

A photograph of a young child with dark hair, wearing blue and yellow swimming goggles, peeking over the edge of a blue swimming pool. A pink life preserver and a green circular object are floating in the water in the foreground. The background is dark and out of focus.

Participation in Structured Swimming Lessons : 0-13 Years

Nov 2017

Booking data kindly supplied by users of...

An underwater photograph showing a splash of water with bubbles. The word "Splash" is written in a large, bubbly, metallic font, appearing to be part of the splash itself. The background is a deep blue with light rays filtering down from the surface.

Splash

**SWIM SCHOOL
MANAGEMENT SOFTWARE**

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EXECUTIVE SUMMARY

This report reviews the participation of young people aged 0 to 13 years who have been enrolled in a structured learn to swim program.

Data was sourced from 40 swim schools across Australia and New Zealand. For the purposes of this report a swim school is regarded as a registered organisation whose primary purpose is to provide learn to swim instruction.

All swim schools offered instruction from familiarisation at infancy continuing through each of the four swim strokes (freestyle, backstroke, breaststroke, and butterfly) with most offering progression to Junior Squad. Half of the participating swim schools offered the opportunity to progress to competitive swimming within the same organisation.

The data does not identify children who also received instruction as part of the Department of Education curriculum for primary or secondary schools in either Australia or New Zealand.

Information was gathered from 1.78 million bookings encompassing 237,000 individual children. Block length corresponded with either a calendar month or a school term. 45% of bookings corresponded with a calendar month and 55% paralleled the local Ministry of Education school term. The data set covered a period of 10 years from 2007 to 2016 (inclusive).

Data captured prior to 2007 was limited due to limited use of electronic systems for data collection, however later years demonstrated a marked increase in recording.

Data was gathered for all bookings in the participating swim schools. Booking data included swim school name, location, start date, end date, block length, class name, exit reason and local unique student identifier. Student data included swim school name, local unique student identifier, unique family identifier, date of birth, and gender.

This information was used to identify unique participants and garner entry age, exit age,

birth order, and aquatic skills achieved at exit date.

This survey includes children from birth to 13 years of age. Participation in learn to swim after the age of 14 appears minimal in terms of the percentage of children surveyed.

All calculations have been based on a child's participation in a single swim school. Less than 1% of exit reasons identified another swim school or advancement to squad as a reason for exit.

We recognise children may receive aquatic education from multiple avenues e.g. Other swim schools, school swimming. However in the absence of a national unique identifier for each child, it was necessary to treat children across participating swim schools as unique individuals.

Gender has not been displayed on all graphs as it presented similarly for both male and female across all categories.

Child participation was categorized in the following groups for entry and exit levels charts.

- Parent & Child – Parent/Caregiver participates in the lesson with the child.
- Independent Student – Child is participating in lessons without a parent in the water.
- Junior Squad/Squad – Child is proficient in multiple strokes, in most cases all 4 strokes have been introduced.

We acknowledge that 3 years of age is not an industry wide standard for a child participating in lessons independently ie. without a parent/caregiver in the water, however in the absence of specific data it has been used to measure parent & child vs. independent participation in this review. Future studies hope to provide conclusive analysis of these groups.

The key findings of this report were as follows:

- 38% of children enter learn to swim under 3 years of age, mostly as participants in a combined parent and

child lesson, while 62% enter as independent students.

- Key entry points are during the child's first year of life or at 3 years of age.
- A significant number of exits occur at the age of 5 years, however a substantial number of children also exit in the 1 year age group.
- 20% of infants (under 3 years of age) exit a structured program having only attended lessons where a parent participates in the water with the child.
- 70% of participants have exited the program before their 8th birthday.
- The average time spent in a structured learn to swim program is 19 months.
- Birth order appears to have a notable impact on both entry age and time spent in a structured learn to swim programme.
- A 1st born child is found to participate in learn to swim for a shorter timeframe than any other sibling.
- 20% of first born children enter a structured learn to swim programme while under 12 months of age, while only 14 % of second and 13% of third born children enter at the same age.
- A second, and subsequent child will generally enter learn to swim lessons at a later age than a first born.
- Analysis indicates the overall participation for a first born child is approximately 5 months less than a second, third, or fourth born child.
- Exits peak at the phase in lessons where a child has demonstrated freestyle arms and breathing is being introduced.
- 70% of students have exited a structured program being able to swim 50 metres freestyle or less.
- Only 30% of participants have demonstrated skills beyond 50 metres freestyle.
- 51% of exit reasons are unknown. 11% of these swimmers have actively participated in lessons however fail to present for an existing booking with no reason recorded.

RECOMMENDATIONS

Improving Data

Improve data quality (eg. exit information)

Identify accurate participation group for each child as a Parent & Child, Independent Student, or Junior Squad/Squad member

Work with participating swim schools to clarify skills within current lessons offered.

Work with industry leaders to identify aquatic skills and water safety milestones which can be paired with child exits.

Further Research

Through the assistance of stakeholders in the aquatic industry, identify a set of fundamental water safety milestones and aquatic skills which can be paired with individual exits.

Further analysis of Parent & Child data beyond the categories of familiarization and confidence.

Continue analysis of annual averages for time in learn to swim (fig 6) past the current four year timeframe to confirm whether the current analysis indicates an ongoing trend or whether it is cyclical in nature.

Clarify factors which influence a parent's decision to withdraw a child from lessons.

Investigate methods for capturing a parents' perception of "when a child is water safe."

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BACKGROUND

Increased awareness of the number of reported child drownings in both Australia and New Zealand was the stimulus for completing this study. The information recorded by local swim schools provided an opportunity to examine both the level of participation and the level aquatic skill attained by children attending structured lessons in Australia and New Zealand.

Retaining students is integral to the business success of swim schools. Gaining a better understanding of the factors which influence retention and so prolonging participation in structured lessons, also has the potential to make children safer and more skilled near water.

We anticipate an increase in the number of lessons across all age groups will have a positive effect on aquatic learning. This was an outcome noted in the Learning to swim: role of gender, age and practice in Latino children, ages 3–14 study which identified that the number of swimming lessons is a stronger correlate of skill acquisition than were age or gender. (Olaisen RH, 2017)

Recognising some key factors (eg. service, cost) may be controllable on a per swim school basis many other factors also emerged as trends within the industry. Identifying the trends in participation in conjunction with evidence of achievement presented as a great opportunity having the potential to improve overall water safety.

The Association Between Swimming Lessons and Drowning in Childhood case study [2009] found a protective association between past participation in formal swimming lessons and risk of drowning in the preschool age group (Brenner RA, 2009). An additional study by Brenner concluded that increasing swimming ability in the population is inherently attractive because, if effective, it could decrease the drowning risk in a number of situations, for all age groups. The study further stated it is important to insure that that protective effect is not offset by other factors such as exposure to the hazard. The report concluded that programs directed at increasing swimming ability among older children and adults should consider inclusion

of advice on safe swimming practices (Brenner RA, 2003).

This report contains analysis of learn to swim participation for children aged 0 to 13 years. The data set includes 237,000 children who participated in lessons across 40 swim schools. Data from 34 Australian and 6 New Zealand swim schools was included in this review. The Australian dataset represents 77% of the data collected. There was negligible difference between the outcomes for Australian vs New Zealand children when viewed in isolation. This data included 1.78 million student block bookings.

The purpose of this investigation was to identify significant trends associated with children who have participated in structured learn to swim programmes. It should be considered a precursor to future research aiming to clearly identify the aquatic skills achieved by children participating in structured programmes along with the factors which influence a parents decision to withdraw a child from lessons.

We hope the findings of this report will encourage industry professionals to consider methods for lengthening the participation for individual children in learn to swim to ensure a higher level of skill is attained. The overall goal is to support industry professionals through awareness of current retention and skill levels, hopefully this will lead to an improvement in aquatic competency as a conduit to improving the safety of children in and around bodies of water.

AIM

Using data obtained from swim school owners, this study aims to:

- Identify retention rates in learn to swim;
- Identify the duration children aged 0-13 years participate in swimming lessons;
- Identify significant entry and exit ages for learn to swim participants;
- Identify factors influencing removal of a child from lessons; and
- Identify level of aquatic skills achieved at time of exit.

METHODS

Data inclusion

Swim school booking data has been collected from 40 swim schools. Data collected covered the period beginning 1 January 2007 through to February 2017. The data collection start date varied within participating swim schools due to different implementation dates of systems which enabled electronic data capture.

All students have only been counted once.

Students participating in lessons at the date data capture began have been excluded from entry age reporting as actual start dates are not known.

Departing students are only counted as a exited when considered a permanent exit. Students who exited the program for a prolonged period but returned at a later date were not considered exits until their final swim.

Swimmers known to be participating at the end of data capture have been excluded from all exit age reporting.

References to duration or longevity in this report assumes a swimmer participated in lessons for continuous months. Any interruption in lessons has not been identified.

Data Collection, Coding and Analysis

Data was collected from 36 Australian and 4 New Zealand swim schools.

12.6% of children were entered with no date of birth. This data has been excluded from entry age and exit age reporting.

Participation in learn to swim above the age of 14 was negligible (0.6%).

Results were analysed in FileMaker Pro and Microsoft Excel.

Figure 1 shows the proportion of students excluded from the data set.

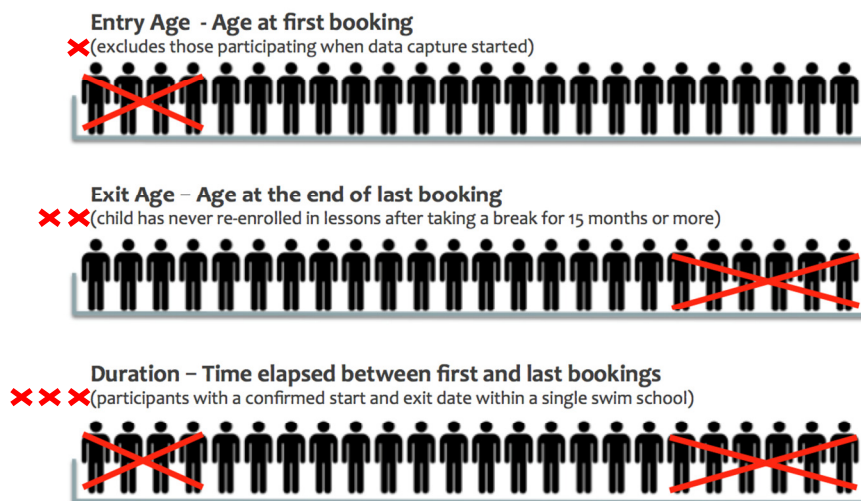


Figure 1: Data Cleansing

- X Excludes students participating when data capture started.
- X X Excludes students participating at time of analysis.
- X X X Excludes students participating when data capture started as well as students participating at time of analysis.

RESULTS

Students Retained and Lost per Block

Swim schools participating in this study operated using one of two block lengths:

School Term – Booking length matches the Ministry of Education school term.

Calendar Month – Booking length coincided with each calendar month.

45% of bookings corresponded with a calendar month while 55% paralleled the local Ministry of Education school term.

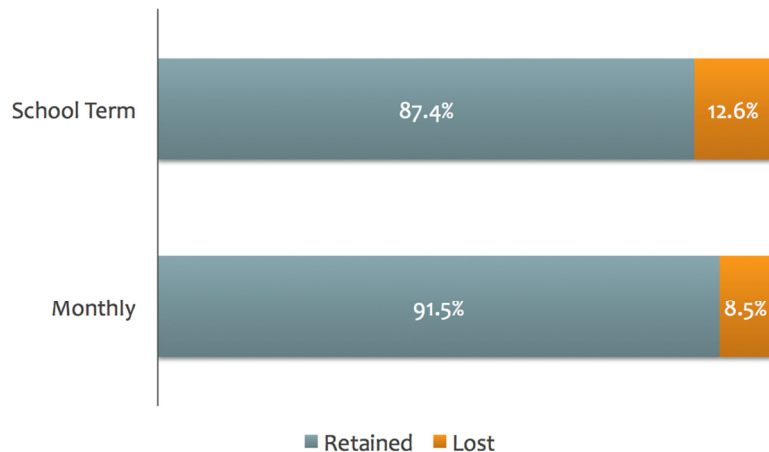


Figure 2: Average Retention Rates Based on Block Length

Retention rates were then calculated for each individual block. Swim schools operating on a block length that matched the Ministry of Education school term averaged retention rates of 87.4% while swim schools which scheduled their lessons on a calendar month maintained an average retention of 91.5% (fig 2).

Although the initial result may indicate a slightly better retention rate for swim schools operating on a monthly booking cycle, this statistic can be misleading when exits are measured against equivalent timeframes.

Projected Retention/Loss

While the percentage retained (fig 2) appears better for those operating a monthly booking cycle, annual losses were in fact higher. Based on a sample swim school size of 1000 participants those operating on a monthly booking cycle will lose approximately double the number of students over the course of 12 months. Figure 3 below displays the projected loss within each block. A school operating on a monthly cycle can expect an annual loss of 1020 students, while schools operating on term bookings can expect an annual loss of 540. The increased losses for school operating on monthly bookings may be attributed to an increased number of “opportunities to exit”. School term blocks offer four opportunities to exit per annum while schools operating on a monthly cycle offer 12 opportunities to exit per annum.

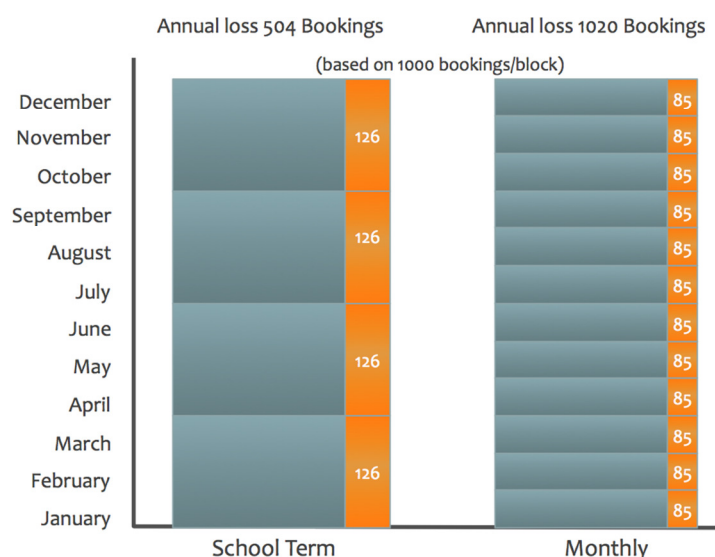


Figure 3: Projected Annual Loss

While maintaining high retention is considered an important aspect of running a successful swim school, more importantly it provides greater opportunity for learning for every young person enrolled. Given the timeframe a child participates is key to each child achieving new skills it is important the impact of block length on retention is considered.

Choosing When to Exit

When investigated further, analysis of the data indicated 97.9% of all exits are made at the end of a block while only 2.1% of exits are made midway through a current booking. Although only marginally different, students participating in lessons with a block length that coincided with the Ministry of Education system were slightly more inclined to stay until the end of the block with 98.6% remaining in their lessons until the end of the block. Conversely 96.7% of participants in monthly bookings completed the current block before choosing to exit. On this basis it may be valid to consider the end of a block as seen by parents as an “opportunity to exit”.

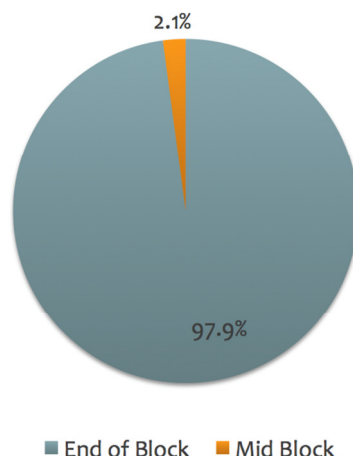


Figure 4: Percentage of Exits Made Mid-Block

Exits by Month

Analysis of the actual exit dates confirmed exits coincided with known block ends. Peaks appear in parallel with the Ministry of Education school terms

Ministry of Education school terms can differ in each year, with the end of terms 1, 2 and 3 falling in either of two. The end of the 4th term always falls in December. Combined monthly blocks have been highlighted to demonstrate where block lengths may correspond with the end of a school term (fig 5).

The increase displayed in December represents a combined loss from both monthly and school term bookings. This is the only instance in the year where the end of the school term always falls in the same calendar month.

Taking a break is shown later in this report (fig 16) to be a significant factor influencing the decision to withdraw a child from lessons, the same category represents 20% of exits in December.

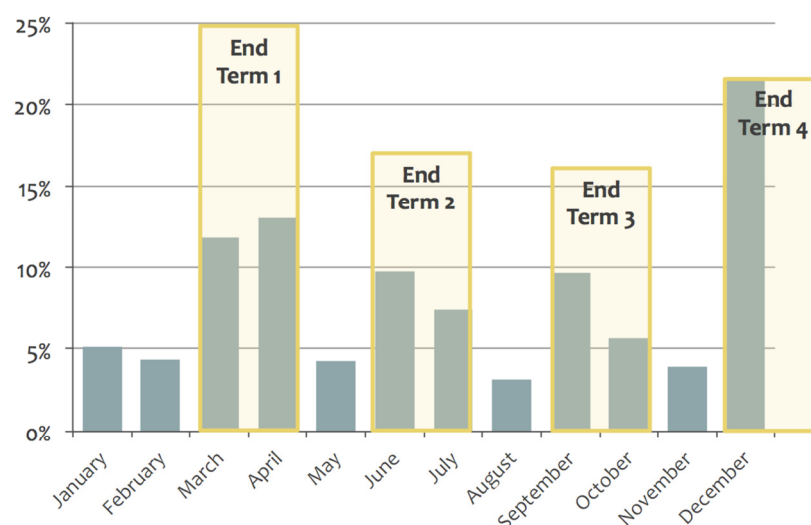


Figure 5: Exits by Month

Time in Learn to Swim

The average time a child participated in learn to swim across the entire dataset was 19 months. This timeframe was impacted by block length operating within participating swim schools. Children participating in learn to swim lessons where the block length coincided with the Ministry of Education school term were shown to participate for a longer period of time (table 1).

Where a child participated in lessons operating on a school term block length the average time in learn to swim was 3 months longer than the overall average and 5 months longer than students who participated in lessons within a swim school operating on a monthly booking cycle. This may reinforce the earlier evidence (fig 3) that the end of a block may be considered by parents as “an opportunity to exit”.

Duration	
Monthly Bookings	17 Months
School Term	22 Months
Overall Average	19 Months

Table 1: Average Number of Months in Learn to Swim

Time in Learn to Swim (based on exit year)

The overall average participation time in learn to swim across the 10 years 2007-2017 was 19 months, however on further investigation growth over the past few years revealed an upward trend with average duration reaching 22 months in 2016.

Although the average duration appears to have fluctuated over recent years, it does show positive growth with a steady increase over the past three years after recovering from a drop in 2014. A review of four years however provides limited evidence for determining any ongoing trend. It would be beneficial to continue monitoring participation in subsequent years to ascertain whether the results continue to follow a positive trend or whether participation is cyclical in nature.

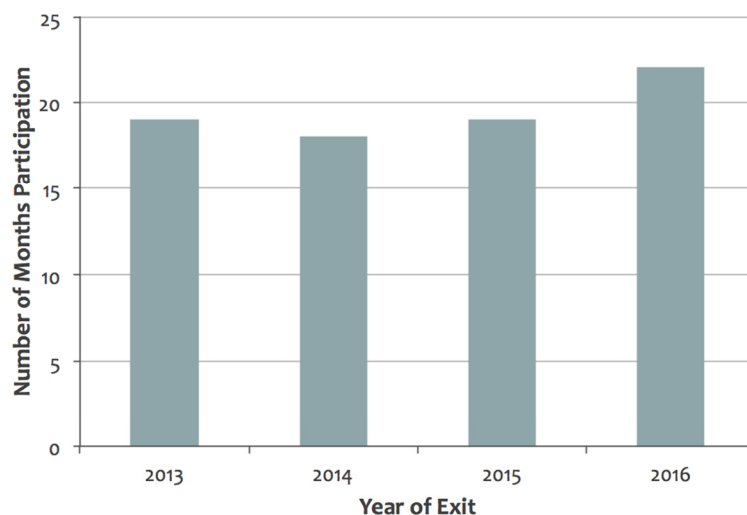


Figure 6: Period of Participation Based on Year of Exit

Duration by Birth Order

As evidenced in this report (fig 10 & fig 7) birth order was identified as having an impact on both entry age and time spent in lessons. A first-born child was found to participate in lessons for a shorter timeframe when compared to other siblings.

Duration in lessons appears to increase based on birth order from the 1st through to the 3rd. A fourth child is shown to participate for a similar timeframe as that of a 3rd. A first born child participated on average for only 15.5 months compared to a third born child who participated for an average of 22.5 months.

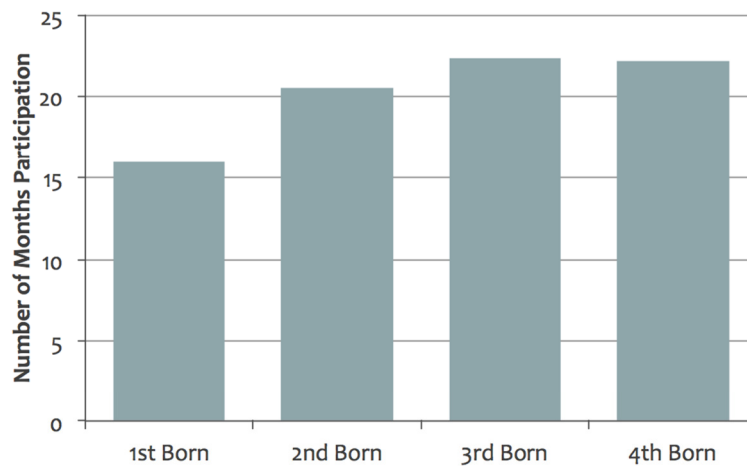


Figure 7: Period of Participation Based on Birth Order

Duration was not analysed for siblings beyond the 4th born as they represented only 0.2% of children in the data surveyed.

Duration in Learn to Swim - Median

This chart below represents participants who are known to have exited a structured learn to swim program. It follows the same definition of an exited swimmer as referred to above. An average duration of 19 months participation has been established earlier in this report (table 1), this chart however identifies the median timeframe for participation.

52% of children participate in lessons for fewer than 12 months. Furthermore the median duration occurs at 12 months. Children participating in lessons which coincide with a calendar month show increased losses within the first 12 months of lessons. This may provide further evidence of “opportunities to exit” with school term bookings providing a longer booking period.

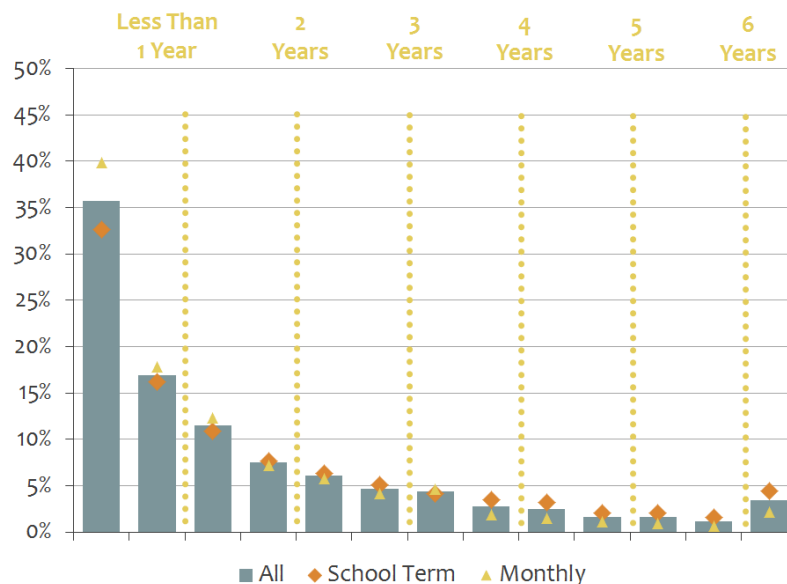


Figure 8: Period of Participation in Learn to Swim

Learn to Swim Entry Age

Infants in their first year of life represent the highest group of children entering lessons for the first time with 17% of all learn to swim entrants coming from this age group.

We have noted earlier in this report our assumption that children under the age of 3 years participate in a combined parent & child program. Based on this assumption our data indicates 38% of all participants begin lessons with parent/caregiver participation.

The second highest intake occurs when children reach 3 years of age this is followed closely by similar intake numbers at 4 years of age.

These figures indicate children of preschool age (<5 years) represent approximately 60% of all first time entrants to learn to swim.

After the age of 3 years entry into a structured learn to swim program steadily declines across all age groups.

Gender appears to have no bearing on the entry age of swimmers.

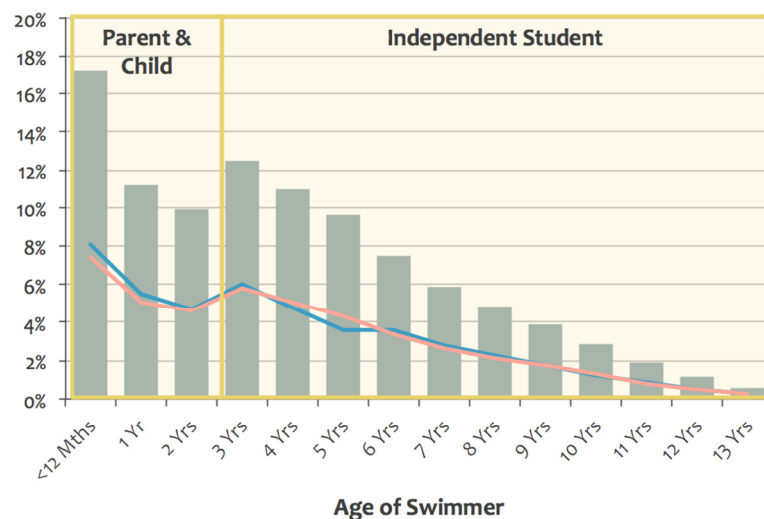


Figure 9: Entry Ages 0-13 Years. Pink = Girls Blue = Boys

Entry Age by Birth Order

Although parental decisions leading to placing a child in swim lessons has not been evaluated we have considered whether there were any measurable factors contained in the data which could help identify influencing factors. Further analysis identified entry into a structured learn to swim program appears to be influenced by birth order.

19% of first-born children who participate in swimming lessons entered into a structured program within their first 12 months of life with entry in the same age group reduced to 14% for a second child and 13% for a third born child. Entry age for a first born child steadily declines until 3 years of age at which point it shows a slight improvement before plateauing for several years.

In contrast to a first born, the peak entry age for a second, third, and fourth born occurs around 3 years of age. The later intake of 2nd and subsequent siblings appears to support the increase in intake for children at 3 years of age (fig 7). While entering lessons at an older age, a second, third, and fourth born child are likely to participate in lessons for a longer timeframe.

This chart further supports the evidence that the majority of children are introduced to lessons before the age of 5 (fig 9).

The data reveals that birth order does have an influence on the entry age of participants. Within the preschool age groups a second and subsequent child will enter learn to swim lessons at an older age than that of a first born. Conversely this trend is reversed in children who begin lessons after the age of 5 years.

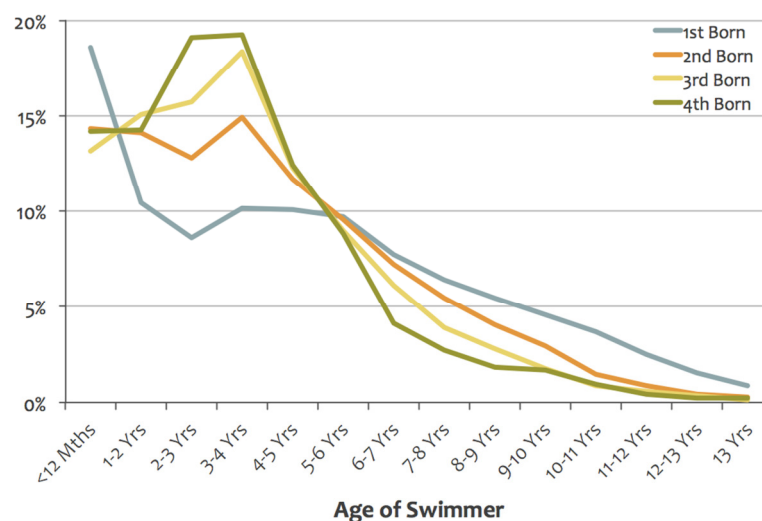


Figure 10: Birth Order Entry Age 0-13 Years

Learn to Swim Exit Age

For the purpose of this report an exit has been defined as a child who is no longer participating in swim school lessons. Exited children were identified as those whose parent either advised a specific exit reason or a child who discontinued lessons for greater than 15 months without a known reason.

Students who were notified as “taking a break” who had not returned to lessons were also considered as exited.

Students who withdrew from lessons for a prolonged period of time however returned at a later date were not considered exits.

There appear to be significant exit points during both parent & child (under 3 years) lessons and again in the group of independent students. These two exit points seem to correspond to two higher intakes in the same groups. The increased intake in the <12month age group is followed by a peak in exits during 13-24months, and similarly the increased intake at 3 years of age is followed by a peak in exits across the 5 year old age group.

Exits reach their highest level at 5 years of age with 11% of swimmers being withdrawn from lessons at this age. Although this also corresponds with the age group known to contain the highest participation rate (fig 13) it also supports the evidence of average duration for learn to swim as exits fall within the range of being 19 months after the largest intake age.

Declining exit rates in higher age groups are representative of the lower participation rates across the same age groups. Gender appears to have no impact on exit age.

The data confirms 70% of children who have participated in learn to swim lessons have exited before 8 years of age. Analysis of skills achieved at exit is reviewed later in this report (fig 15).

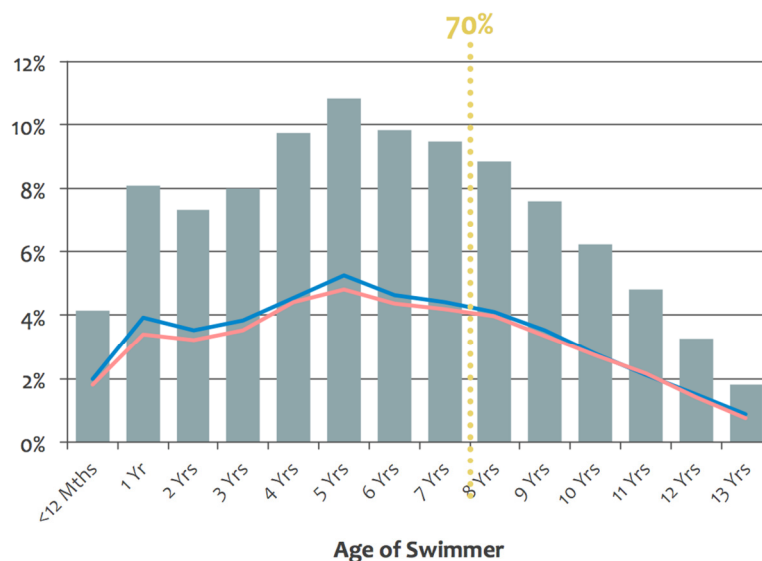


Figure 11: Exit Age 0-13 years. Pink = Girls Blue = Boys

We recognize withdrawing from swim school lessons does not indicate a child has completed their aquatic education and understand that children may receive further learning from other avenues such as primary school swimming. Exit reasons evaluated later in this report (fig 16) however failed to confirm this as a reason why a parent chooses to remove their child from swim school based lessons.

Exit Age by Birth Order

As with entry age, birth order was similarly investigated to review whether it had any impact on the exit age of children.

Although entry ages differed substantially for first born, this was not the case in terms of exits. Siblings appear to follow a similar trend with regard to exit ages with almost all siblings reaching a peak during the 5th year of age. As evidenced above (fig 11) this also corresponds with the age group known to contain the highest exit and participation rates (fig 13) it also supports the evidence of average duration for learn to swim as it falls within the range of being 19 months after the largest intake age.

Unlike first, second, and third born children the peak in exits for a fourth born child is seen slightly earlier. Given earlier evidence (fig 10) identified a high percentage of fourth born children entering the program at 2 years of age. The earlier exit then supports earlier results indicating the 19 month average duration for learn to swim or 22 months duration for a fourth born (fig 7).

Rather than being impacted by birth order this chart supports the overall trend for exits as shown above (fig 11).

Reduced exit numbers demonstrated in the older age groups coincide with the reduced number of participants in the same age groups.

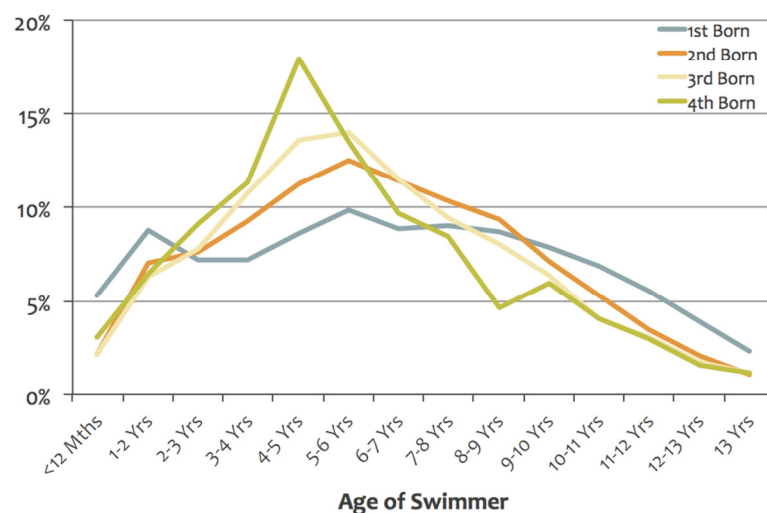


Figure 12: Birth Order Exit Age 0-13 Years

Time in Learn to Swim by Exit Age

This chart considers two aspects of participation:

- the average duration for an exited student.
- the percentage of active participants within each corresponding age group.

It is important to recognise the participation timeframe in this chart only includes children known to have exited learn to swim lessons.

Children exiting before their first birthday are shown to participate for approximately 2.5 months however as shown earlier (fig 11) this group represents only 4% of all exits. Given a child does not generally enter lessons in their first few months of life this group represents a shorter age range than others.

Children at five years of age represent the highest group of participants contributing to approximately 11% of any learn to swim program, data also shows a child exiting at five years of age has an average participation timeframe of 17 months. Similarly exiting six years olds meet the overall average of 19 months participation, however account for slightly fewer participants at only 10%.

While school age children demonstrate higher participation timeframes they also represent fewer participants. Participation timeframes are seen to increase with the age of a student, however, the number of students participating in older age groups reduces congruently. This is best demonstrated in the duration of 13 year olds which appears to be longest at 27months. Thirteen year olds however, only represent less than 2% of swim school participants.

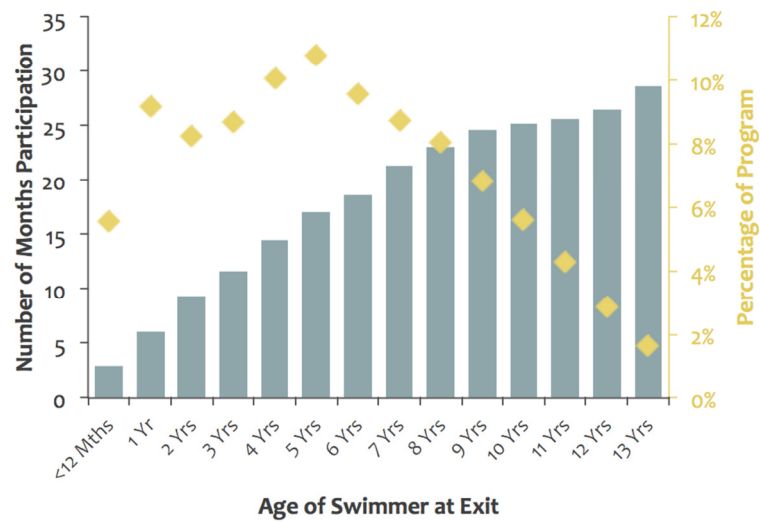


Figure 13: Participation Timeframe vs. Number of Participants

Class Type at Exit

The chart below demonstrates that the majority of children exit while participating as independent students. This also corresponds with the greater number of students participating at this level. Similarly the lowest percentage of exits occurs at Junior Squad or Squad level, this group correspondingly represents the smallest group of participants in most learn to swim programs.

Of most concern is the number of swimmers who exit while still participating in a combined parent and child lesson. The data revealed 21% of children exit while still participating with a parent/caregiver.

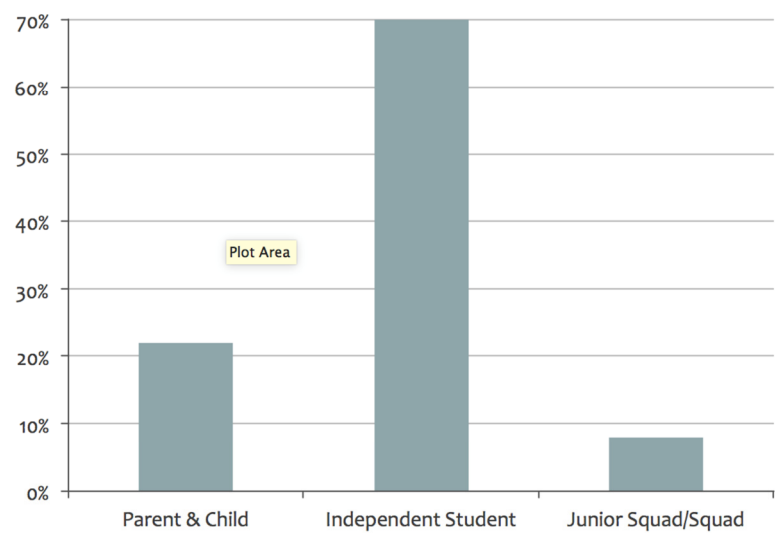


Figure 14: Class Classification at Date of Exit

Exit Skills

Earlier charts in this report assess the entry and exit ages and the subsequent duration of swimmers in learn to swim. These factors all contribute to the level of skill able to be achieved by individual participants.

While each participating swim school operated programs with unique paths of progression, we have identified key skills within their respective programs to align with the exits of each individual child.

Below the age of three years we were unable to clearly identify fundamental skills within each program; these skills have consequently been grouped as familiarisation and confidence. We do however recognise there are vital water safety skills being taught at this stage of learning and hope further analysis will enable us to identify these skills and report accordingly at a later date.

The lack of electronic recording of progressions across participating swim schools limited our ability to report more thoroughly in this area. Although somewhat rudimentary the chart below provides an indication of the level of skill achieved by children exiting learn to swim. A subset of 38,000 records was available for analysis in this instance.

In contrast to many of the other charts in this report the chart below is not age based. Exit skills have been obtained by assessing the content of lessons at the time of a child's last swim.

The key finding in this report was the indication that many parents choose to withdraw their child from lessons at a time when their child is demonstrating the ability to use freestyle arms combined with the introduction of breathing. Analysis revealed 17% of all participants exited at this stage of learning. Only slightly below this figure was withdrawal at a time when a child showed the ability to kick on both their front and back.

As indicated earlier 20% of children exit lessons while still participating in a combined parent and child class. This review also indicates nearly 70% of swimmers can be expected to exit a structured learn to swim program before they have the ability to swim 50 metres freestyle or backstroke.

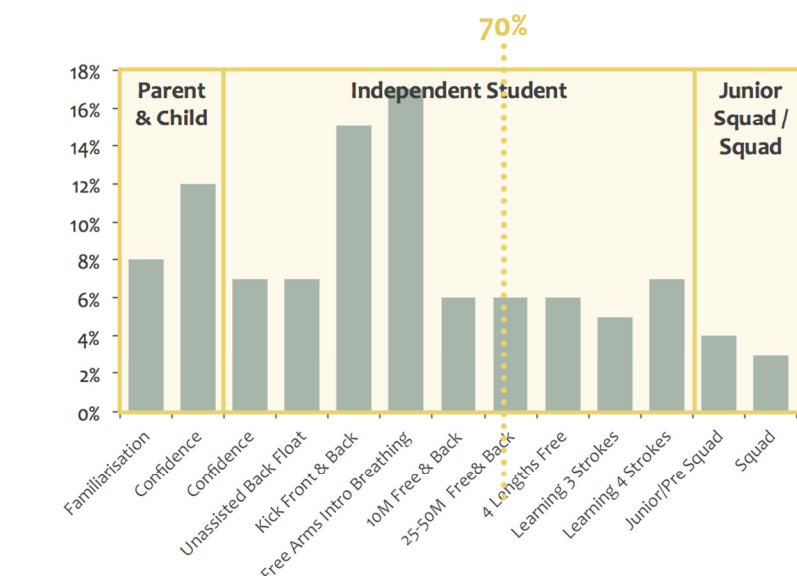


Figure 15: Highest Skill Achieved at Date of Exit

Reason for Exit

This chart represents known exit reasons for students identified as permanent exits.

In most cases participating swim schools approached parents to confirm their reason for withdrawing their child from lessons. Unfortunately 40% of children are withdrawn without any reason being given; it is not known what proportion of these families refused to provide a reason or were not approached.

All participating schools defined their own list of exit reasons, in most cases these are selected from a drop-down list. The categories outlined below represent the most common reasons entered across all participating schools. We acknowledge that the category “Other Commitments” appears to be used as a catchall in some swim schools.

Having a subsequent child or starting school was expected to contribute to a significant number of losses, this analysis however appears to indicate otherwise. Having a subsequent child has been group with “family commitments” in our chart below.

Children who were withdrawn from lessons due to lessons being offered as part of their primary school education were placed in the category “Other Swim School”.

Although other aquatic activity was not identified as a reason the categories Other Swim School and Squad may represent this group. The combined result represents <1% of exit reasons given.

7% of parents identified “Taking a Break” as their reason for withdrawing their child from lessons. These children represented in the chart below however had not returned to the program at a later date.

“No Shows” include children who have been actively participating in lessons who later fail to show for their scheduled class without any other reason being given or obtained.

We would recommend schools assess the list of exit reasons being recorded and secondly a greater focus be placed on capturing this information from parents.

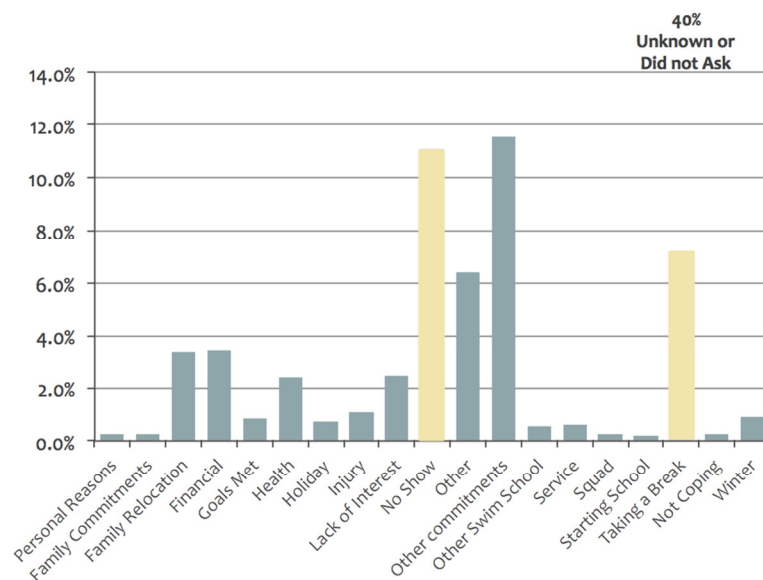


Figure 16: Reason for Exit

Participation 2007-2016

The chart below outlines participation across all age groups over a period of ten years from 2007 to 2016. Participation in infants <12 months of age double in the reporting period. Age groups 1-3 showed overall growth in the ten year period. Participation in age groups 4-6 years of age was similar across all years. Participation of swimmers >6 years of age illustrate a slight decrease across all age groups.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
<12 Months	2%	3%	2%	2%	3%	2%	3%	3%	4%	4%
1 Yr	7%	8%	7%	7%	8%	8%	8%	8%	8%	8%
2 Yrs	8%	8%	8%	9%	10%	10%	9%	9%	9%	9%
3 Yrs	9%	10%	9%	10%	11%	11%	10%	10%	10%	10%
4 Yrs	11%	11%	11%	11%	12%	12%	12%	11%	11%	11%
5 Yrs	12%	11%	11%	12%	12%	12%	12%	12%	11%	12%
6 Yrs	11%	11%	11%	11%	11%	11%	11%	11%	11%	10%
7 Yrs	10%	10%	10%	9%	9%	9%	10%	10%	9%	9%
8 Yrs	9%	8%	9%	8%	7%	8%	8%	8%	8%	8%
9 Yrs	7%	7%	8%	7%	6%	6%	6%	6%	6%	6%
10 Yrs	6%	5%	6%	6%	5%	4%	5%	5%	5%	5%
11 Yrs	4%	4%	4%	4%	4%	3%	3%	3%	3%	3%
12 Yrs	3%	2%	3%	3%	3%	2%	2%	2%	2%	2%
13 Yrs	2%	1%	2%	1%	1%	1%	1%	1%	1%	1%

Table 2: Participation Trends 2007 to 2016

CONCLUSION & RECOMMENDATIONS

This study has identified participation trends for children aged 0-13 years in structured learn to swim lessons; our large dataset of 237,000 individuals has given us the ability to accurately assess entry and exit characteristics.

The key findings of this report were as follows:

- 38% of children enter learn to swim under 3 years of age, mostly as participants in a combined parent and child lesson, while 62% enter as independent students.
- Key entry points are during the child's first year of life or at 3 years of age.
- 20% of infants (under 3 years of age) exit a structured program having only attended lessons where a parent participates in the water with the child.
- 70% of participants have exited the program before their 8th birthday.
- The average time spent in a structured learn to swim program is 19 months.
- Birth order appears to have a notable impact on both entry age and time spent in a structured learn to swim programme.
- Exits peak at the point in lessons where a child has demonstrated freestyle arms and breathing is being introduced.
- 70% of students have exited a structured program being able to swim 50 metres freestyle or less.

- 51% of exit reasons are unknown.

It is understood structured swimming lessons have a protective effect on the risk of drowning across all age groups (Brenner RA, 2009) and (Brenner RA, 2003). Furthermore Olaisen concludes that swimming skill is correlated more to the number of lessons than to gender or age (Olaisen RH, 2017).

Improving the retention of individual participants in swim programs should provide greater opportunity for learning and in turn increase the safety of children around water. Although this report contains a large dataset there is more to be gained from improved data quality. 51% of students who exited the program had no reason recorded or recorded as reason “unknown”. A better understanding of the factors which influence a parent’s decision to withdraw their child from lessons may be useful in prolonging participation in structured lessons. Further consideration may be given to capturing a parent’s perception of when they consider their child is water safe, and whether that is a significant factor influencing the decision to stop or continue swim lessons.

To date we have been unable to locate studies which examine the level of aquatic skill achieved by children previously attending structured swimming lessons, however we believe understanding how long a child participates in lessons in conjunction with evidence of overall achievement provides an opportunity for improving overall water safety.

Through the assistance of stakeholders in the aquatic industry, we aim to identify a set of fundamental water safety milestones and aquatic skills which can be aligned with learn to swim programs. Alignment of these skills will enable us to accurately assess the achievements for individual children at the time they exit their selected learn to swim program.

Given the reported correlation between the number of lessons and achievement of skill (Olaisen RH, 2017) ongoing analysis of the annual average for time in learn to swim (fig 6) past the current four year timeframe is recommended. Ongoing analysis of individual aquatic achievement in conjunction with time in learn to swim should allow us to more accurately predict the aquatic benefits of increased participation.

Brenner indicated children aged 1-4 years who have participated in formal lessons showed a significant reduction in risk of drowning (Brenner RA, 2009), however, limited information was captured in our dataset about the specific skills delivered across this age group. Further investigation into identifying the type of lesson this age group participate in and the skills taught would be advantageous.

DEFINITIONS

Entry Age

The child's age at the date of his/her first known lesson.

Exit Age

The child's age at the date of his/her last known lesson.

Duration

The number of months between a child's first lesson and last lesson.

Exit

A child who is no longer participating in lessons ie. A permanent exit; students with a documented exit reason or students who have not participated in lessons for over of 15 months Students who withdrew from lessons for a prolonged period of time however returned at a later date were not considered exits.

Parent & Child

A child under the age of 3 years has been considered to be participating in lessons jointly with a parent.

Independent Student

A child 3 – 13 years of age participating independently in lessons. The child has not progressed to Squad or Junior Squad swimming.

Junior Squad/Squad

No longer counted as an independent student, this child is generally school age learning all four swim strokes focusing on technique and distance.

No Show

A child who has previously actively participated in lessons however was withdrawn from lessons without reason; and he/she has not returned. The exit is documented by the swim school as a "No Show" due to their failure to present for lessons without any reason being offered or obtained.

Taking a Break

The parent has advised their child will temporarily stop lessons and will return at a later date. These children have been counted as exits as they have not returned to lessons.

REFERENCES

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