The implications of female sport policy developments for the community-level sport sector

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This study examines changes in sport participation among females over a six year period (2011-2016) within five popular sports by age and region. It also identifies future challenges community sports face in increasing female sport participation. De-identified participant registration data for the five sports were obtained and analysed according to age, gender and region (metropolitan v non-metropolitan) within the state of Victoria, Australia. Data for all sports were aggregated and analysed collectively to produce a broad participation profile. Interviews were held with community sport stakeholders (n=17) across low socioeconomic metropolitan and non-metropolitan regions to understand challenges associated with increasing female sport participation. Our results showed that female sport participation levels increased over the six year period, with greater proportional increases among the youngest age group (4-9yrs), which is the common entry age into organised sport through modified sports programs. Retention of females in sport throughout adolescence and adulthood remains a challenge. Community-level sports face challenges to accommodate growth in female sport participation in terms of availability and quality of sport infrastructure and volunteer capacity – both human resources to deliver sport and organisational capacity to devise and implement strategies to recruit and retain females. Sport policies that encourage female sport participation need to also consider the supply of sport in terms of 1. maximising infrastructure usage and where required planning infrastructure development 2. developing volunteer capacity. Infrastructure planning must account for changing demographic characteristics of communities and the changing nature of sport participation over the lifespan for both males and females.

Keywords: females, girls, participation, community sport, policy

Introduction

Participation in club-based sport contributes to nearly a fifth of people's health-enhancing levels of activity (Eime *et al.* 2015a) and has been associated with improved psychological and social health outcomes above and beyond those attributed to participation in individual types of physical activity (Eime *et al.* 2013b, Eime *et al.* 2013c).

Sport participation levels are consistently associated with socioeconomic status, rurality and gender. Low socioeconomic position girls are more disadvantaged than their male peers in terms of physical activity levels in general (Dollman and Lewis 2010). Those living in regional areas often have poorer access to recreational facilities which negatively influences general physical activity behaviour (Gordon-Larsen *et al.* 2006), although some Australian research reports that as remoteness increases, participation in traditional team sports actually increases (Eime *et al.* 2015c, Eime *et al.* 2017).

Participation in sport is highest among children and youth from socioeconomically advantaged areas, although overall participation declines considerably during adolescence (Eime *et al.* 2015d, Maia *et al.* 2010, Olds *et al.* 2009, Richards *et al.* 2007). In Victoria, Australia, among five popular team sports that included a total of 465,403 individual participants sport participation has been shown to peak between the ages of 10 and 14 years for both males (50% registered participant rates) and females (30% registered participant rates) and decline by almost half during adolescence (15-19 years: male rate 31% and female rate 15%) (Eime *et al.* 2016c). Similar trends have also been reported nationally with participation in club sport peaking among 9-11 year old boys and girls and starting to decline at age 12-14 years (Australian Sports Commission 2016). Female sport participation is consistently lower than their male counterparts across the lifespan (van Bottenburg *et al.* 2005), and has been reported in some sports to be only half that of males (Eime *et al.* 2016a).

The disparity between male and female sport participation levels has led to research examining the determinants of female participation in physical activity (Bauman *et al.* 2012, Codina *et al.* 2013) and more specifically sport participation (Basterfield *et al.* 2016, Casey *et al.* 2009, Eime *et al.* 2015b, Vella *et al.* 2014). This research has predominantly been focused on children and adolescents, who have high levels of sport participation. The determinants of female sport participation can be examined at multiple levels of behavioural influence using the socioecological model (Rowe *et al.* 2013, Sallis *et al.* 2008). The model examines factors across five domains: intrapersonal (e.g. gender, age, competency, enjoyment, leisure-time priorities), interpersonal (e.g. social support from family and friends), organisational (e.g. schools, sports clubs), community (e.g. playing facilities) and policy (e.g. sport and government policy) (Basterfield *et al.* 2016, Casey *et al.* 2009, Eime *et al.* 2015b); the organisational and community domains can also be combined and referred to as the environmental domain. Basterfield *et al.* reported that the barriers to sport participation changed as children aged, with the environment (e.g. lack of suitable clubs) and parental involvement (e.g. transport, money and permission) important among 9 year olds. The transition from primary to secondary school (around 12 years of age) marked a clear difference in barriers whereby the social environment (interpersonal factors) was emphasized (e.g. friendship groups and concerns about social standing) (Basterfield *et al.* 2016).

Other researchers have also identified the importance of friends (Basterfield *et al.* 2016, Casey *et al.* 2009, Thedin Jakobsson 2014) and creating a supportive environment, particularly within the sport club (e.g. friendliness of club, knowing someone) for adolescent females (Casey *et al.* 2017, Geidne *et al.* 2013). Intrapersonal barriers are also common for adolescent females, such as lack of time, work/study commitments, poor self-perceived competence and body image concerns (Eime *et al.* 2015b, Slater and Tiggemann 2011). Older adolescent girls (16-18 years of age) are more likely to report lack of time due to other leisure

activities or due to work or study (Eime *et al.* 2015b). As a consequence, it has been reported that as adolescent girls age there is a tendency to drop out of organised, competitive sport and move towards individual-based physical activities, such as going for a run or going to the gym, which are less demanding of time and easier to schedule alongside the increased demands of part-time employment and educational aspirations (Eime *et al.* 2013a). Other studies have reported that many adolescent girls do not enjoy competitive sport (Dwyer *et al.* 2006) and perceive community sport settings as exclusive for skilled participants (Casey *et al.* 2016). Environmental and policy level factors often rely on an individual's perceptions of access to infrastructure and neighbourhood safety (Eime *et al.* 2015b, Vella *et al.* 2014). A recent study that examined the association between provision of sport facilities and participation in sport found that increased sport participation was associated with better provision of sports facilities, along with higher socioeconomic status and region (metropolitan v non-metropolitan) (Eime *et al.* 2017).

Australian government sport policy

Challenges facing female participation in sport have been recognised across the globe by state and national governments (Parliament of Australia 2006, Parliament of Canada 2017, Sport and Recreation Victoria 2015, Sport England 2006) and recently through various health and sports organisations (Brunette *et al.* 2016, VicHealth 2015). In the last decade, deliberate policies, investment and/or strategies have been created in an attempt to improve female sport participation rates. In Australia, early initiatives were focused on females as a priority, or targeted, population group to increase sport participation rates or physical activity in general (Green and Collins 2008). For instance, in Victoria, Australia funding for state sporting organisations was available through the Victorian Health Promotion Foundation (VicHealth) to increase participation in community sport and active recreation among people with

disabilities, indigenous Australian, people from culturally and linguistically diverse backgrounds, and women and girls (VicHealth 2011).

More recently, sport policy has focused specifically on gender inequality and inclusion with funded campaigns and strategic priorities to enhance sport participation by females. For example, the Australian government launched ‘Girls Make Your Move’ campaign in 2016 comprising a \$7 million advertising budget (for television, online, social and print media), website, social media and public relations campaign aimed to build positive perceptions of physical activity and sport (Tan and Miller 2016). The evaluation of the campaign found that 82% of young women aged 12-19 years recalled seeing the campaign and 71% had done something as a result of seeing it, such as talking about doing more physical activity or looking up information, indicating increased intentions to participate in physical activity (Tan and Miller 2016).

In Victoria, Australia, ‘Changing Our Game’ was established to increase female sport participation and advance gender equality in sport for females. Specifically, the state government invested \$11 million over five years (2015-2020) with the majority of funding allocated towards the development of women’s change rooms at grassroots clubs. Similarly, notwithstanding earlier funding alluded to above (VicHealth 2011), women and girls have been identified by VicHealth as continuing to be significantly under-represented in sport, participating in sport at only half the rate of males and therefore a focus area for action for a five year period, 2018-2023 (VicHealth 2018). Specifically, funding opportunities with VicHealth (2017) include \$7 million over 3 years (2017-2020) for national and/or state sporting organisations to:

1. Create new opportunities for women’s participation in sport to engage less active women and girls,
2. Increase the profile of women’s sport, improve attitudes towards gender equality in sport and promote participation for women and girls; or

3. Improve sport policy and practice to create welcoming and inclusive environments for women and girls.

Governments and organisations develop public policy to help guide strategic and investment developments. In Australia, government is involved in sport in various ways and at all three tiers of government; albeit in an uncoordinated manner (Australian Sports Commission 2017b, p. 17):

The Commonwealth Government is involved in high performance sport, supports National Sporting Organisations (NSOs), and drives some national participation, governance, integrity, and policy programs. The State Governments each have different models of support, typically focused on high performance via the State Institutes and Academies of Sport (the SIS/SAS network), State Sporting Organisations (SSOs), major sports infrastructure, and some policy programs. And, Local Government manages community sports infrastructure and provides some support to local clubs and programs. Across the tiers of government, this support is not delivered in a coordinated manner, with no clear delineation between national, state and local responsibilities nor agreed goals and metrics.

The Intergenerational Review of Australian Sport (Australian Sports Commission 2017b) identified that in 2015 over \$12 billion was spent annually on sport, including high performance, participation and infrastructure, by government (14% of total investment), private sector (20%) and user pay (65%; sports related fees, equipment, clothing, training etc.). The majority of government investment in this review was in infrastructure (12% of total investment) particularly by local governments (\$890 million) (Australian Sports Commission 2017b). However, the main focus of Australian sport policy has been elite sport and international success with \$102 million (85% of 2015-2016 Australian Federal Government's funding to national sporting organisations) allocated to high performance sport compared to \$18 million for sport participation (Australian Sports Commission 2015).

Advocacy and representative bodies for sport also provide significant investment in sport, particularly in terms of increasing opportunities for sport. For instance, the strategic priorities of VicHealth and VicSport (the peak body for sport and active recreation in Victoria) focus on increasing opportunities for physical activity and sport participation, as well as organisational and workforce capacity building to deliver sport and promote safe, fair and inclusive sporting environments (VicHealth 2014, VicSport 2017). It is important to recognise that while various such organisations are focused on creating sport participation demand and/or investing in supply associated with sport participation (e.g. infrastructure, club and volunteer capacity), again this investment is not necessarily coordinated between organisations with clear goals and metrics.

Growth in female sport participation

In Australia, between 2000-2012, it was reported that many sporting organisations were faced with flat or declining participation rates (Australian Sports Commission 2017b). Overall child participation rates in organised sport had remained at around 60% for a decade, 2000-2012 (Australian Bureau of Statistics 2012). During this period, organised sport participation by girls aged 5-14 years declined by 9% (52% to 43%); whilst women aged 18 years and over declined by 2% (28.5% to 26.5%) (Australian Bureau of Statistics 2000, 2012, Eime *et al.* 2015d).

More recently, there appears to be an increase in organised sport with 67% of children aged 5-14 years participating in one of 11 sports (Australian football, basketball, bowls, cricket, football (soccer), golf, gymnastics, hockey, netball, sailing and tennis) as registered participants (VicHealth 2016). The data show that organised sport participation was highest among children aged 5-9 (68%) and 10-14 (67%), and declined significantly from the age of 15-19 years (29%) (VicHealth 2016). Sports like AFL (Australian Football League) and

cricket have also recently announced record participation numbers, primarily due to the fact that there are now opportunities and pathways for females to play from grassroots to elite level. AFL have reported increases across all levels of participation, with a 76% increase among females in a 12 month period and following the successfully introduction of the new AFL women's (AFLW) competition (Lerner 2017). Elite pathways for females within male dominated sports such as AFL, along with the Australian media coverage of the elite competition may be driving female participation demand at the community level. The on-field success of elite women in sport may also be helping to raise the profile of women's sport, with the national team the Matildas (soccer) rising to 4th in the world during 2017 and with five of the eight gold medals at the Rio Olympics being won by women and/or women's teams. In addition, 2017 saw the new Suncorp Super Netball (premier netball league in Australia) exceed expectations during its inaugural year with improved broadcast ratings and fan attendance, and increased media visibility. Sporting organisations however, are operating in a highly competitive marketplace for leisure opportunities and there is speculation that 'growth in participation in new sports products has largely come from participants in other sports', rather than growing the total proportion participating in organised sport, particularly among children (Australian Sports Commission 2017b, p. 23). As a consequence, sporting organisations in Australia are being challenged to attract under-represented groups, such as women and girls with new and targeted offerings that reduce or remove barriers to sport participation.

The study

The aim of this study was to examine changes in sport participation rates among females over a six year period (2011-2016) within five popular Australian sports by age and local government region. The study also aimed to identify future challenges community sport face

in terms of improving female sport participation in local government areas (LGAs) characterised by low socioeconomic status in both metropolitan and non-metropolitan regions. This research may help guide decisions and investment by government and the sport and recreation sector to continue targeted strategies to improve female sport participation.

Methods

This was a mixed methods study. Sport participation rates (quantitative component) were measured through the established Sport and Recreation Spatial program of research (www.sportandrecreationspatial.com.au), which contains a large repository of sport registration data to inform evidence-based decision making across the sport sector, integrating and analysing over one million individual sport participation records annually (Eime *et al.* 2016b, p. 2). Sport registration data for the six year period was available for five major sports, all of which were among the top 10 club-based sport activities in Australia for both adults and children (Australian Sports Commission 2016). These five sports included two that provided opportunities for both males and females, one dominated by females, and two that were traditionally dominated by males, although with new playing opportunities for females (see Table 1).

Methods for this component of the study have been previously published (Eime *et al.* 2016b) and were granted ethical approval by Federation University Australia Human Research Ethics Committee. As previously described (Eime *et al.* 2016b, p. 3)

All data were integrated and sports were analysed collectively in order to produce broadly based participation profiles while maintaining confidentiality of membership data for individual sports. An individual could engage in more than one sport and was counted separately in each sport, with the result that counts of participants are to some extent weighted by individuals' levels of participation.

Data analysis involved descriptive statistics of 2011 and 2016 participation numbers and rates by age and region, and changes between 2011 and 2016. Analyses were conducted using Microsoft Excel 2016©. Region was defined as: metro-growth (7 LGAs), regional-growth (7 LGAs), metro-other (25 LGAs), and regional-other (41 LGAs). The principles behind the designation of these regions was based on projected growth in population (Sport and Recreation Spatial 2016). For example, regional centres such as Ballarat (regional-growth) are expected to experience high population growth up to 2021.

The qualitative research study collected data via telephone interviews with community sport representatives purposively selected from one metropolitan and one non-metropolitan LGA within Victoria, Australia, selected from LGAs that were below the national mean (i.e. <1000) for SocioEconomic Indexes for Areas Index of Relative Socioeconomic Advantage and Disadvantage (SEIFA IRSAD) (Australian Bureau of Statistics 2011), and had experienced an increase in female sport registrations between 2011 and 2016 across the five sports. Low sport participation has been associated with low socioeconomic status, and we selected low socioeconomic status LGAs that were ‘bucking the trend’ and experiencing improved female sport participation rates, in order to investigate how the sector was managing these increases. Pseudonyms were assigned to interviewees as sport code (A-E), role (representative of club, association, governing body regional officer) and region (metropolitan v non-metropolitan).

Insert Table 1 about here

The qualitative study explored the future challenges community sport faced in terms of female sport participation. In terms of the socioecological domains, this study specifically focused on the environmental (organisational and community) and policy factors associated with community sport participation rather than intrapersonal and interpersonal factors.

Interviews were used to gain the perspectives of representatives of sport governing bodies, sport and recreation departments within local government, and community sports clubs or associations, regarding these factors.

Within each LGA, key stakeholders associated with the five sports, including a representative from the local government sport and recreation department, sport governing bodies, and community sports associations or clubs were invited to participate in semi-structured telephone interviews (25-40 mins). Snowball sampling also occurred, whereby participants suggested potential participants. Interviews commenced with participants describing their sport development position (paid or volunteer) and their perceptions of the sport culture in the region. Interviewees were then asked to comment on any observed changes in female sport participation in the region, factors influencing female sport participation and future challenges to improving female sport participation (e.g. infrastructure, programs and policy).

Interview participants were made aware through emailed plain language statements and consent forms that participation was voluntary and that interviews were audio recorded, transcribed verbatim, with names withheld and pseudonyms given to protect participants' anonymity. The interview recordings were transcribed by a professional transcription service. Participants provided signed or verbal consent.

The telephone interviews were conducted by either the first or second author. Both of these authors read and reread the interview transcripts and collaboratively generated the coding tree identifying potential themes and subthemes. A constant comparative method was used to analyse the data and identify emergent themes. This method involves comparing and contrasting interviewee comments to form theme categories, code, delineate categories and connect them (Boeije 2002). Boeije (2002) described the comparative process as a cycle of comparison and reflection on 'old' and 'new' material, which can be repeated several times

until it does not bring any new information to light and categories are described as saturated. This process assisted the researchers to describe and contextualise the variety within each case (i.e. local government region) and identify commonalities and differences in organisational and community environments and policies. The coding themes and transcript content were then discussed with the broader research team to validate the themes and increase rigor of analysis (Miles *et al.* 2014).

Results

Part 1: Female sport participation trends

Gender and age differences

A participant was defined as a registered participant of a program and/or affiliated club within a Victorian State Sporting Organisation (SSO). Across the five sports there were a total of 466,661 participants in 2011 and 680,093 participants in 2016. Across the lifespan, more males participated in the five sports than females, in both 2011 (67.1% male, 32.9% female) and 2016 (66.7% male, 33.3% female). The number of male participants was higher for all age groups, except in 2011 for older adults aged 65-79. The change in participation rates was greater among females between 4 and 19 years of age and over 80 years of age compared to males (Figure 1). Specifically, in 2016 there were nearly four times (3.7) as many 4 year-old girls participating in the sports compared to 2011 and more than twice (2.0) as many 5-9 year-old girls. Female participation in the five sports peaked at 10-14 years of age and declined during adolescence and adulthood for both 2011 and 2016 (Figure 2).

Insert Figure 1 and 2 about here

Female participation by local government region

On average, non-metropolitan regions had greater growth in the rate of participation in the five sports (regional-other 15.0%; regional growth 10.9%) compared to metropolitan regions (metropolitan-other 10.3% and metropolitan-growth 4.7%). For each age category, females in regional Victoria generally had higher participation rates in the five sports than their metropolitan counterparts in both 2011 and 2016 (Figures 3 and 4). For instance, in 2016 the highest sport participation rate was for females aged 10-14 years in regional-other areas (61%). Within, the 10-14 year age category the sport participation rate then fell to 49% in regional-growth, to 43% in metropolitan-other, and was lowest for metropolitan-growth (25%), which depicts the general trend for local government regions whereby regional and metropolitan growth areas recorded lower participation rates than their counterparts – regional-other and metropolitan-other. The greatest increases in the sport participation rate between 2011 and 2016 were among 5-9 year olds for regional-other (19%), followed by regional-growth (15%) and metropolitan-other (13%). There was also a 13% increase in the sport participation rate among 10-14 year olds in metropolitan-other.

Insert Figure 3 and 4 about here

Part 2: Qualitative Results

Interviewee Participants

Interviews were conducted with 17 representatives of sport and recreation organisations across the two LGAs (Table 2). The local government representatives were from the sport and recreation department and were primarily involved with recreation planning, providing sport and leisure facilities for the local community and developing leisure (including sport) strategies. Regional sport development officers are employed by state sporting organisations

(SSOs) to promote sport participation amongst all members of the community, and work primarily with local sporting clubs, but also the local council and the wider community to support the implementation of the strategic pillars of the SSO. Two SSO representatives had a sport development role specifically focused on women and/or inclusion and these employees worked across the entire state. Finally, local sports associations/clubs were involved in managing their respective leagues, liaising with clubs, organising competitions and managing complaints.

Characteristics of the local government areas

The non-metropolitan LGA was centred on what was described as ‘a welcoming country town’ with a ‘strong farming community’ where ‘the hub of the community is the football club’. There was a strong traditional culture of sport, with football and netball popular activities. Sports clubs were primarily town-based (e.g. one club for each sport per town).

The metropolitan LGA was coastal and portrayed as a ‘growth corridor of Melbourne’ with some areas heavily built-up and other parts that were being developed. This region also had a strong participant base amongst traditional sports like cricket, AFL and netball, although it was noted that there was also growth in sports like soccer.

In terms of changes in sport participation in the last five years, most interviewees were only able to comment on their respective sport. There were reportedly notable increases in female participation in traditionally male-dominated sports, with growth in the number of teams, particularly for under 15s, 18s and 19s age competitions where opportunities had not previously existed for females. Interviewees from the female-dominated sport tended to report that overall participation rates were fairly constant. It was suggested that in some LGAs, particularly non-metropolitan regions that infrastructure was at capacity and it was difficult to accommodate more than one team per age group. Nevertheless, these interviewees reported increases among juniors, particularly due to the introduction of modified sport

programs principally for 5-10 year olds. However, there were noted participation declines among adolescents (13-18 year olds) and young adults (18-25 year olds). One interviewee also commented on the impact of the establishment of multi-sport clubs, stating that ‘the stronger teams or the more skilled teams tend to move into that type of game’, possibly because of the male-dominated culture of the club:

it is a different culture because it’s attached to a footy club... and it’s a more competitive and more physical game. We’ve found that the stronger teams or the more skilled teams tend to move into that type of game. So that’s had an impact on us at our most skilled players, from probably about 17 year olds and up....[and now] our senior A competition is nowhere near as strong as what it used to be. (Sport C, association, metropolitan).

Interviewees from sports with a history of playing opportunities for both females and males (Sports D and E) tended to comment that female participation was ‘not growing at the rate that male participation is’ (Sport D, non-metropolitan, governing body regional officer). Alternatively, some interviewees commented that difference in participation between genders was also age-related; whereby, there might be 50/50 gender split in modified sport programs (aged 5-10 years), but by adolescence, female participation rates were lower than their male counterparts.

Insert Table 2 about here

Future challenges for improving female sport participation

The findings of the qualitative study are grouped according to the relevant domains of the socioecological model (Sallis *et al.* 2008). Figure 5 provides an overview of the key challenges facing the sport sector in terms of improving female sport participation. The key factors are discussed below and relate to the key topics explored: environmental, societal and organisational factors. Intrapersonal and interpersonal factors were not a focus of this study,

however, some interviewees noted several barriers that were a challenge for sport to address for females such as life priorities, time commitment, travel, socioeconomic status and participation costs. These barriers have implications on sport program designs that may need to be flexible to meet consumer needs, rather than traditional sport offerings.

Environmental factors

Representatives from both male-dominated and female-dominated sports in both the metropolitan and non-metropolitan LGAs indicated that there was a lack of infrastructure (sports facilities) to cope with increased demand, particularly female demand, in community club-based sport. They reported that the increased demand was brought about by new opportunities for females to play traditionally male-dominated sports, but also influenced by changes to sports programs which included modified and social programs in addition to the traditional competitive formats. For instance, modified junior programs had been introduced to increase fun, activity levels and skill development of children, but have implications for how facilities are used and their capacity.

We've got a massive infrastructure issue across the region because clubs are just growing so fast and they don't have facilities to have two or three teams ... I think from a club and league perspective it'd definitely be fixturing and scheduling, so how do our female games - and boys as well - but how does community football look over the next five to 10 years as we become stretched with facility access and that sort of thing. So it might be that female under 17s might be played on a Friday night, so they're the things that we've got to start being creative and looking at. (Sport A, club, metropolitan)

I think probably potentially one challenge might be actual access to venues down in that part of the region. With the way the cricket is structured now with junior competitions it's the - the game is going from 11 person game to the lower - the junior format will be seven and then the secondary junior format will be nine. Smaller grounds with less players and providing more opportunities for each players, but at the same time you still

need enough venues to be able to cater for that. (Sport B, governing body regional officer, metropolitan)

Challenges associated with the capacity of sports facilities was also discussed in terms of the ability of male-dominated sports to create female-friendly facilities such as including female change rooms, whereby 'it's very expensive to upgrade facilities' and 'it's going to take a while and a lot of work around auditing all our facilities and prioritising which ones need to be upgraded first', as sport infrastructure funding is limited and therefore clubs were unable to upgrade everything at once (Sport A, governing body regional officer, non-metropolitan). A representative from a traditionally mixed-gender sport also noted the challenge of facility upgrades from a female perspective stating that:

it's a real challenge to get courts built and then the greater challenge is actually to get the infrastructure off the court to support the activity on the court...So if we get a two court stadium built, then to get actually female-friendly change rooms and all that type of stuff is really hard work for us at the moment and having females change in meeting rooms and having activities like that is just detrimental to a lot of the participation. The lack of childcare facilities, all that type of thing is a real struggle when we're talking about the costs of building a facility now. (Sport D, governing body regional officer, non-metropolitan)

A range of interviewees (local government, Sport A and Sport E) also commented on the need for 'better facilities' in general as the quality or condition of sports facilities was poor and this impacted on the ability of sports clubs to attract participants.

Societal factors

Societal factors included challenges associated with the competitive marketplace for organised sport participation, whereby there was a wide variety of sporting activities for females to choose from, and evidence of participants 'switching codes'. In particular there is

a new phenomenon that because females now have opportunities to play traditionally male-dominated sports, this is driving some changes from female-dominated sports to these traditional male sports. For instance interviewees commented:

I think our main challenge is always competing with definitely two, sometimes three or four different sports that girls are playing in the key ages of 11 to 14... we've got these aspirational [players] but some of those are playing other sports and there's always that threat of losing them to other sports when they move beyond 14. (Sport B, governing body regional officer, metropolitan)

[We] had a fairly high profile local player switch codes... she was the league's best and fairest winner...[and] played at a fairly high level and she jumped last year... she got a guernsey with [a team in the national competition] (Sport C, governing body regional officer, non-metropolitan)

The interviewees quoted above discussed the need for their organisations to better schedule participation opportunities so that girls are not forced to choose between the two sports. Representatives from other sports (e.g. Sport E) discussed the need to 'break away from the traditional timeslots' and extensive time commitments required to play competitions so that individuals could fit sport participation into their time-challenged lifestyles. There was also some discussion about addressing social norms and attitudes to female sport participation and inclusive club environments. For instance, representative from a male-dominated sport perceived that the sport was still not viewed publicly as being 'culturally acceptable' for girls (Sport B, governing body regional officer, metropolitan); whilst another representative from the same sport felt that the main challenge was about supporting clubs and volunteers to change their culture 'to be more inclusive' of females (Sport B, governing body regional officer, non-metropolitan).

Organisational Factors

Challenges associated with organisational factors were associated with the sports club organisation and environment in terms of education, volunteers and club culture.

Representatives from a traditionally male-dominated sport with new opportunities for females noted that there was a need for specific education on coaching females and creating female-friendly club environments to support female sport participation.

we're getting a lot of coaches at the moment that have traditionally always coached the boys and now they're coming across to coach the girls and just understanding the differences between the boys and girls because we want to create environments and teams where the girls are comfortable and happy and enjoying themselves and I think that traditional football coach that's a bit hard and direct - yelling and getting frustrated - that's not what girls respond to.... (Sport A, governing body regional officer, non-metropolitan)

A representative from a mixed-gender sport also commented on the need for female-friendly education 'of our club committee around ensuring that they are catering towards girls and females.' (Sport E, governing body regional officer, metropolitan). Female-dominated sport representatives identified the need to develop quality coaches and umpires particularly to support player development into high-performance pathways.

Education related to injury prevention was specific to a male-dominated sport, whereby interviewees commented that 'we're getting a lot of girls and women who are just starting to play for the first time and they obviously haven't grown up playing the sport. So injuries are a concern...[and] we've been doing work [in this area] – we've had coaching forums... [with] coaches in female teams to say these are the priorities that you need to be teaching the girls and women' (Sport A, governing body regional officer, non-metropolitan).

Volunteer capacity was a common theme for several sports. A lack of volunteers was identified, particularly to cope with increased demand of females playing traditionally male-

dominated sports commenting ‘we’ve promoted to our clubs to have female team offering, [but] the number of [their] headcount workforce is still the same’ (Sport A, governing body regional officer, metropolitan). Other sports identified that the sport governing body was heavily reliant on the engagement of volunteers to recruit new participants and whilst recognising that they were making a generalised comment they stated ‘volunteers have been around for a long, long time. They’re used to it being done a certain way [e.g. competition format, programming] because this is how we’ve always done it’ (Sport E, governing body regional officer, non-metropolitan) and it may not align with the direction of the governing body. Others also commented that it is ‘making sure that those people are still engaged and passionate to drive [the sport’s participation]’ (Sport C, governing body regional officer, non-metropolitan) and that its ‘something that’s quite new and for a lot of clubs scary because it means that they have to change their culture, which is a positive thing, to be more inclusive’ (Sport B, governing body regional officer, non-metropolitan).

Discussion

This study found that over a six year period sport participation levels increased for both males and females among five popular sports, however there were greater proportional increases in female participation compared to males in the youngest age groups. There were substantial increases in sport among females aged 4 to 9 years, which is the common entry age into organised sport through modified programs and general competition-structured formats.

There were almost four times as many 4 year-old girls and twice as many 5-9 year-old girls participating in these sports in 2016 than in 2011. From the age of 10 to the age of 55 there were modest increases in sport participation among females, before trending upward again in older adulthood. Previous research has shown that overall increases in club-sport

participation have been achieved by increases in junior membership and by the introduction of modified sports programs (Eime *et al.* 2009). The greater proportional increases in female participation, particularly at a young age (4-9 years) is likely influenced by the availability of ‘entry level’ sports programs which are not typically available for adolescents or adults. In line with previous research, these findings also highlight that as females age, their sport participation declines and their retention into adolescence and adulthood remains a challenge for community-level sport. It is possible that some participants are either playing multiple sports, particularly at young ages (i.e. the sport sampling phenomenon) and/or ‘code-hopping’ between sports. Code-hopping between sports, whilst not an entirely new concept, is a growing phenomenon influenced by new opportunities for females to play male-dominated sports, which may be the preferred choice of some females who previously played other sports. Therefore, to better understand these nuances in participation demand and inform the supply of sport infrastructure and delivery we need to better monitor sport participation to determine these population trends and changes.

Across the lifespan the overall rate of growth in sport participation in the five sports for females (average annual change 1.8%) was slightly lower than that for males (average annual change 2.0%), but greater than the rate of change in the Victorian population (average annual change 1.1%). The overall rate of growth was particularly high for females between the ages of 4-9 and there was growth in sport participation for females between 50 and 84 years, which appears to be an encouraging trend. However, female club sport participation in these sports is still much lower than that of their male counterparts. For instance, females account for less than a quarter (22.7%) of participants at the age of 4 and almost a third (32.4% and 37.7%) of participants at ages 5-9 and 10-14 years respectively. These sport participation comparisons between males and females were similar across the lifespan, with the exception of adults aged 65-74 years, where the proportion of females to males was more

likely to be equal (45.6% and 47.3%). We acknowledge that these trends may be influenced by the type of sport, with one female-dominated sport and two male-dominated sports included in the sample. Until recently, the male-dominated sports had limited opportunities for females to participate in club-based sport at the community level; particularly beyond their modified sports programs for children aged 5-10 years. In addition, the time period investigated extends to only the year 2016, which is the year gender equality sports policies were introduced by government and sporting organisations. As evidenced by other policy initiatives such as those regarding smoking (Thomas *et al.* 2008), policy change often takes several years, or more, before population level changes in behaviour are observed. Also, policy initiatives can have different effects on groups with different demographic and socioeconomic characteristics (Thomas *et al.* 2008). It is anticipated that future research that monitors these club sport participation trends would show further improvements to female club sport participation levels as opportunities for females to play male-dominated sports increase. Therefore, it is critical to understand the future challenges sporting organisations face to continue to improve female sport participation rates.

Trends in female club sport participation was only one component of this study and provides information for policy makers and sporting organisations on the overall ‘demand’ for community level sport specifically for females. We also explored the future challenges sporting organisations face in terms of female sport participation to understand organisational and community factors influencing female sport participation. Many of the future challenges related to issues associated with the ‘supply’ of community level sport such as sports facilities/infrastructure and the volunteer workforce to deliver sport.

Sport infrastructure was a key theme that emerged from discussions with representatives from sporting organisations who had observed increased sport participation demand through female-specific sport policies, programs and new competition opportunities.

Participants in the present study reported that sporting infrastructure has not been developed to accommodate the growth of participants, particularly young female participants (e.g. 12-20 years) involved in team sports, and especially among traditionally male-dominated sports which have new opportunities for females to participate regularly. Better provision of sporting infrastructure has been associated with increased sport participation (Eime *et al.* 2017). However, the type of sport infrastructure demands have been shown to be different for males and females and change over the lifespan, with young people preferring team sports or more intense sports, whereas seniors prefer health-orientated sports (Wicker *et al.* 2009). It has been suggested that in planning sport infrastructure, government must consider the changing nature of sports throughout the course of life (Wicker *et al.* 2009) and hence current and future demographic characteristics of communities. Population projections are particularly important as sport infrastructure development and upgrades are expensive and are not a 'quick fix' solution.

It is also important to consider the availability and quality of sport infrastructure (e.g. playing surface, change rooms) when promoting specific types of sports, especially sports with new and/or emerging user groups or participants, as the availability and quality of infrastructure may impact on their experience and future participation intentions. For instance, adolescents (e.g. 12-15 years) from less affluent families and those with no prior sport participation or who have only played school sport have higher sport participation constraints including those associated with the quality of the sport facility (Casper *et al.* 2011). Young people living in low socioeconomic areas have also reported greater environmental constraints relating to proximity, cost, facilities and safety (Humbert *et al.* 2006). The findings of this study extend these findings, highlighting implications in terms of the availability of sport infrastructure. There is a need to address participation barriers relating to the traditional programming of sport, such as competition times and the extensive

time commitments required to play. Furthermore, some interviewees in this study recognised the need to consider facility usage in terms of scheduling sports programs and competitions, although few discussed gender equity through scheduling to create female-friendly facilities, such as sharing peak time slots of facilities between male and female programs. Therefore, in addition to population projections to inform sport infrastructure development and upgrades, benchmarking of sport facilities is another important strategy to inform evidence-based decision making of sport infrastructure development and upgrades (Taylor and Godfrey 2003). This involves understanding access by specific user groups, finance (e.g. subsidy, cost and income performance), utilisation (e.g. overall usage), and satisfaction and importance (e.g. extent users are satisfied with facility attributes and how important these attributes are to them) (Taylor and Godfrey 2003).

In terms of delivery of a sport service, such as sports programs and competitions provided by sporting clubs, the quality of the physical environment (e.g. female-friendly change rooms) is one dimension of service quality (Smith and Stewart 2015). Participants involved in delivering and receiving a sport service (e.g. sport volunteers, participants/members) and processes involved in delivering a sport service (registration, coaching, injury prevention) also influence the quality of the service. In this study, participants and processes associated with the sport club environment were identified as future challenges to improving female sport participation rates. First, the quality of ‘female-friendly’ coaching was identified among male-dominated sports, but also gender-neutral sports, possibly since sports coaching in general is still male-dominated in Australia, with 57.5% of those who identify themselves as coaches, instructors or teachers of sport being male and 42.5% female (Australian Bureau of Statistics 2010). Coaching feedback and motivational climate have been identified as important contributors to adolescent females’ continued motivation to participate in sport (Weiss *et al.* 2009). For instance, greater positive

(e.g. nice pass) and informational feedback (e.g. you had good ball control) given by coaches in response to successful performance attempts, along with greater emphasis placed on mastery (e.g. effort, persistence and improvement) and less emphasis placed on performance (e.g. comparisons with others) were significantly related to greater ability perceptions, enjoyment and intrinsic motivation among adolescent females (Weiss *et al.* 2009).

Second, volunteer capacity to cope with increased participation demands was identified as an issue, particularly among the male-dominated sports that were experiencing increases in participation by females. Historically, the overall participation rate in volunteer sport coaching positions has remained fairly stable, with 3.7%-4.0% of the population identifying as a coach, instructor or teacher during the period 2001-2010 (Australian Bureau of Statistics 2010). In addition, sport policy regarding gender equity has tended to focus on increasing female participation on the field and not females in coaching roles. As a consequence, female coaches are under-represented, particularly at the elite level, and this has been identified as an area for improvement in Australian sport (Australian Sports Commission 2017a).

Volunteer capacity was also discussed from the perspective of volunteers' ability to implement strategies to recruit and retain females. In a study on recruiting and retaining girls in table tennis, Rowe *et al.* (2017) found that 'girls participation issues were often seen as beyond the control of clubs and perceived as a product of societal constraints rather than club action' (p.7). Female-friendly guides to assist community sports clubs and governing bodies deliver more gender equitable and inclusive environments have recently been developed by governments (Sport and Recreation Victoria 2018), as well as some sports governing bodies, particularly those with financial and human capacity to respond quickly towards new sport policy agendas (Casey *et al.* 2012). Government and sports governing bodies, however, are reliant on community level sports clubs to familiarise themselves with these resources and

then devise and implement recommended strategies. It must be acknowledged that these resources are relatively new and it was not within the scope of the present study to understand club awareness or use of female-friendly guides. The study did identify that creating female-friendly coaching and club settings were key priorities for sporting organisations, but that club culture and volunteer capacity (e.g. knowledge, skills) needed to be developed to support implementation of female-friendly strategies at the grassroots level. This supports the premise of Rowe et al., (2017) that there are challenges to club capacity and organisational culture in devising and implementing strategies to recruit and retain females.

Conclusion

Female sport participation levels increased over the six year period (2011-2016), with greatest proportional increases among young sports adopters (4–9 years). However, the retention of children in sport throughout adolescence and adulthood still remains a challenge for the sector. The key challenges for community level sport to accommodate female sport participation growth were the availability and quality of sporting infrastructure and volunteer capacity in terms of both human resources to deliver sport programs/competitions and organisational capacity to recruit and retain females. Creating female-friendly environments was also a key challenge for community level sport to better engage and retain females. The findings of this study highlight some practical implications for sport policy makers and sporting bodies to consider when developing policies to encourage female sport participation. These include:

- Monitoring population levels of sport participation; including the nuances in participation demand (e.g. multiple sports participation or sampling and code-hopping between sports).

- Modelling to inform sport infrastructure development to meet current and future sport participation demands. This would involve understanding the demographic characteristics of communities and the changing nature of sport participation over the lifespan and by gender. Further, benchmarking sports facility performance would assist inform evidence-based decision making of sport infrastructure development and upgrades.
- Increasing volunteer capacity to meet participation demands, with particular focus on increasing the volunteer workforce, improving female-friendly coaching and female coaching opportunities, as well as building the capacity of volunteers to better recruit and retain females in sport.

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Table 1: Description of sports

Sport Code	Description
Sport A	Traditionally male-dominated sport, with new opportunities for females
Sport B	Traditionally male-dominated sport, with new opportunities for females
Sport C	Traditionally female-dominated sport
Sport D	Mixed gender sport with opportunities for both males and females
Sport E	Mixed gender sport with opportunities for both males and females

Table 2: Characteristics of LGAs and interview response rates

Region	Population (2016)*	SEIFA (2011)	Number of Interview participants (response rate)			
			Local Government	SSO Regional Officer	SSO Inclusion or Special Project Officer	Local Sports Associations or Clubs
Non-metropolitan	21,359	946	1 (100%)	5 (100.0%)	-	3 (42.9%)
Metropolitan	134,511	983	1 (100%)	5 (83.3%)	-	2 (33.3%)
Victoria			-	-	2 (100.0%)	-

*Data drawn from Estimated Resident Population, by Local Government Area – June 30 2016

Figure 1. Ratio of change in club sport participation for five sports between 2011 and 2016: by sex

Figure 2: Female club sport participation in 2011 and 2016: by age

Figure 3: Female sport participation rate by age and region in 2011

Figure 4: Female sport participation rate by age and region in 2016