

SPORT PARTICIPATION RESEARCH PROJECT

SPORT PARTICIPATION AND RETENTION FOR CHILDREN 4-10 YEARS 2015-2020

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TABLE OF CONTENTS

01	<i>INTRODUCTION</i>	p 03
02	<i>KEY RESULTS</i>	p 04
03	<i>CONCLUSIONS AND RECOMMENDATIONS</i>	p 05
04	<i>METHODOLOGY</i>	p 06
05	<i>RESULTS</i>	p 07



INTRODUCTION

The Sport Participation Research Project has demonstrated that the largest decrease in sport participation during early COVID-19 (2020) was among the group of early sport adopters (ages 4-9) (Eime et al, 2022¹). Better understanding the participations trends of early sport adopters is critical. Therefore, the aim of this report is to provide participation trends for children aged 4-10, including retention and drop-out, from 2015 to 2020. This report also demonstrates the impact of COVID-19 on participation trends in early sport adopters and young children.

This report is based on combined data from six sports (Australian football, basketball, cricket, gymnastics, netball and football/soccer). A sport participant or player for a particular year is defined as an individual who was a registered participant of a Victorian sports club or program that was affiliated with one of the six State Sporting Associations (SSAs) during that year (calendar year or financial year, as defined by each sport), and resided in Victoria.

This report is in three parts, based on three related analyses of changes in participation.

- **Part 1** provides an analysis of the number of participants in each of the six years (2015-2020), broken down by gender and age. This shows **trends in participation** over time, including the effect of COVID-19 in 2020. The changes from each year to the next include the effects of both recruitment of new players into each sport and retention of existing players.
- **Part 2:** provides an analysis of the number of participants in each of the five years (2015-2019) who are retained in the sport in the following year, broken down by gender and age. This shows **trends in year-to-year retention** over time, including the effect of COVID-19 in 2020. This analysis separates the effect of retention from one year to the next from the effect of recruitment of new players each year.
- **Part 3** provides a six-year longitudinal analysis of participation patterns of the cohort of players who participated in 2015. This is based on tracking each individual's participation over the six-year period, and presents **a more complex picture of retention, dropout and churn patterns** for the 2015 cohort.

Results are reported by gender (male, female) and by age within each gender.

¹Eime, R., M. Charity, H. Westerbeek, A. Pankowiak, and J. Harvey, Sport participation in Victoria 2015-2020 and the impact of COVID-19 on participation: Research summary. Melbourne: 11.





KEY RESULTS

Participation trends pre-COVID 2015–2019

- More boys aged 4–10 participated in sport than girls.
- There were gradual increases in participation throughout the pre-COVID period (2015–2019).
- The increases were greater, both in absolute terms and proportionally, for girls than boys.
- In each year, for both boys and girls the number of participants increased with each year of age from 4 to 10.

This age disparity was more marked among boys than girls.

- For girls there were 55% fewer participants aged 4–5 and 25% fewer aged 9–10.
- For boys there were 75% fewer participants aged 4–5 and 15% fewer aged 9–10.
- Regarding year-to-year retention, compared to retention of players from 2018 into 2019, retention from 2019 into 2020 dropped, by around 40% for girls and almost 50% for boys.

Year-to-year retention trends pre-COVID 2015–2019

- Throughout the pre-COVID period 2015–2019, the numbers retained from each year to the next rose for both genders, but more strongly and consistently for girls than for boys.
- The percentage of participants retained stayed fairly constant over time at around 60–70%, with the rate for boys slightly higher than for girls.
- With few exceptions, in each year, for both boys and girls, both the number and the percentage of players retained increased with each year of age from 4 to 10.

Retention patterns 2015–2020 for the cohort of 2015 players

- 30% of girls and 25% of boys played a given sport for only one year (i.e. 2015) before dropping out.
- Only 18% of girls and 21% of boys played a particular sport for all six years.
- Most participants dropped out at some time during the six-year period and did not return to playing. The proportion was higher for girls (70%) than boys (63%).
- For girls, the percentage who played in all six years increased steadily from age 4 (8%) to age 8 (21%) and then plateaued from ages 8–10.
- For boys, the percentage who played in all six years remained steady (around 20%) across all ages. The percentage of boys who dropped out completely at some time during the six-year period steadily increased from age 4 (56%) to age 10 (63%).
- The percentage of those who dropped out and returned was greater for boys than for girls at all ages.

Impact of COVID in 2020

- COVID contributed to a drop in participant numbers from 2019 to 2020 of around 35% for both boys and girls.
- There were 59,382 fewer boys and 38,911 fewer girls playing these sports in 2020 than in 2019.
- There were large decreases in the numbers of both boys and girls and across all ages, with larger drops in participation in the younger age groups.



CONCLUSIONS AND RECOMMENDATIONS

Sport participation continues to be dominated by boys although girls' participation is increasing at higher rates than for boys.

Retention continues to be a challenge for sports, with around a quarter of participants only playing 1 year before dropping out. Retention is a bigger issue for girls than for boys. Children who start younger are more likely to drop out. Sport policy and consequent strategies should focus more on retention and not simply on recruiting new participants.

The participation numbers in Victoria were growing considerably prior to COVID-19. COVID-19 contributed to a substantial decline in participation numbers, primarily impacting the younger age groups (4-10 years). The pandemic also impacted the retention of players.

- In light of these results, it is advised that sports will need to consider the lack of opportunity that young children have had to develop and practice skills that contribute to developing their physical literacy. Having been deprived of sport and physical activity opportunities through community sport and schools, sport governing bodies and clubs may want to consider offering modified opportunities to make up for this lack of engagement.
- The long-term impact of COVID-19 is unknown. The patterns of pre-pandemic years may not be useful for decision making post-pandemic. Ongoing research will be required to monitor and understand patterns and trends of (non) participation in order to provide timely insights for the sport, government and health sectors.
- It is recommended that sports organisations focus on retention of players rather than simply increasing numbers each year.
- It is recommended that sports organisations consider how to re-engage children and youth in sport through other playing formats and opportunities (Eime et al., 2021)¹.
- It is recommended that sports do not prioritise recruitment of pre-school aged children as they are not developmentally ready and are likely to drop-out (Eime et al., 2015)².

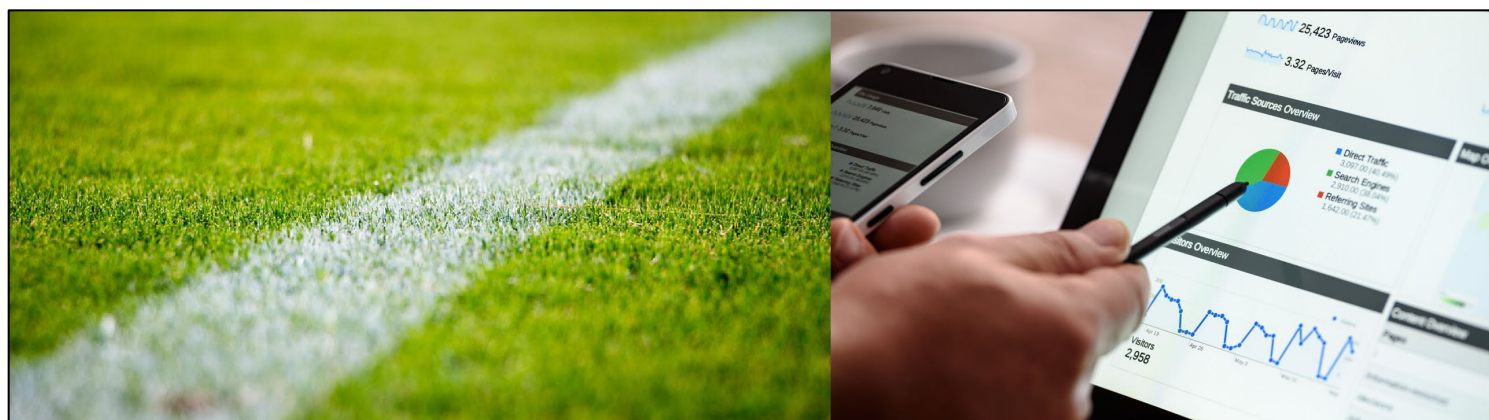
¹ Eime, R., Charity, M., & Westerbeek, H. (2022). The Sport Participation Pathway Model (SPPM): a conceptual model for participation and retention in community sport. *International Journal of Sport Policy and Politics*, 14(2), 291-304. <https://doi.org/10.1080/19406940.2022.2034913>

² Eime, R. M., Casey, M. M., Harvey, J. T., Charity, M. J., Young, J. A., & Payne, W. R. (2015). Participation in modified sports programs: a longitudinal study of children's transition to club sport competition. *BMC Public Health*, 15(1), 649. <https://doi.org/10.1186/s12889-015-2012-y>



METHODOLOGY

Registration data were provided by each of the six sports (Australian football, basketball, cricket, gymnastics, netball and football/soccer) for each year from 2015 to 2020. Participant details included a unique identifier (ID), gender (girls and boys) and age on the date defined by each sport for that year.



- **Part 1** involved aggregating the data from the six sports for each of the years to obtain total numbers, of participants/ players.
- In **Part 2**, for each year in turn, and for each sport, each participant was classified as either: retained, if they also participated in that sport in the following year; or dropped out, if they did not participate in that sport in the following year. The tracking of individuals within each sport was based on the unique identification codes allocated by the sport organisation. The number retained in each sport were then aggregated. The time scope of Part 2 is five years 2015-2016 to 2019-2020. Since 2020 was the last year of data available, the retention/dropout status of players at the end of 2020 could not be determined. Aggregated retention data are presented as numbers of players retained and percentages of all players retained, broken down by gender and age.
- In **Part 3**, for each sport in turn, the cohort of participants registered in 2015 were tracked over the period 2015-2020. Again, the tracking of individuals within each sport was based on the unique identification codes allocated by the sport organisation. Each participant was categorised according to their longitudinal pattern of participation. The numbers in each category were aggregated across the six sports, and the aggregate data presented as numbers and percentages in various categories, broken down by gender and age.



RESULTS

Part 1: Trends in participation 2015-2020

Figure 1 shows total participation in the six sports, by gender, for the period 2015–2020. In 2015, there were almost twice as many boys as girls playing these particular sports. The numbers rose for both genders, more strongly for girls than boys, until 2019, and then in 2020, dropped by over a third (35%) for both girls and boys.

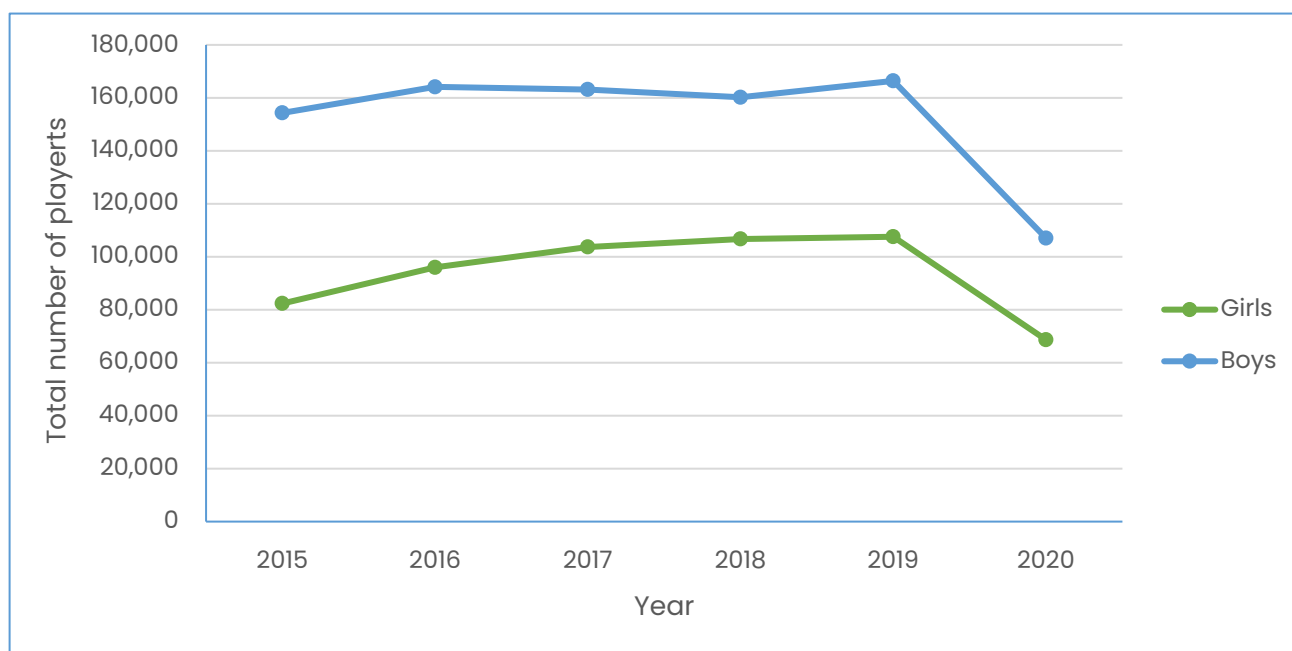


Figure 1. Total Participation in six sports 2015–2020: by gender

Figures 2 and 3 show age breakdowns of participation, for girls and boys respectively. For both boys and girls, the numbers of players increased with each year of age from 4 to 10. The magnitude of the differences diminishing with increasing age. For girls, participation numbers increased steadily from ages 4 to 7, whereas for boys there was a large increase from age 4 to age 5, with much smaller increase above age 5.

For girls, participation grew between 2015–2017 for all ages. In 2018–2019, participation continued to grow for those aged 4–6 years, but numbers plateaued for ages 7–10. For boys, the highest growth in participation occurred between 2015–2016, among the oldest groups (ages 7–10). In 2020, numbers fell sharply in all age groups, with proportionally larger falls in the younger age groups – around 55% for ages 4–5 and 25% for ages 9–10.



For boys, the sharpest falls in 2020 were among the youngest groups, and they were larger falls than for the girls in both absolute terms and proportionally – around 75% for ages 4-5. Conversely, for the oldest age groups, the proportional falls were less than for the girls – around 15% for ages 9-10.

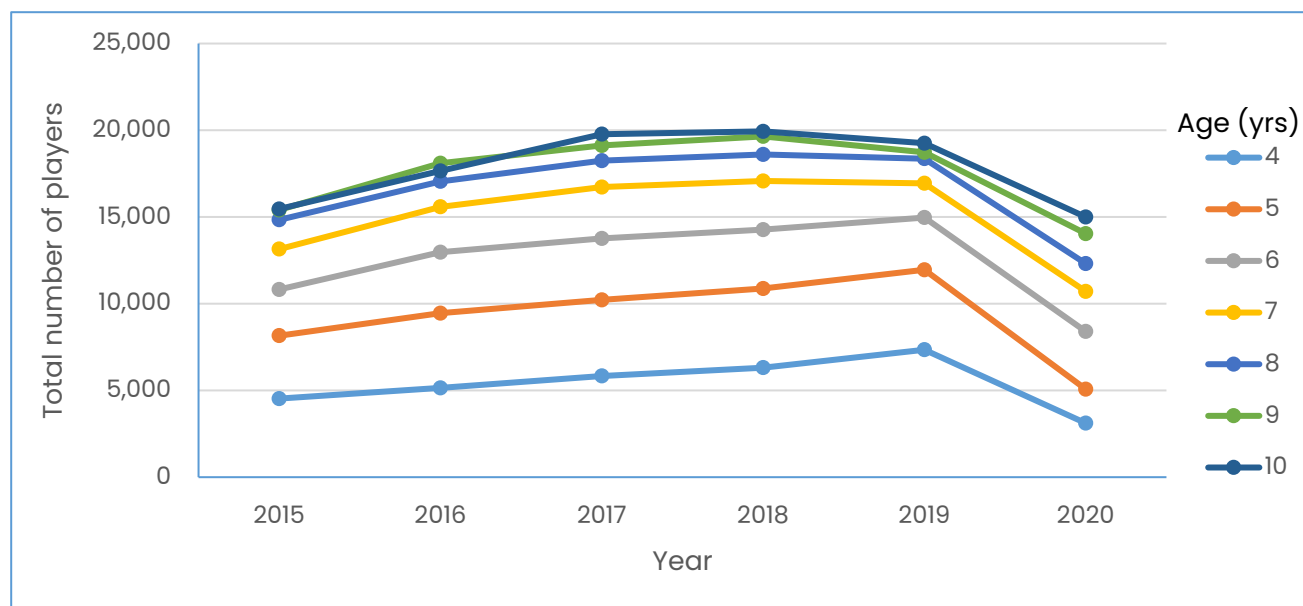


Figure 2. Girls' participation in six sports 2015-2020: by age

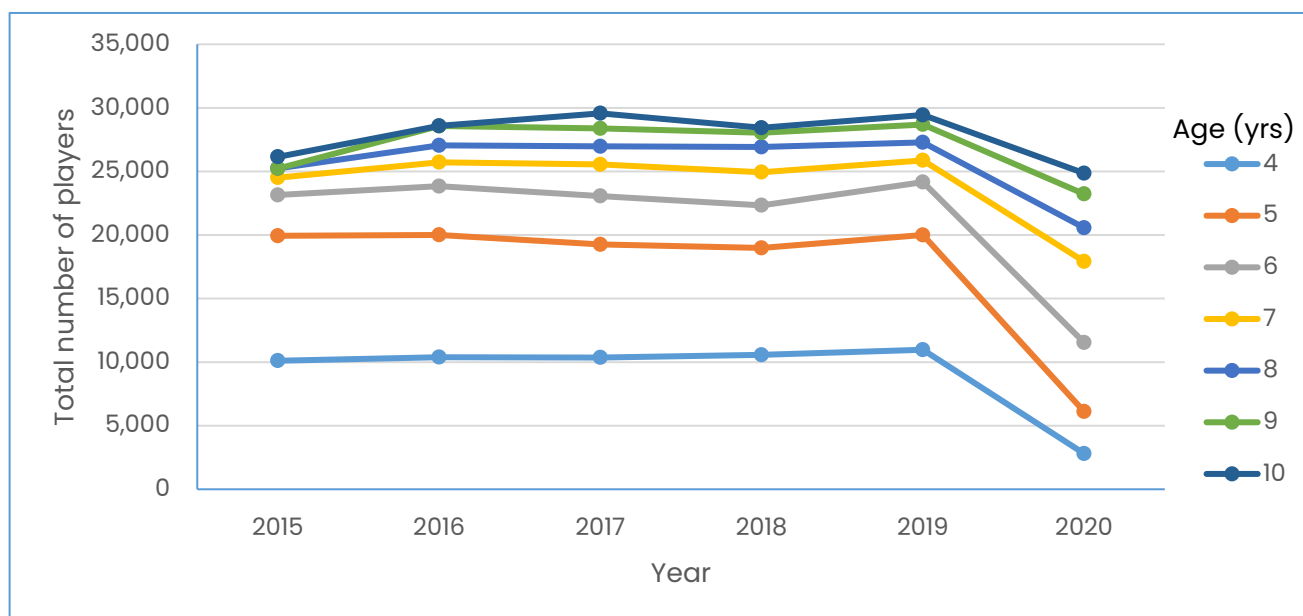


Figure 3. Boys' participation in six sports 2015-2020: by age



Part 2: Trends in year-to-year retention 2015-2020

Figures 4, 6 and 8 show the **numbers** of participants retained from each year into the following year. Figures 5, 7 and 9 show the **percentages** of participants retained from each year into the following year. For example, the percentages in Figure 5 are the numbers retained (Figure 4) expressed as percentages of the total number of players (Figure 1).

Figure 4 shows total numbers retained into the following year in the six sports, by gender, for the 5-year period from the end of 2015 (designated 2015 -> 2016) to the end of 2019 (designated 2019 -> 2020). From 2015 until 2018 -> 2019, the numbers retained rose for both genders, more strongly and consistently for girls than boys. However, almost twice as many boys as girls were retained, commensurate with the numbers of participants (Figure 1). For the period 2019 -> 2020, the numbers retained dropped sharply, by around 40% for girls and almost 50% for boys.

From 2015-16 to 2018-19, the numbers retained (Figure 4) followed a similar pattern to the total numbers (Figure 1). This is confirmed in Figure 5, which shows that the proportion retained stayed fairly constant (at around two third) for both girls and boys. The percentages retained from 2019 into 2020 were less than 40%, consistent with the fall in overall numbers in 2020 (Figure 1).

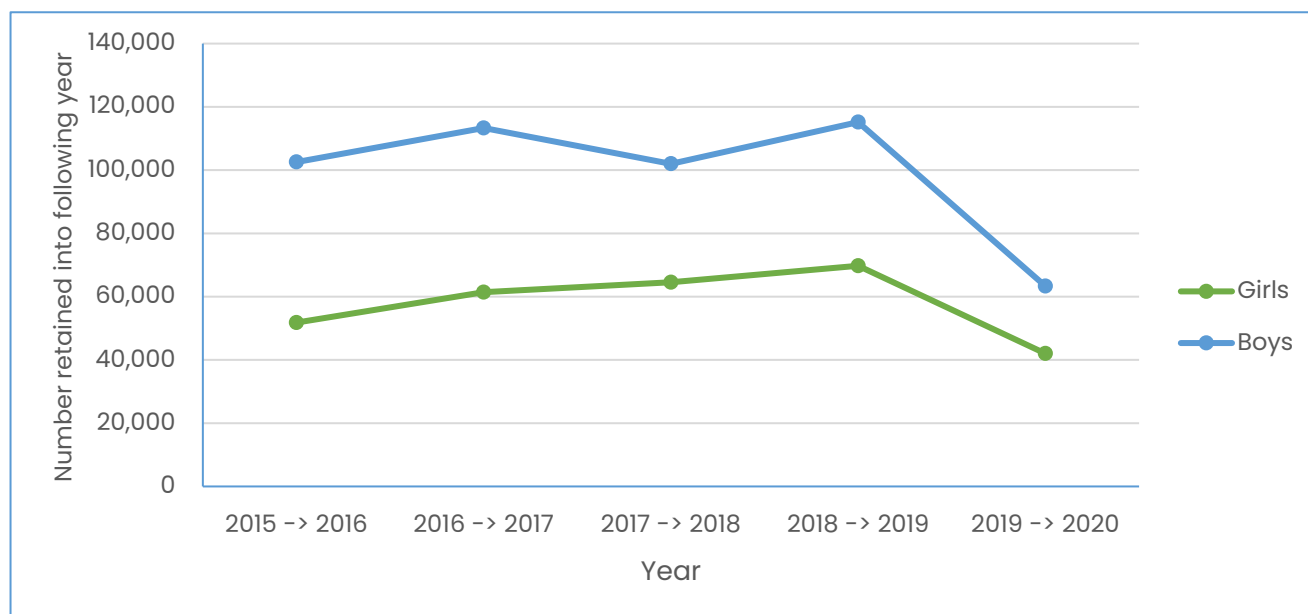


Figure 4. Numbers retained year-to-year in six sports 2015-2020: by gender

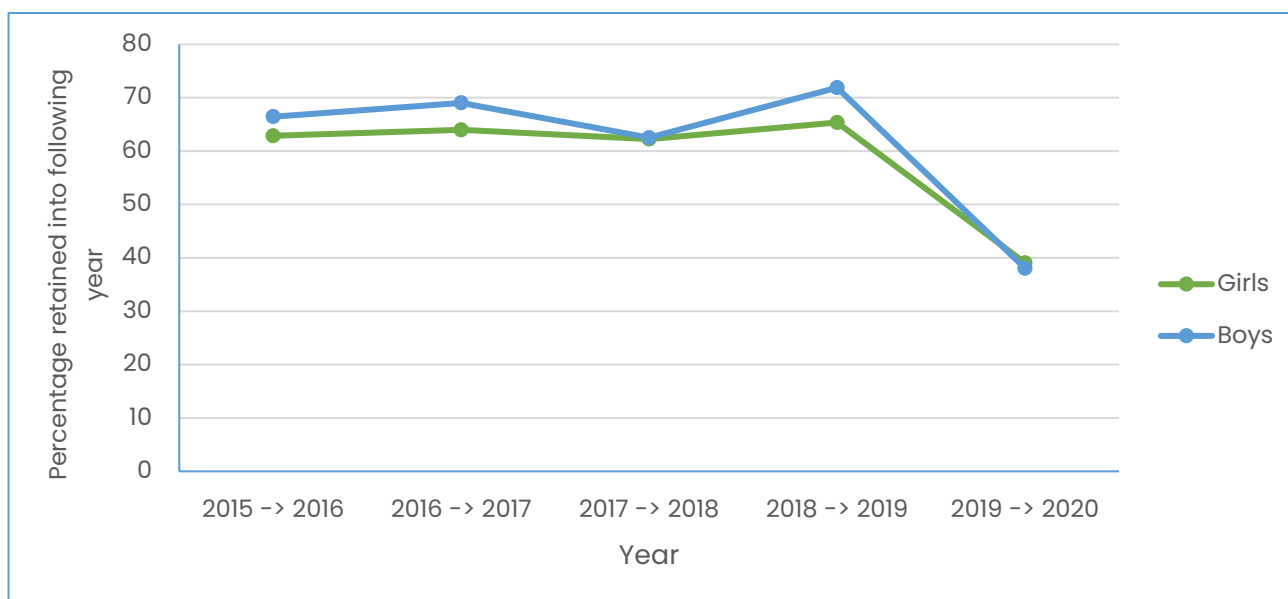


Figure 5. Percentage retained year-to-year in six sports 2015–2020: by gender

Figure 6 shows the numbers of girls retained into the following year in the six sports, by age, for the period 2015 -> 2016 to 2019 -> 2020. From 2015 to 2018, changes in the number retained in each age group followed a similar pattern to changes in total numbers in each age group (Figure 2). This is confirmed in Figure 7, which shows that the percentages of each age group retained stayed fairly constant. In 2019, the percentages retained into 2020 fell, consistent with the fall in overall numbers in 2020 (Figure 2). Figure 7 also shows that, consistently across all years, the percentage of each age group that were retained increased with increasing age.

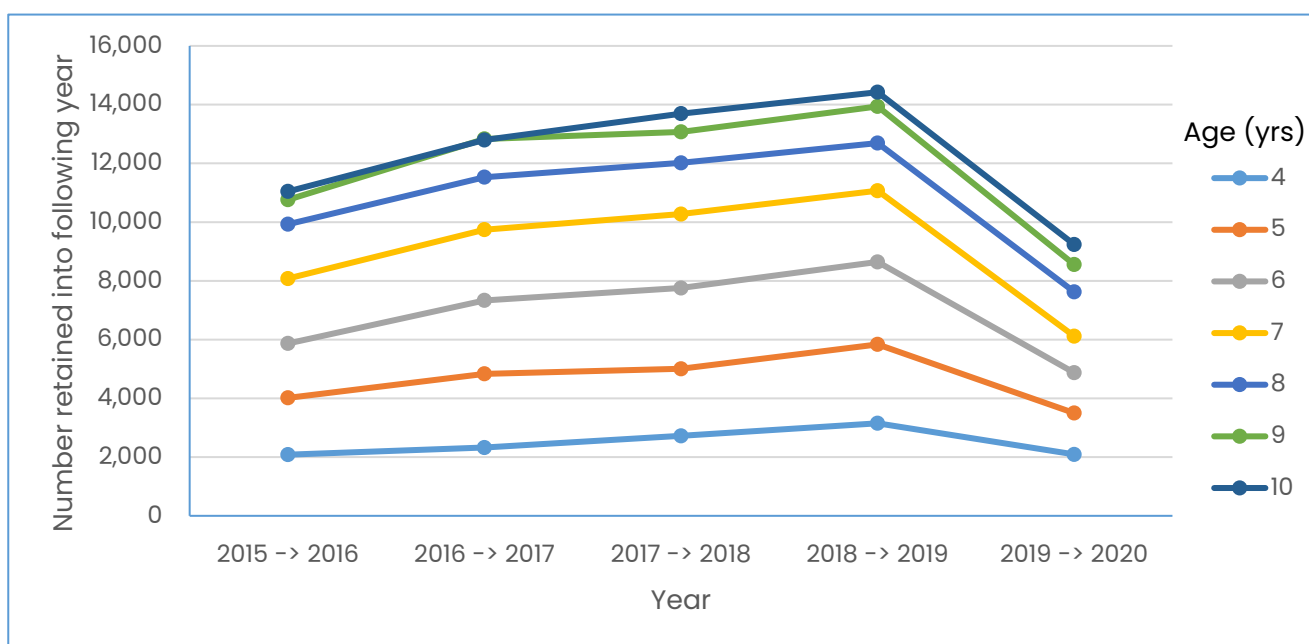


Figure 6. Number of girls retained year-to-year in six sports 2015–2020: by age

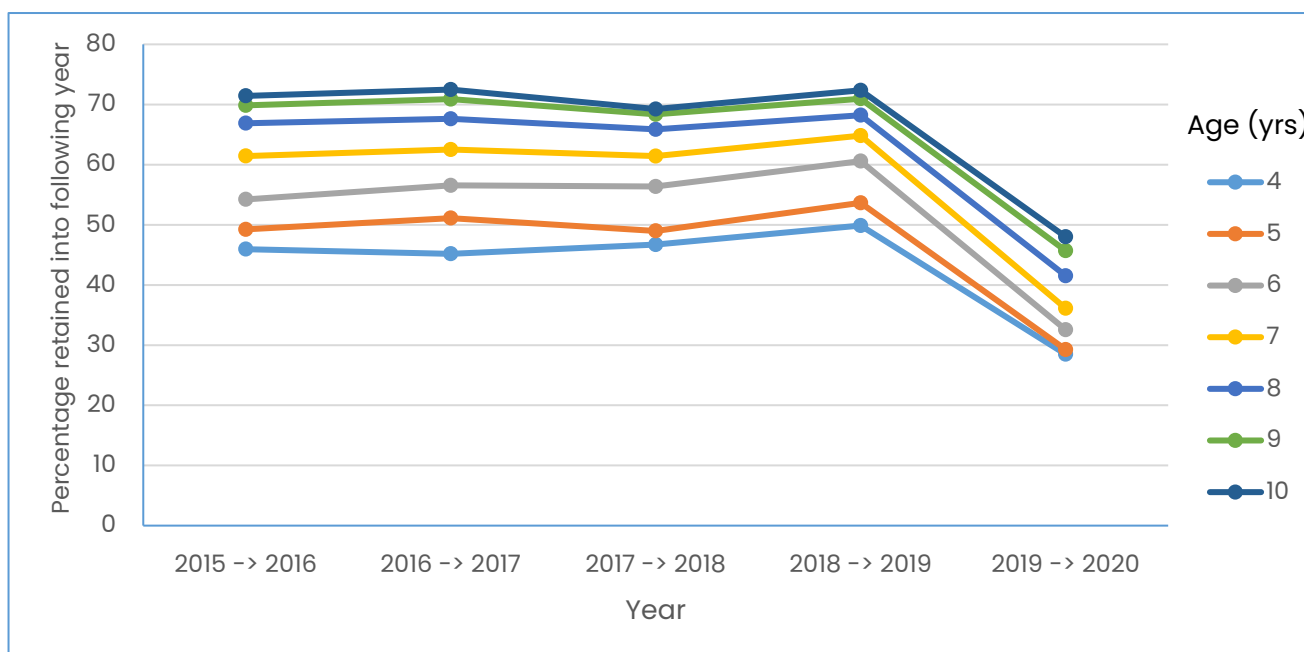


Figure 7. Percentage of girls retained year-to-year in six sports 2015–2020: by age

Figure 8 shows numbers of boys retained into the following year in the six sports, by age, for the period 2015 -> 2016 to 2019 -> 2020. From 2015 to 2018, changes in the number retained in each age group generally followed a similar pattern to changes in total numbers in each age group (Figure 3), except for 2017, when the number retained fell in all age groups. This is confirmed in Figure 9, which shows that the percentages of each age group retained stayed fairly constant except for 2017 -> 2018, when percentages retained dipped for all age groups. The percentages retained from 2019 into 2020 fell, consistent with the fall in overall numbers in 2020 (Figure 2). Figure 9 also shows that, consistently across all years, the percentage of each age group retained increased with increasing age.

Comparison of Figure 9 with Figure 7 shows that the falls in the percentages retained from 2019 into 2020 were greater for boys than girls. There was also more age-related variation for boys compared to girls, with the fanning out of lines in Figure 9 indicating that the percentage of boys retained decreased with decreasing age. In contrast, for girls in Figure 7 the lines were parallel, indicating similar percentage-point reductions in each age group.

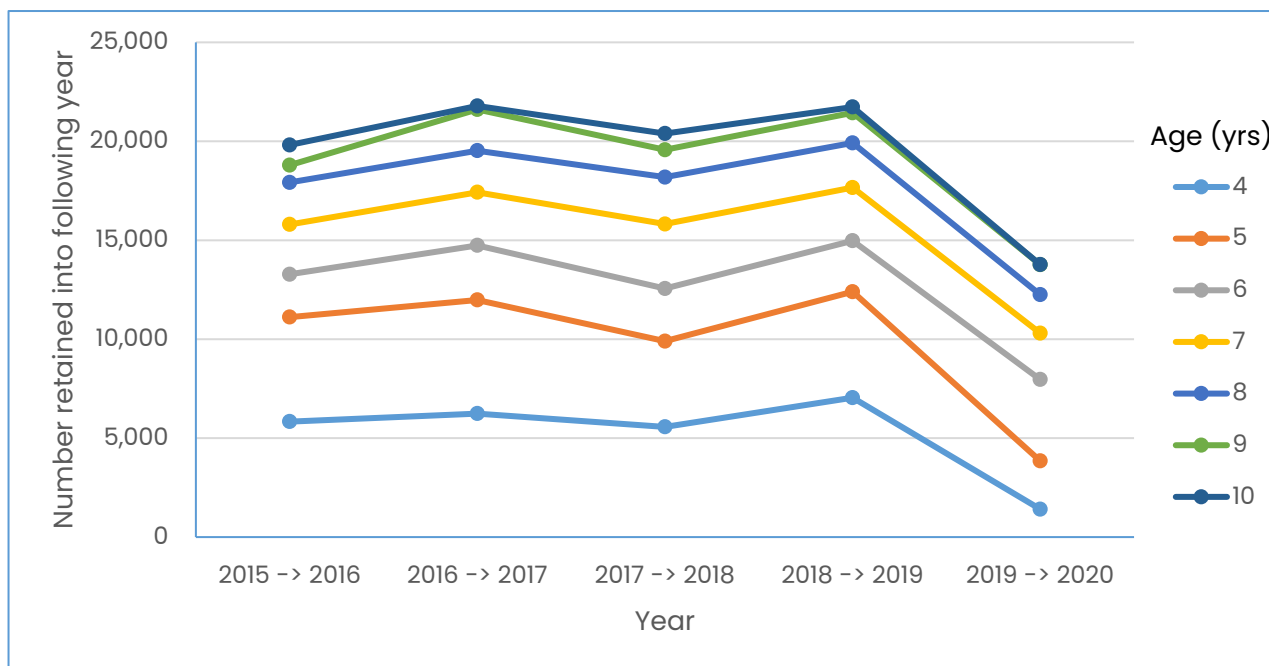


Figure 8. Number of boys retained year-to-year in six sports 2015-2020: by age

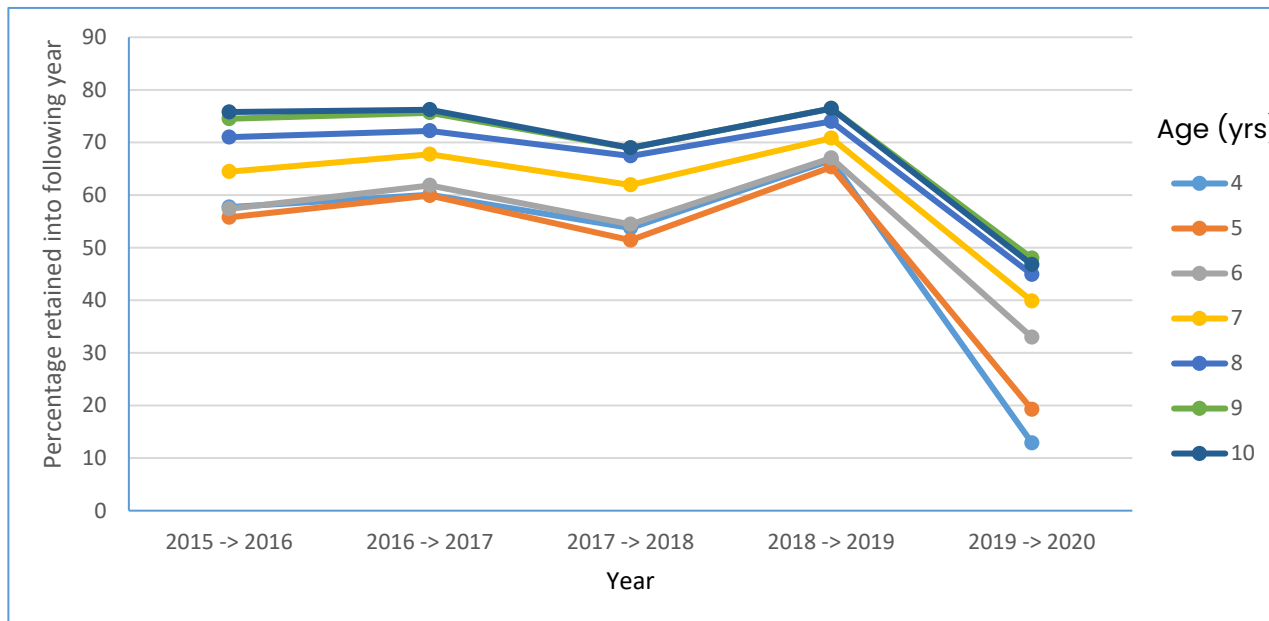


Figure 9. Percentage of boys retained year-to-year in six sports 2015-2020: by age



Part 3: Six-year-longitudinal analysis of sport participation patterns

In this section, we tracked the participation of players registered in 2015 for the six-year period 2015–2020. Across the six sports, in the base-year 2015 there were 236,679 participants aged 4–10 years, which included 82,362 girls and 154,317 boys. Table 1 shows that during the six-year period 2015–2020, almost a third of the girls (30%) and a quarter of the boys (25%) played for only one year i.e. the first year (2015). At the other extreme, around a sixth of the girls (18%) and a fifth of the boys (21%) played continuously for all six years 2015–2020. On average, participants played between three and four years of the six, with boys playing slightly longer than girls on average.

Table 1. Number of years played during 2015–2020 by the 2015 cohort: by gender

Number of years	Girls %	Boys %
1	29.6	25.1
2	15.5	13.4
3	11.7	12.4
4	9.4	10.4
5	15.9	18.0
6	17.8	20.7
Total number	82,362	154,317
Mean (years)	3.20	3.45

Table 2 and Figures 10–12 provide details of the patterns of participation during 2015–2020 by the 2015 cohort, by gender and age in 2015. The final column of Table 2 shows that overall, most participants dropped out at some time during the six-year period and did not return to playing. The proportion was higher for girls (70%) than boys (63%). Conversely, the proportion who dropped out but returned to playing within the six-year period was higher for boys (17%) than for girls (12%). Similar proportions of girls (18%) and boys (21%) played continuously for all six years

For girls, the percentage who dropped out completely at some time during the six-year period was very similar (around 70%) for all age groups. Of the remaining 30%, the percentage who played in all six years increased steadily from age 4 (8%) to age 8 (21%) and then plateaued from ages 8–10. The percentage who dropped out and returned decreased correspondingly from age 4 (21%) to age 8 (11%) and then remained fairly constant from ages 8–10.



For boys, the age pattern was quite different to that of the girls. For boys, it was the percentage who played in all six years that remained steady (around 20%) across all ages. This was similar to the corresponding figure for girls aged 8-10, but higher for younger boys than girls (ages 4-7). The percentage of boys who dropped out completely at some time during the six-year period steadily increased from age 4 (56%) to age 10 (63%), but remained less than the corresponding percentage of girls at all ages. The percentage who dropped out and returned was greater for boys than girls at all ages, but the age profile of this pattern of participation for boys – decreasing from age 4 (26%) to age 9 (12%), and levelling off at ages 9-10 – was similar to that of girls.

Table 2. Pattern of participation during 2015–2020 by the 2015 cohort: by gender and age in 2015

		Age in 2015 (years)							4-10
		4	5	6	7	8	9	10	
	Pattern	%	%	%	%	%	%	%	%
Girls	All six years	8.3	10.7	14.6	17.9	21.2	21.4	19.6	17.8
	Drop-out and return	21.1	18.0	13.7	11.9	10.5	10.5	9.0	12.2
	Drop-out and no return	70.6	71.3	71.8	70.1	68.3	68.0	71.4	70.0
	Total number	4,530	8,158	10,820	13,150	14,840	15,405	15,459	82,362
Boys	All six years	18.5	19.1	19.5	21.3	22.3	22.8	19.7	20.7
	Drop-out and return	25.5	22.6	19.5	16.3	14.3	12.4	12.5	16.6
	Drop-out and no return	55.9	58.3	61.0	62.4	63.3	64.8	67.8	62.7
	Total number	10,113	19,934	23,145	24,511	25,239	25,230	26,145	154,317

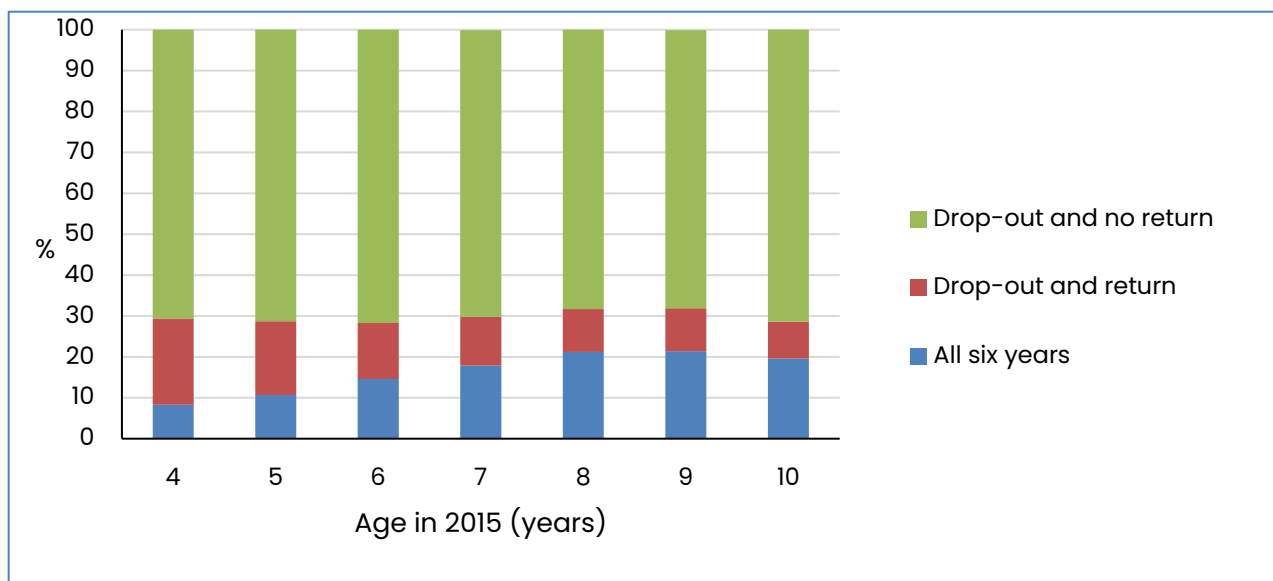


Figure 10. Girls' patterns of participation during 2015-2020: by age in 2015

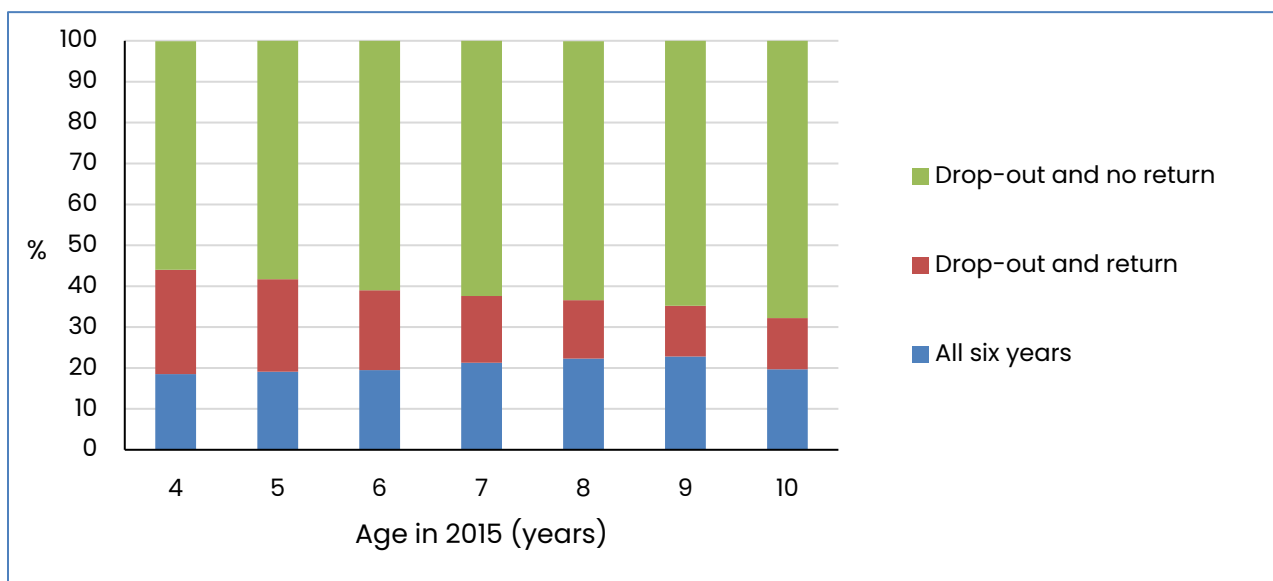


Figure 11. Boys' patterns of participation during 2015-2020: by age in 2015



For those who dropped out, the time until drop-out ranged from 1 year (drop-out after the 2015 season) to 5 years (drop-out after the 2019 season). For those who dropped out and subsequently returned, the time to return is the number of years elapsed between drop-out and return, ranging from 1 year (drop-out after the 2015 season and return in 2017, and other similar patterns) to 4 years (drop-out after the 2015 season and return in 2020). Figure 12 shows average (mean) times elapsed to drop-out and to return, by gender and age in 2015.

On average, girls dropped out slightly sooner than boys, and this difference was more pronounced for ages 7-10. Similar age-related trends were observed for girls and boys. The mean time to drop-out increased from around 2 years at age 4 to just under 3 years at age 10. The mean time to return after drop-out was around 1.5 years for both girls and boys, and trended downwards slightly with increasing age.

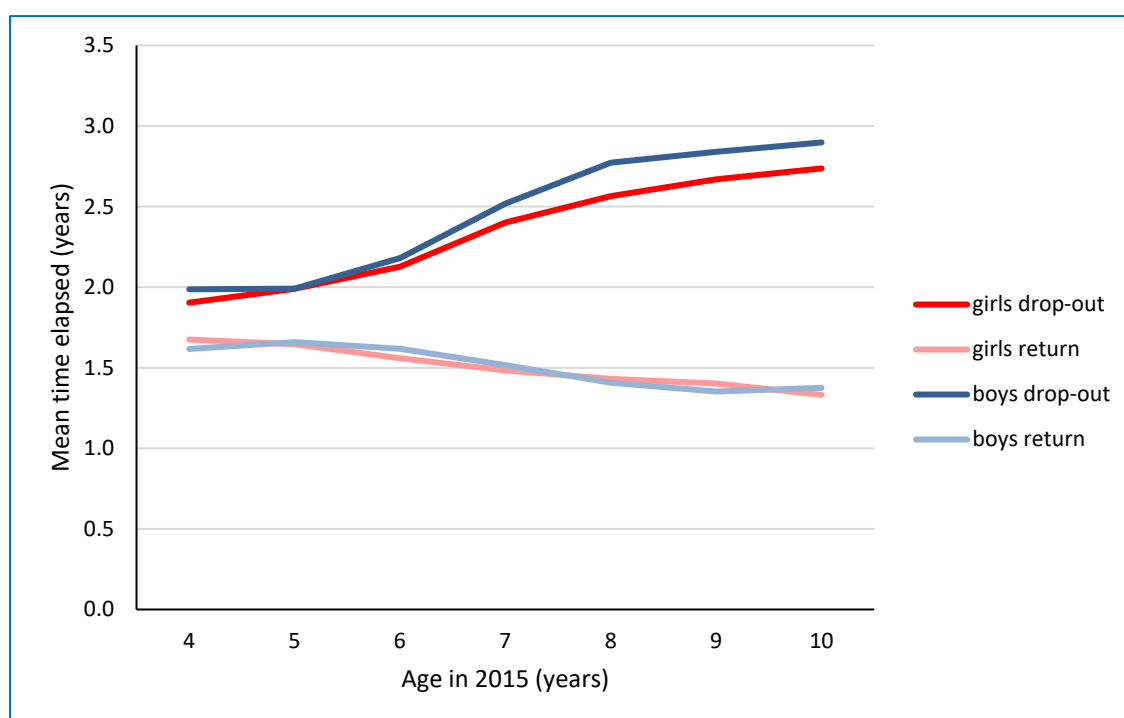


Figure 12. Mean time to drop-out and return during 2015-2020: by gender and age in 2015



The Physical Activity and Sport Insights Research group is a collaborations between the Institute for Health and Sport, Victoria University and the Institute of Health and Wellbeing, Federation University.

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