.76), with two athletes representing Team GB Equestrian at four Olympic Games from 2000 to 2012, and indeed earlier Olympic Games as well. Between eleven and thirteen athletes have represented Team GB Equestrian at each Games with team and individual competitions being contested for each discipline, except in 2004 when Team GB Equestrian only entered the individual competition of the showjumping discipline. Eventing has been consistently represented by five athletes until Rio 2016 when only four were allowed to be entered, showjumping by between two and four athletes, and dressage by three or four athletes.

Sex

A total of seventeen female (50%) and seventeen male (50%) athletes competed for Team GB Equestrian at the Olympics in the twenty-first century (see table 1). These athletes collectively represented Team GB Equestrian a total of sixty one times, twenty seven (44%) of which by female athletes and thirty four (56%) by male athletes. The sexes were therefore similarly likely to represent Team GB Equestrian more than once in this period (a 0.70 odds ratio of representing more than once: once for men, compared to a 0.55 odds ratio in women). There was a larger proportion of female athletes representing Team GB Equestrian in eventing, an odds ratio of 3.33, and in dressage an odds ratio of 1.75. However showjumping demonstrated an observable male dominance with all ten athletes being male. When considering the split of national representatives then in eventing females were more likely to represent Team GB Equestrian with an odds ratio of 2.43, in dressage females were more likely to represent Team GB Equestrian with odds ratio of 1.11 and in showjumping all representatives were male.

Table 1: The athletes that represented TeamGB Equestrian at the Olympic Games since 2000

Olympics Games	Discipline	Number of Athletes	Frequency		Female : Male odds ratio
			Female	Male	
Sydney 2000	Eventing	5	3	2	1.5
	Showjumping	4	0	4	0

	Dressage	4	1	3	0.33
	Total	13	4	9	0.44
Athens 2004	Eventing	5	3	2	1.5
	Showjumping	2	0	2	0
	Dressage	4	2	2	1
	Total	11	5	6	0.83
Beijing 2008	Eventing	5	4	1	4
	Showjumping	4	0	4	0
	Dressage	3	3	0	∞
	Total	12	7	5	1.4
London 2012	Eventing	5	4	1	4
	Showjumping	4	0	4	0
	Dressage	4	2	2	1
	Total	13	6	7	0.86
Rio 2016	Eventing	4	3	1	3
	Showjumping	4	0	4	0
	Dressage	4	2	2	1
	Total	12	5	7	0.71
Collectively	Eventing	13	10	3	3.33
	Showjumping	10	0	10	0
	Dressage	11	7	4	1.75
	Total	34	17	17	1

Age

Dressage representatives had the lowest mean age of 37 years, followed by eventers with mean age of 38 years and showjumpers of 44 years. Table 2 indicates that the age of athletes representing Team GB Equestrian were comparable over the last five games.

Table 2: Age range demographics of athletes representing Team GB Equestrian at the Olympics since 2000

Games	Mean Age (yrs)	Minimum Age (yrs)	Max Age (yrs)	Range (yrs)
Sydney 2000	38.0	26	46	20
Athens 2004	38.6	29	49	20

Beijing 2008	39.8	23	53	30
London 2012	40.1	27	57	30
Rio 2016	44.1	31	61	30
Collectively	40.1	23	61	38

The time between mean age started horse riding (4 years) and mean age at Team GB Olympic representation (40 years) for all athletes across the five games was 36 years (see table 3).

Table 3: Age at which athletes started horse-riding, categorised by Olympic Games.

Games	Mean Age (yrs)	Minimum Age (yrs)	Max Age (yrs)	Range (yrs)
Sydney 2000	6.9	0	16	16
Athens 2004	5.3	3	10	7
Beijing 2008	4.9	0	8	8
London 2012	4.0	0	8	8
Rio 2016	3.4	0	8	8
Collectively	4.4	0	16	16

Ownership

The majority of athletes did not own any part of the equine athlete that they were competing in partnership with. Forty one percent of athletes owned at least a share in the horse that they were competing with (an odds ratio of 0.69) (see table 4).

Table 4: Ownership (or part-ownership) of horse status between Olympic equestrian disciplines.

	Ownership Status		Owner : Non-owner Odds Ratio
	Owner	Non-Owner	
Eventing	8	16	0.50

Showjumping	8	10	0.8
Dressage	9	10	0.9
Collectively	25	36	0.69

Discussion

The purpose of this study was to characterise demographic profiles of Olympic equestrian athletes. There are many unique features of equestrian sport, such as men and women competing on equal terms, age demographics, a perceived social elitism and the requirement of an expensive 'tool' (the horse) (Dashper 2014; Dumbell, Johnson, and De Haan 2010) that have been considered.

Sex

Modern sport has its roots in boys' public schools in nineteenth century England (Mangan 2000) and the large influence of the military on the governance and rules of equestrian sport has also been recognised (De Haan and Dumbell 2016; Hedenborg 2009). These influences encouraged a view of sport as primarily for men, with sex-segregation regarded as a largely necessary and natural design. This essentialist view of gender still influences our daily lives and is apparent in many aspects of sport. Schippers (2007) highlighted how this history has led to male sports, and their athletes, being valued above female sports. In many sports there is more evidence to support classification by height and weight than sex. Other sports do not rely on strength and speed for success and therefore the male physiological advantage is not grounds for sex segregation (Kane 1995). Kane (1995) argues that a 'continuum of difference' exists where some women are faster and stronger than some men.

Within the Olympics it was only from 1952 that females were allowed to compete in equestrian sport as before this it was only male, commissioned officers in the military that could complete. This background still has echoes today in the formal, masculinised dress worn by equestrian competitors (Dashper and St John 2016). It was 1964 before both sexes were represented in all disciplines (Olympic Studies Centre 2015). However in equestrian sport the Olympics were the exception. Outside the Olympics women had been competing against men in equestrian disciplines for many years despite Western cultures representing the horse-human partnership using predominantly masculine images (Birke and Brandt 2009). This may be due to the influence of hunting on western equestrian sport, as a woman skilled in riding to hounds was lauded in nineteenth century society. Sex segregation was (and is) the exception, not the rule, in equestrian sport.

There was both male and female representation at all Olympic Games investigated (Sydney 2000; Athens 2004; Beijing 2008; London 2012) and Team GB Equestrian had

comparable overall female: male representation (22 females and 27 males). Interestingly both sexes were also similarly likely to represent Team GB Equestrian more than once. Females are recognised as being more likely to participate in equestrian sports than males (Dashper 2012; BEF 2015a). However Dumbell, Johnson, and de Haan (2010) found that as level of competition increased the female dominance in dressage participation in England decreased. Dashper (2012) highlights how sporting participation and competitive success are not equal between sexes in all disciplines. More women participate in competitive equestrian sport in Britain but a disproportionately high number of elite performers are men.

Dashper (2012) suggests that as prime child-bearing years coincide with peak competition years for female equestrian riders this may be an important factor in men's disproportionate success in elite equestrian sport. Another factor may be that the support networks necessary for engagement in elite sport (Gustafson and Rhodes, 2006) are perhaps more available to men than women thus enabling success. Dashper (2012) reports a 'lack of participatory parity' as being a potential factor in national selection, where male athletes by their scarcity are more likely to come to the attention of national selectors.

When the sex of Team GB Equestrian Olympic athletes is considered for discipline specific analysis, results are more variable. This reflects Birke and Brandt's (2009) observations, echoed by Dashper (2012), that the equestrian discipline an athlete chooses to engage with differ in how they express gender and perform gender. Within this study the sex of competitors was gathered, however gender information was not. This would be an interesting factor to investigate in the future. Hedenborg (2015) reinforces the fact that sex order is highly variable between different countries and different disciplines, which makes comparisons difficult and understanding causes a complex task. Eventing and dressage both had multi-sex representation, with females being particularly dominant in dressage. Dressage, especially at lower competitive levels in Great Britain, has a high proportion of female participants and is increasingly suggested in literature to be a feminised terrain (Hedenborg and White 2012). This social construction of gender challenges to male athletes in how they construct their masculinity in this arena (Anderson 2005). This may be one reason why females are more likely than men to compete in dressage for Team GB Equestrian. However, this theory would not seem to fit eventing as easily, as eventing is the most dangerous of the three disciplines and involves risk-taking behaviours and bravery, traits that would seem to be more masculinised (Hedenborg and White 2012). Within the BEF's Long Term Participant Development Framework the sexes are differentiated but mainly with reference to biological maturation rather than psychological and sociological factors.

Showjumping had solely male representation from Team GB. From the data set collected it is difficult to draw conclusions as to why there are only male showjumping riders that represent Team GB Equestrian, at the Olympic Games investigated. Further investigation into the homogenous differentiation within equestrian sport is required to

address issues of physical superiority, lifestyle choices, the influence of societal expectations etc, to provide more evidence-based findings on this interesting area. Dashper (2012) reports a male showjumper saying that women have 'more to prove than the men' which would suggest that it might be more difficult for a female showjumper to reach elite status, than a male. Coutler (2013) investigated sex, work and wealth in Canadian showjumping. Data suggests that male riders have greater diversity in their attitudes to the business side of equestrian sport and showjumping in particular. They report the emotional and psychological pressures in the discipline of showjumping have been attributed as 'the key' to making a successful Grand Prix showjumping rider and that this is where gendered differences begin to emerge. Processes of gendered socialism typically encourage females to be more emotional and discourage the expression and development of emotion in males (Chaplin, Cole, and Waxler 2005). Dashper (2013) reports a male event rider saying that the women were 'much more focussed and determined' in pursuit of their sport than the men, perhaps reflecting that they had to do this in order to succeed and therefore behave closer to Hughes and Coakley's (1991) 'sports ethic' ideal. Consideration of gender, and the social construction of gender, is outside the scope of this study, however continuing the work started in this area (e.g. Dashper 2012) would enhance understanding of this unique sex integrated Olympic sport.

Coutler (2013) also reports inequitable personal support for men and women in Canadian showjumping. Male riders often have a girlfriend or wife who is also in the business. The reverse has been noted as less common, although not absent. Showjumping has developed a culture which Coutler (2013) reports is more compatible with ways that males think and act. It has been reported that males and females respond differently to competition stress and employ different coping strategies (Koch and Tilp 2009). The extent to which this may be in response to essentialist differences between the sexes or the influence of social constructed expectations of gender is difficult to determine. In a study investigating psychological profiles in equestrian riders, Meyers, LeUnes, and Bourgeois (1997) reported that while male riders displayed lower mood disturbance scores and higher anxiety management and confidence scores, indicating better coping skills, female riders scored higher on scales of motivation. Whitaker, Hargreaves and Wolframm (2012) suggest higher levels of motivation in female riders might lead to more thorough and systematic training, which could, in turn, compensate for less developed coping skills during times of stress. Dashper (2012) provides examples of male athletes who have used their increased self-confidence to bring their ambition to the attention of owners, trainers and selectors, when compared to the more modest articulation by women. This observation is interesting and the psychological skills required of equestrian riders warrants further investigation to ascertain the extent to which psychological skills in male and female equestrians differ, and whether these differences confer any advantage or disadvantage to either sex in competition or between equestrian discipline.

The most obvious reason why there may be no female showjumpers is that the best British showjumpers between 2000 and 2012 were men. However Whitaker, Hargreaves and Wolframm (2012) reported that performance between males and female showjumpers are equal. Despite the physiological, morphological and psychological differences reported between men and women there is no significant difference in the final rank, number of points won or number of competitions entered. Performance is thought to be comparable but participation and representation at elite level is not, within Team GB Olympic showjumping teams.

Age

At the Olympic level, there is a large age range within equestrian athletes (23-61 years, Table 2), which demonstrates longevity in competitive lifestyle. The BEF's Long Term Participant Development Framework does refer to longevity of career, with the 'Active for Life' section having information for those of thirty five years and over, although in equestrian sport this can encompass, even at elite level, athletes spanning over three decades. These findings mirror data reported by Dumbell, Johnson, and De Haan (2010) where age range of dressage riders was more than three decades (18-57 years). Interestingly the oldest equestrian athlete to compete at the Olympics was 72 year old Arthur von Pongracz of Austria in 1936 and the youngest was 16 year old Luiza Almeida of Brazil in 2008. These data all support the discussion that equestrianism does not fit into a customary LTAD model (Bayli, Way, and Higgs 2013). Additionally, when the age that Olympians started riding is considered, data indicates there is a large period of time training between the age athletes started to ride and achieving Olympic representation. During this time equestrian athletes are practising their sport and exhibit higher levels of self-esteem in adolescent female riders than non-riders (Davies and Collins 2015). This further supports equestrianism not fitting into a traditional LTAD model, a conclusion also reached by De Haan, Henry, and Sotiriadou (2015) and De Haan (2017). Furthermore, it supports the 'early start-late specialisation' paradigm that equestrian has been allotted, rather than the more customary early specialisation (e.g. Gymnastics and Swimming) or late specialisation (e.g. Team Sports) paradigms (BEF 2015b).

Long Term Athlete Development models are generic, and require adjustments on a more sport specific basis. The majority of sports are late specialisation. As such, the British Equestrian Federation produced the Long Term Participant Development document where the 'early start, late specialisation' paradigm is introduced and justified. The Long Term Participant Development (BEF 2015b) document details participants starting 'Learning to Ride' at the age of three years but not deciding on their competitive discipline until the age of sixteen. The discipline specialisation occurring after the age of ten years indicates that latter stages of equestrian athletes' development also fits into the late specialisation model. It is the age of specialisation that is an issue for equestrianism. Participation in the sport

starts early, with late specialisation and additionally longevity in competitive career. This is certainly supported by the data presented here, with athletes competing in up to seven Olympic Games and repeated representation being common and frequently valued as experience is seen to benefit the team (De Haan, 2015). As such the potential for overuse injury, burnout and dropout need to be carefully considered. Further studies looking at the amount of variation between equestrian athletes would be worthwhile as Team GB representatives started riding between 0 and 16 years old, a large range. The BEF (2015b) emphasise a multidisciplinary approach until at least the 'Training to Compete' stage which for men is between sixteen and twenty three years and women fifteen and twenty one years. Some athletes competed in their first Olympics at twenty three years of age, whilst others only starting to ride at sixteen years of age and as De Haan (2017) points out this variability means that age guidance may be difficult to apply. The data in this study are not sufficiently rich to reveal meaningful implications for equestrian sports when considered through the lens of the Developmental Model of Sport Participation (Côté, Baker and Abernathy, 2003, 2007). However it does raise interesting questions about how long is spent within the specialising phase as opposed to the investment phase as equestrian athletes commonly practice more than one sporting discipline, even whilst competing at high levels.

In the current BEF Long Term Participant Development Framework the 'Training for Excellence' stage starts at twenty one years for women and twenty three years for men. With athletes competing in their first Olympics at twenty three years of age for some, and over two decades later for others then applying these age guidelines is likely to be extremely challenging. The Olympic disciplines also all belong to only one of the three BEF recognised categories of equestrian athletes, riders, and not vaulters or drivers who compete at the World Equestrian Games but not the Olympics (FEI, 2016). The differences between these additional disciplines are likely to be even greater than within the riding disciplines. Within these data there are riders of both genders competing in their twenties and also in their fifties so the longevity of elite performance seems to be a feature of both genders. Of equal note however is the variability between the athletes' profiles.

In most sports athletes deal with the challenges of balancing family commitments with elite competition by completing their elite careers before having children. However these data supports Dashper's (2012) reporting of the challenges for equestrian athletes, when they are likely to reach the peak of their career at the same time as prime child raising years. Taniguchi and Shupe (2014) describe how responses to competition between family life and participation in sports differs between the sexes, with men commonly achieving a more compartmentalised pattern than women. This is likely to be particularly challenging for women and Dashper's (2012) participants reported a trend for elite female competitors to withdraw from international level competition to focus on family life. What is also evident from the current study is that an elite equestrian sporting career can span four decades and therefore even with time off prioritising family commitments an athlete could

re-enter the international arena. Within the current study the athlete who represented Team GB Equestrian at every Olympic Games was Mary King in eventing. She famously combined family life with international competition but was the victim of media attacks for the choices she made.

Ownership of Horse

The BEF has an Equine Pathway to identify horses that have the potential to win medals and help them maximise that potential (BEF, 2014). Horses are a requirement for equestrian disciplines and there is no arguing that they come with large financial implications (Dumbell, Johnson, and De Haan 2010). This additional cost has given equestrianism a reputed perception of being an elitist sport. Overall less than half of twenty-first century Team GB Equestrian Olympic athletes owned their equine partner (either in part or wholly). This did vary between disciplines with eventing competitors being least likely to own their horse and Team GB Equestrian showjumpers and dressage riders more likely to own at least part of the equine athlete. At Rio 2016 three riders were part owners of their horses, and they were all men (two dressage riders and one showjumper). This may reflect Coutler's (2013) observations of greater business-like attitudes in males. A horse competing at the Olympics will be very valuable, and if they can be used for breeding then their value will be even greater. An equestrian athlete may therefore have to adopt a more instrumental attitude towards the horse, both to cope with the pressures of increasing commercialisation of sport and also to protect themselves against their lack of control over the partnership essential for their sporting success (Dashper 2014).

There have also been recent high-profile examples of horses being purchased for multi-million pound sums of money to provide competitive success for other riders and nations. For example Totilas moving from being partnered in dressage by Edward Gal of the Netherlands to Matthias Rath of Germany (Horse and Country TV 2015). This is a not a new phenomenon in a sport where there are two athletes, who both have to be prepared optimally in order to achieve success, but where the expense and therefore the financial pressure on the rider, the owners and the supporting team is very high. Ownership of the horse can not only bring financial rewards but also provide security for the rider. They will have more power to influence the pre-Olympic preparations as owners, and are less likely to have their partnership with the equine athlete broken (Dashper 2014). This partnership between equine and equestrian athletes is frequently quoted as being essential for success (Keaveney 2008) and thought to be based on mutual trust and respect, frequently gained over a sustained period of time (Wipper 2000; Dashper 2014). The horse has been suggested as so crucial to success that De Haan, Henry and Sotiriadou (2015) suggested that when considering equestrian sport through the Sport Policy factors that lead to International Sporting Success (SPLISS) model (De Bosscher et al. 2006) a dual athlete –

horse and rider' talent identification and development system was required when thinking of the processes which may lead to elite sporting success (pillar four of the SPLISS model).

Dashper (2012) raises an interesting point that suggests that female riders may be less likely to gain significant financial investment as men are perceived to be a better investment for sponsors and owners. This is of interest as it conflicts with the idea that if the sponsor is hoping to gain a role model for youth participants then a female athlete may provide this for a predominantly female youth audience. If however the sponsor wishes to appeal to the female dominated leisure rider market than a male athlete may seem a more attractive investment. Active sportswear has a large global market, but many of the trends that could allow athletes, and particularly female athletes in a female dominated grassroots sport, to gain lucrative sponsorship deals seem to pass equestrianism by (Dashper and St John 2015).

Dumbell, Johnson, and De Haan (2010) documented that as level of competition increased, the likelihood of equine ownership decreased. Their results indicate at higher levels of competition external financial contribution may be assisted by a third party (syndicate ownership), yet at the lower levels of competition substantial financial commitment is required. The data from this study to some extent supports this observation as less than half of Team GB Equestrian Olympic athletes owned their own horse (either in part or completely). Although a rider may not have to commit a huge amount financially at the elite level, it is likely that at the lower levels of equestrian sport, participation may be affected by socio-economic status and this should be considered in equestrian participation strategies. It would be interesting to explore whether elite equestrian athletes in the different equestrian disciplines do have different attitudes towards the horse, in light of the increase in commercialisation of equestrian sport. Perhaps the male athletes are shrewd business men, or perhaps their increased ownership reflects an acknowledgement of the need to protect themselves against a commercialised owner-athlete relationship where the owner has all the power over that athlete's career.

Conclusion

This paper reports the first data that investigates demographic profiling of Great Britain's Olympic equestrian athletes and additionally is the first research that investigates demographic profiling of multiple equestrian sports providing a comparative framework. Even though male and female representation is evident across Team GB Olympic Equestrians as a whole, equal representation is not evident between disciplines. It would appear that the British Equestrian Federation's athlete development models used to date might not be accounting for gender differences between the disciplines, where Team GB Eventers have been relatively female dominated and Team GB Showjumping has not seen

female representation at an Olympic Games in this century. It would be interesting to profile both psychological and demographic data during developmental processes in equestrian athletes within disciplines to understand these differences in more detail. Gender also seems to influence ownership patterns with the large majority of athletes part owning a horse being male. This research does support the theory that equestrian sports fit into an early start-late specialisation LTAD paradigm, which was first introduced by the British Equestrian Federation in 2007, although considerable variation between athletes was observed, particularly when considering age. As the BEF's LTPD framework relates activities to age groups the importance of their warning to be flexible in their application cannot be overstated (BEF, 2015, p21). These data support De Haan's (2017) recommendation for a paradigm shift moving away from 'the traditional chronological age classification of competition' possibly resulting in sport-specific frameworks.

To support a significant change in the micro-level athlete development model used by British equestrian sporting disciplines further research should be carried out to increase current understanding of social, psychological and physical aspects of equestrian athlete development. The social aspects explored should include the importance of socioeconomic background, early introductions to horse riding and equestrian sport and particularly the influence of friends and family and consideration of the social construction of gender. Other factors likely to be of interest include "place" (growing up in the countryside or in the city) and increasing understanding of how the different disciplines may offer different opportunities for the individual to be an athlete full time. Understanding how equestrian athletes can be supported to maximise their potential for attracting a sponsor and income generation could look to other sports for models to explore and methods of overcoming barriers that an individual athlete may experience. These could then be applied to the equestrian context to promote a sport-wide approach to optimise ethical exploitation of opportunities and an effective education and support programme for developing equestrian athletes. It would also be of interest to explore how many of these themes arising from these data are visible in other nations.

The findings from this study would suggest that there are differences between the demographic profiles of Team GB equestrian athletes competing in different disciplines, and also large differences between athletes. Having one athlete development programme to cover even this small sub-set of equestrian disciplines would seem to have a high risk of not supporting all disciplines effectively to produce the elite equestrian athletes of the future and as such further investigation is warranted.

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