Sport policy and practice: Why a focus on retention is required for both health and performance

Rochelle Eime (✉ r.eime@federation.edu.au)

Communauté d'Universités et d'Établissements Lille Nord de France

Melanie Charity

Federation University, Australia

Hans Westerbeek

Victoria University

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Abstract

Background: Australia like many developed countries is largely an inactive nation. Participation in sport, a form of leisure-time physical activity, can contribute to a range of individual and community health benefits. National sport policy often has a dual focus on population-based participation, and elite performance. Whilst there are various sport models depicting the pathway to elite, there has been no strategic population-level sport participation pathway model developed as a guide towards increasing sport participation across the lifespan. The aim of this study therefore is to explore sport participation across the lifespan and develop a neutral model that does not favour community or elite sport and that highlights the critical participation transition points including drop-out.

Methods: We conducted a longitudinal analysis of sport participation records for 8 major sports from 2015-2017, whereby individual participation within sports was tracked from 2015 and subsequent years 2016 and 2017.

Results: The total number of participants analysed was 579,696. In 2017, sport participation rates were highest for those aged 10-14 years (61.3%), followed by those children within the 5-9 year age group (51.7%). However, 44.7% of all participants dropped out within two years of the base year. From these participation rates across the lifespan in conjunction with the published literature, on sport policy and participation, we developed the Sport Participation Pathway Model (SPPM). The SPPM depicts current sport participation and in doing so emphasises the significant drop-out of sport across the lifespan.

Conclusion: At a population level, competitive club-based sport alone is not going to solve the physical inactivity epidemic. Our SPPM, and the new (retention related) data presented in this paper, demonstrates the population trends in participation in sport and the high drop-out of competitive club-based sport. We suggest that for people to (eventually) become active sport participants, the (recruitment) narrative could be changed towards (first) engaging people in leisure time physical activities. We feel that this can only be done by developing an integrated policy system across the PA-sport spectrum rather than looking at sport participation in a closed (club-based) system. The SPPM can be used to developing a more integrated PA-Sport participation model.

Background

Inactivity and health

Australia, like many developed and developing countries is largely an inactive nation, with the majority of people not meeting the physical activity (PA) guidelines for health. A recent Commonwealth Government report notes that only 26% of children (5-12 years), 8% of adolescents (13-17 years) and 45% of adults met the PA guidelines in 2017-2018 (1){Australian Institute of Health and Welfare, 2019 #5278}. As a consequence, overweight and obesity are now the leading risk factor for ill-health in Australia{Australian Institute of Health and Welfare, 2019 #5278}. The epidemic of physical inactivity is associated with a range of chronic diseases and early deaths which puts extreme pressure on the health care costs (2).

There are range of ways the people can be physically active including through transport, home, work and/or leisure-time activities (3). There are three aspects specific to leisure-time PA that people can choose to do (generally for enjoyment), which are defined as the type, mode and setting (4). 'Type' refers to the specific activity (e.g. football, walking, swimming). Different 'modes' of participation include team sports (e.g. football, cricket and netball), individual sports (e.g. tennis, athletics and triathlon), organised but non-competitive PA (e.g. cycling and running groups), and non-organised or informal PA (e.g. going to the gym or going for a walk). 'Settings' of participation include organisational settings, such as schools, clubs or leisure centres, and neighbourhood settings such as home, street or park (4).

Role of sport and health

This paper is going to consider participation in sport, a form of leisure-activity that is largely organised, such as through sports-clubs, and is often competitive (4). Beyond the proven physical health benefits, there is increasing evidence that leisure-time PA, and more specifically participation in sport, can be associated with improved mental and social health. Within the domain of organised sport, team-based sport can deliver better results compared to individual based physical activities, and this is largely due to the social nature of participation (5, 6). There is also evidence of different health benefits of participation in sport across the lifespan, with children and adolescents participating in sport having improved self-esteem, social interaction and fewer depressive symptoms (6). Furthermore, longitudinal participation in sport for children has been found to be associated with fewer internalizing problems and better prosocial behaviour than those not participating in sport (7). For adolescents, participation in sport can result in reduced psychological distress and specifically lower social anxiety symptoms and loneliness (8). For adults, the benefits of participation in sport are mainly general wellbeing as well as reduced distress and stress (5). For older adults, the main health benefits are improved social health, as sport provides a sense of belonging and opportunity to

socialise (9). Similarly, participation in community group physical activities for older adults can improve social wellbeing, especially following significant life events such as retirement, or moving house (10).

Role of sport for academic achievement

In addition to the wide-ranging health benefits of PA and more specifically sport, there has been recent attention internationally, to the role that PA can have on childrens' and adolescents' academic performance (11-13). The link between PA and academic performance is also acknowledged in the current Australian national sports plan, Sport 2030 (14).

Sport policy

National sport policy drives the associated sports organisations own strategic plans, policies and practices which filter through to local community sports clubs. These have a dual focus of community-level population-based participation and at the other end of the participation spectrum, elite performance. At the community level, sport policies are about encouraging people to be active through sport and engage in PA throughout their lives to build and nurture healthy individuals and communities. Further, the policy is about increasing the number of people active through sport and PA. The current Sport Australia priorities are now to: build a more active Australia, achieving sporting excellence, safeguarding the integrity of sport; and strengthening Australia's sport industry (14). Following these strategic priorities are specific targets that should lead to outcomes of: improved physical health; improved mental health, personal development; strengthening communities and; growing the economy (14). These are nearly identical to outcomes of Sport England: physical wellbeing; mental wellbeing; individual development; social and community development; and economic development (15).

Sport has recently been more broadly defined in Australian policy language and as such is more in line with definitions used in Europe and specifically by Sport England. This change, from sport being traditionally competitive and club-based, now encompasses "a broad range of physical activities including informal, unstructured activity such as walking, riding, swimming and running as well as the traditional, structured sport and new and evolving sport and PA offerings such as mixed martial arts, "ninja" style obstacle courses and stand-up-paddle boarding." (p.6) (14). As outlined earlier in this paper, the rationale for striving to increase PA levels across the whole of the population is underpinned with strong evidence of ill-health resulting from inactivity, and the economic (and increasing) burden of chronic disease in Australia is directly linked with physical inactivity (14).

Various models that all focus on elite outcomes

To this day, there has been no strategic sport participation pathway model has been developed as a guide towards increasing sport participation across the lifespan. Most sport participation models or frameworks were, and are, developed as talent development pathways. However, very few sport participants become internationally competing athletes. These models rarely seriously consider population-level participation in sport and other leisure-time PA, nor consider changes in participation across the lifespan.

Historically sport policy development has been driven by moving mass participation into elite sporting success. For example, the Standard Model of Talent Development (SMTD) is based on the old, yet still utilised pyramid model of sport development. The SMTD model published in 1993 Tinning, Kirk (16) depicts a school sport and physical education hierarchy with physical education at the broad base and national titles at the top. An adapted model is presented in Figure 1 (17). The authors refer to it as a performance (talent) pathway model, therefore referring to elite development and performance. It depicts the broad base as the foundation of skill development and fewer and fewer people are represented up the triangle as the levels of performance (and talent required) increase (17). A criticism of SMTD articulated by Bailey and Collins (17) is that it focuses solely on progressing those identified as talented ignoring the majority of sport (17). A further criticism about the SMTD, is that it conceptualises development and performance in sport as simple and linear, and that is presumes that successful progression from one level to the next is indicative of ability (17).

Insert Figure 1 about here

Another sport participation pathway framework is the FTEM framework (18). The FTEM represents the Foundations, Talent, Elite and Mastery, with three of its four stages focusing on talent and elite development and mastery. This framework also identifies the foundations of learning and the acquisition of basic movement. There are three foundation phases and then four talent phases, before two elite phases and one mastery phase which represents sustained elite success. The FTEM does depict that people move out of the FTEM and can then engage in an active lifestyle and/or sport.

A third model of sport participation is the Developmental Model of Sport Participation (DMSP), which again is an athlete development model (19). Specifically, the DMSP is based upon both theoretical and empirical data and discusses the development of sport ability

through childhood and adolescence (not the lifespan!) and focuses heavily on participation and early diversification before specialisation. Whilst this model focuses on athlete development it does consider that throughout childhood and adolescence the less talented and/or ambitious can continue to play at a recreational level (19). Its focus, however, is on athlete development and the requirements to achieve international success (19).

Rather than criticising these player development pathway models on their incompleteness, we acknowledge that they represent talent development and elite player pathway models and are about the journey from novice to elite athlete. However, how many people playing sport as a child will become successful elite athletes? Further, what are the actual sport participation trends across the lifespan?

Sport participation trends

There is a body of research highlighting that there are critical transitional life stages related to drop-out or retention in sport and physical activity (4, 20). Further the participation patterns at these transition stages often differ between sport and other leisure-time physical activities. There is consistent research that older adolescents shift their participation away from organised, competitive sport and towards non-competitive modes and settings and individual types of PA (4).

Community-level sport policy, in Australia at least, has been driven by an overriding objective of increasing participation numbers. As a consequence, national sporting organisations (supposedly) prioritise increasing participation. Hence, being the leading participation sport is generally one of three goals, the others relate to elite success and fan engagement. Examples include tennis, netball and cricket:

- Tennis Australia's objectives are: more active players, more great champions, more devoted fans and healthier communities (21).
- The vision for Netball Australia is to be Australia's leading team sport. This is underpinned by an objective to be ranked the number one participation sport in Australia, as well as growing broadcast audience, success of the elite competition as the world's number one women's sport league, and be the world's number 1 ranked netball team (22).
- The vision of Cricket Australia is to be Australia's favourite sport, a sport for all Australians. The three pillars for achieving this are fans – number 1 for fans; participants and volunteers – number 1 for participation and; elite players and teams – number 1 in all formats (23).

It can be derived from these examples that community-level sport policy in theory is measured by annual sport participation numbers. With such a focus on achieving increasing numbers, sports have commonly concentrated their strategies on input measures. For example, to meet objectives a strong emphasis has been placed on expanding the market by including ever younger participants in an effort to add to total participation numbers (24, 25). At the younger ages, modified sport programs have been created that attract a large group of new participants, especially males at the pre-school age (aged 4-5 years) (26). However, recent research shows that in a four-year period, in a study of 209,336 children, more children withdrew from modified sport programs rather than transition to club-competition (26). Across all ages from 4-12 years fewer than 25% of females and fewer than 14% of males transitioned from a modified sports program to a club-competition within a 4-year period. In a different study Eime et al. concluded that the optimum entry age for transition from the modified sport to club competition was 7-9 years (24).

The trends of participation throughout childhood and adolescence in particular, are confounded by sampling and specialisation phenomena (27). That is, that children and adolescents often sample sport, whereby they play multiple sports before specialising in fewer or even one sport only. Therefore, by using official participation records across sports and combining the data for analysis and reporting, some participants would be counted multiple times if they play multiple sports (28). However, a recent study of 907,150 participant records for 11 major sports used demographic data to achieve more accurate matching across sports to identify the number of individual players within the sport cohort (27). The results showed that the effect of sampling or people playing multiple sports was highest for ages 5-14, after which this number diminishes as specialisation increases. Furthermore, the study confirmed that after adjusting for this change in behaviour, the drop-off in community-level sport participation during adolescence is real and not simply an artefact of sampling/specialisation behaviour (27).

Australian sport policy makers acknowledge that participation in sport and the role that sport plays in the Australian society has changed, and will continue to evolve (14). There is increasing evidence of a shift from traditional organised and competitive club-based sport to less structured, non-competitive and individual forms of sport and PA (4, 29-31). A ten-year study of leisure-time PA in Australia highlights that whilst participation in leisure-time PA increased over the decade, participation in club-based sport did not (30). Market segmentation research also highlights that children and adults have different attitudes towards participation in sport and PA, and that for most, participation in club-based sport is not of interest (32, 33). In addition, further demographic breakdowns of participants in sport and non-

sport PA indicates that sport is not for everyone, and that people who were female, older, married or had a disability were less likely to participate in sport (34).

In the context presented in this paper so far, we argue that (at least in Australia) community-level sport strategic priorities, and therefore practices are driven by sport policies that are plat-formed on elite development pathways and in order to feed this system, focus on the number of club-based sport participants. The aim of this study therefore is to explore sport participation across the lifespan and develop a neutral model that does not favour community or elite sport and that highlights the critical participation transition points including drop-out. The model that we will describe as the Sport Participation Pathway Model (SPPM) will offer a holistic starting point to (re)focus sport policy and practice.

Methods

We conducted a longitudinal analysis of sport participation records for 8 major sports from 2015–2017, whereby individual participation within sports was tracked from 2015 to subsequent years 2016 and 2017. The data for this analysis were collected and analysed as a part of the longitudinal Sport and Recreation Spatial (www.sportandrecreationspatial.com.au) program of research and have been published in detail previously (28, 35).

The current study analysed data for registered players of 8 major sports: Australian rules football, basketball, cricket, football (Soccer), golf, gymnastics, netball, and swimming, between the years 2015 and 2017, who were aged 4–29 in 2015 and lived in Victoria. The base year for this study was 2015, where a participant must have been playing the sport in the first year to be part of the analysis. The participants were then followed over the next two years (2016–2017), with their pattern of participation categorised as one of: Drop-out (2015 only), Continuous (2015–2017), or Discontinuous. This final group either left the sport and came back after a break, or left after two years without playing all of the years. Participation profiles for players in five-year age cohorts (4–29) were produced.

Results

The total number of participants used in the analysis was 579,696. Participation in sport in 2017 was highest within the 10-14 year age group (61.3%), followed by those children within the 5-9 year age group (51.7%) (Table 1, Figure 2). We found that 44.7% (n=259,355) of sport participants dropped out of the sport within two years of the base year. Those who played continuously for three years were 50.8% (n=294,519) of the total players. Drop-out was highest amongst those playing at the youngest age (four year olds) in 2015, where 56.9% (n=8,425) of those aged four and playing in 2015 were not participating in the sport in 2017 (Figure 3). In this age group, just over a third (36.4% n=5,389) played the sport continuously for the three years. The age cohort with the lowest drop-out of players were those in the 10-14-year group in 2015 where 39.3% (n=76,022) players did not continue playing for the three years.

Insert Table 1 about here

Insert Figure 2 about here

Insert Figure 3 about here

From these participation rates across the lifespan in conjunction with the published literature, on sport policy and participation, we developed the Sport Participation Pathway Model (SPPM). The following provides a background to the development of the SPPM.

Most sports collect annual participant registration data, and when government funding through sport policy is to increase total numbers, sport organisations will focus on that measure. We have demonstrated earlier in this paper, that most sport participation models focus on the elite pathway but that only very few will be elite athletes, and most people will drop-out of active sport participation at some point in time. Beyond the participation models that are geared towards elite sport pathways, we require a model that focuses on the population as a whole, that identifies transitions in and out of sport and PA. This will provide policy makers with a holistic (across the lifespan) view to assist in the development of strategies towards higher levels of PA across the population. In Australia, for example, this would better facilitate Sport Australia's aim to be the world's most active, healthy and sporting nation (14).

The SPPM depicts current sport participation and in doing so emphasises the significant drop-out of sport across the lifespan (Figure 4). Furthermore, when progressing through the model, the issue of (poor) retention is clearly visible, and its absence from most sport policy

exposed. Secondly, the new longitudinal sport participation data presented in the results of this paper demonstrating the significant drop-out rates.

Insert Figure 4 about here

The Sport Participation Pathway Model

The SPPM is not designed to identify or address the key barriers to participation in sport across the lifespan as they have been articulated previously (9, 36). Rather, it seeks to comprehensively map the total market for sport participation across the lifespan, and what are the critical transition points including drop-out.

During the pre-school years children should be participating in or be active through non-organised play, and non-organised sport. There is evidence that many pre-schoolers (aged 4-5 years) participate in modified club-based sport (24, 26). Nearly, a quarter (24%) of Victorian children aged 4 play one of 11 major sports (27). However, many drop-out before they transition to club-based competition (24, 26). Results of this and other research has demonstrated that the optimal age of entry into modified sport participation for continued participation and transition into club-based competition is between the age of 6-9 years (24, 26).

Through early school years (ages 5-9 years) participation in modified club-based sport is very popular with over half of males and females aged 5-9 participating in one of 12 major club-based sports (37). Children are also active through non-organised PA or free-play and more likely to participate in free play than organised sport {Cairney, 2017 #4923}. Within schools, children have the opportunity to play sport through school in either formal sport competitions or physical education. From the ages of 10-14 years approximately half of children play competitive club-based sport {Eime, 2019 #5281} and many of these have transitioned from participation in a modified sports program (24, 26). However, many also drop-out of sport, but there is no research highlighting the enormity of this issue. During these years, children can also be active through non-organised activities and in school activities.

During late adolescence (ages 15-19) there is a significant decline in participation in club-based sport in 2017, and there is much evidence supporting this decline, which is more pronounced for females than males (27, 38) (Figure 2). As represented in the SPPM (Figure 3) the elite represents a very small proportion of sport participants.

Children can transition from modified-sport to club competition, and in Australia the far majority of club-based sport for children is traditional club-competition. 'Organised-social-recreational' sport which is light blue in the SPPM, is largely an underdeveloped offering for that segment of the market, except for an increasing number of social-recreational programs for adults which would fit into this category, such as Rock-up-Netball, bowling with babies, J-ball social hockey, and cardio-tennis. In 2017, from the ages of 20+ few adults, and fewer older adults participate in club-based sport {Eime, 2016 #4705;Eime, 2016 #4413} (Figure 2). People drop-out of sport at any age, but with current sport policy focusing on total participation numbers, the actual extent of drop-out across age groups has been unknown and sport organisations have not been incentivised to retain participants.

Discussion

This study uniquely uses census level community club-based sport participant data of a large population (n = 579,696), and demonstrates the significant issue of drop-out in sport. Nearly half (45%) of the sports participants aged 4–29 drop out of participating in their sport over a two-year period. The data provides clear evidence of a significant issue in regard to sport participation retention and drop-out. From this data and the published literature on sport policy and participation we developed the SPPM to further highlight the critical participation transition points across the lifespan, and what are the resulting sport participation retention and drop-out patterns.

The SPPM visualises the patterns of participation in organised, non-organised sport and social and recreational activities across the lifespan and displays the issue of drop-out in sport. It clearly highlights that participation in club-based competitive sport is popular for children, however very few adults participate in this form of sport. Our model extends beyond the scope of other participation models with a focus on the talent development pathway, showing that few make it into elite sport and that the majority of the population is not participating in organised sport, and of those that do play, the majority drop-out. To capture this majority cohort and facilitate them into more active lifestyles, other policy mechanisms will have to be enabled.

Sport is still largely stuck in a traditional (Northern European inspired) club-based competitive structure (39). The data and model provided in this paper, in addition to previous research, underpin a case that sport in the traditional club-based structure does not cater for the

broader population (28–30). Firstly, historical and current sport policies focus on increasing numbers, and do little to assist increasing participation at a population level. We argue that sport policy should actually more focus on retention strategies. Secondly, sport governing bodies need to recognise that organised and competitive sport, in its current dominant format of offering, does not appeal to the majority of the market past early adolescence. A focus towards retention may deliver two distinct outcomes. Firstly, it is a commonly known fact in consumer marketing that it is much cheaper to retain existing customers than it is to recruit new ones. Secondly, with a strategic focus on retaining customer's forces senior management of the organisation to better listen to the needs, wants and desires of its current customers. To better deliver on their demands leads to higher lifelong customer value and loyalty, in turn leading to a higher likelihood of remaining involved with the sport(ing club) in various capacities other than being an active player.

As noted in the previous paragraph, governing bodies and sport clubs have to become smarter and more strategic in their marketing and service offering focus (28, 32, 33). With the evidence presented in this paper about transition points during the early life-stages and the type of sport offerings (potential) participants want, the extent and duration of their membership-based involvement can be intensified and prolonged. However, it needs to be recognised that sport is not for everyone, and only for a few there is continuous participation throughout their lifespan (28, 30, 35). As we started this paper with the observation that the problem at the population level is chronic physical inactivity, it can be noted that dropping out of sport is not the real problem, but failing to remain physically active is. Retaining participants in sport will contribute towards more people staying active for longer.

It has been shown that both in numbers and proportion of people who drop-out of sport, the current Australian competitive sports club model does not provide the infrastructure and services that are required to keep people in sport and is not yet equipped to fulfil newly envisioned objectives of Sport Australia that go beyond sport participation – to significantly reduce levels of physical inactivity. Although community sports clubs are increasingly pressured to produce a wider range of social and health outcomes, research highlights that volunteer-based sports clubs do not have the capacity and can therefore not be expected to extend beyond their core responsibilities and deliver a range of other services outside the scope and resource capacity of their organisation (40).

Rather than continuing to focus sport policies on increasing participation, the broader context of participation in sport could be moved towards offering or developing (sport-like) physical activities that match skill levels with task challenges. This may lead to higher levels of enjoyment which in turn increases the likelihood of more continuous involvement (5). Competitive sport (at all levels of competition) as a platform offers purpose for the PA, but sport is/can (be) designed to improve skill levels, work towards competitive events, and compare and contrast against the performance of others and oneself. However it needs to be acknowledged that competitive sport is not for everybody, and that some sports are harder to master (and therefore harder to enjoy) at a basic skill level than others. Therefore, to optimise enjoyment in sport participation at all stages of life, 'how to retain' participants naturally sharpens the focus of sport managers on the needs of the customer – the sport participants.

Conclusion

At a population level, competitive club-based sport alone is not going to solve the physical inactivity epidemic. Our SPPM, and the new (retention related) data presented in this paper, demonstrates the population trends in participation in sport and the high drop-out of competitive club-based sport. Internationally sport policies are starting to transition towards integrating sport in the leisure-time PA continuum which also extends sport beyond the traditional club-based system. We suggest that for people to (eventually) become active sport participants, the (recruitment) narrative could be changed towards (first) engaging people in leisure time physical activities. We feel that this can only be done by developing an integrated policy system across the PA-sport spectrum rather than looking at sport participation in a closed (club-based) system. The SPPM can be used to developing a more integrated PA-Sport participation model.

Those who manage and govern sport in Australia need to better recognise that club-based sport merely is one component of a range of leisure time physical activities. If sport is to have an increased impact on making Australians becoming more active, then the evidence about the participation patterns and significant drop-out should be used to justify a re-focus on retention. This may require an industry wide sport policy reform underpinned by the acknowledgement that people do drop-out out of sport and that many take up other non-competition forms of PA.

The reality is that sport policy focused on participation is rarely, nor critically evaluated. We recommend that the collection, analysis and reporting of longitudinal PA and sport participation data is expanded, to better serve policy evaluation and redirection. Our SPPM will be a useful objective model to do so.

Abbreviations

DMSP
Developmental Model of Sport Participation
FTEM
Foundations, Talent, Elite and Mastery
PA
Physical Activity
SPPM
Sport Participation Pathway Model
SMTD
Standard Model of Talent Development

Declarations

Ethics approval and consent to participate

Ethics approval was granted by the Human Research Ethics Committee of the Federation University, Australia, (C13-007) for secondary data analysis of de-identified sport participation data which had been collected by the primary data custodians.

Availability of data and materials

The data is not able to be shared due to confidentiality agreements with the primary data holder. Data is not sharable at all, even to researchers.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

RE and HW contributed to the study design, methodology, model development, interpretation of results, manuscript conceptualisation and preparation. MC data management, statistical analysis and interpretation, manuscript preparation. All authors have read and approved the final manuscript.

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Table 1

Table 1: Retention pattern by age

Participation pattern	Age range											
	4		5-9		10-14		15-19		20-29		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Continuous	5,389	36.4	91,918	50.1	112,060	57.9	41,689	44.6	43,463	46.1	294,519	50.8
Discontinuous	980	6.6	8,566	4.7	5,620	2.9	4,930	5.3	5,726	6.1	25,822	4.5
Drop out	8,425	57.0	82,991	45.2	76,022	39.3	46,803	50.1	45,114	47.8	259,355	44.7
Total	14,794	100.0	183,475	100.0	193,702	100.0	93,422	100.0	94,303	100.0	579,696	100.0

Figures

Figure 1: The Standard Model of Talent Development (adapted from Tinning et al. (1993).

Figure 1

The Standard Model of Talent Development (adapted from Tinning et al. (1993).

Figure 2. Participation rates, 2017, Victoria: by age

Figure 2

Participation rates, 2017, Victoria: by age

Figure 3. Retention pattern of registered players

Figure 3

Retention pattern of registered players

Figure 4: The Sport Participation Pathway Model (SPPM)

Figure 4

The Sport Participation Pathway Model (SPPM)