Queensland Sport, Exercise and Recreation Survey of Children – 2019 (QSERSC):

A proxy–based, dual frame prevalence study of children's physical activity outside school hours

Prepared for the Department of Housing and Public Works (Sport and Recreation) by Schottler Consulting Pty Ltd

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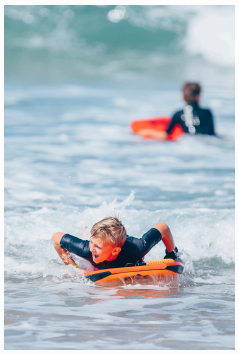
insight from complexity



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Executive summary

This report presents findings for data collected during 2018–19 for the Queensland Sport, Exercise and Recreation Survey of Children – 2019 (QSERSC): A proxy–based, dual frame prevalence study of children's physical activity outside school hours. Participation was measured for children aged between 5 and 17 years, with parents and carers used as a proxy to report activity participation. A single child was randomly selected from within the household for parent/carer reporting. Dual frame refers to the sampling of parents/carers in households with landline telephones and/or mobile telephones.

The following definitions guided the survey:

Physical activity: Any bodily movement produced by skeletal muscles that requires energy expenditure and produces progressive health benefits (US National Institutes of Health and World Health Organization).

Sport: Human activity capable of achieving a result requiring physical exertion and/or physical skill which, by its nature and organisation, is competitive and is generally accepted as being a sport (Clearinghouse for Sport and Physical Activity).

Exercise: A type of physical activity that is planned, structured and repetitive and has the objective of achieving, improving or maintaining physical fitness (attributes that are health or skill–related) (adapted from Casperson *et al* 1985).

Recreation: Any physical activity undertaken during leisure time outside of structured, competitive sport, including unstructured play involving physical activity/exertion (Adapted from Sport and Recreation Victoria).

Other definitions used in the study are in Appendix A.

The specific physical activities coded as sport, exercise, recreation or other types of activities are in Appendix B.

The study was conducted on behalf of Sport & Recreation, Department of Housing and Public Works, within Queensland Government. Data collection was undertaken between December 2018 and April 2019.

A total of 5273 Computer Assisted Telephone Interviews (CATI) were conducted with parents or carers of children 5 to 17 years across five sampling regions within Queensland. Each sampling region included three sampling bands based on Local Government Areas or suburbs with large, medium and small populations (making a total of 15 sampling strata) (or suburbs for Regions north and south of the Brisbane River). This ensured that all areas of each Queensland location were sampled and not just major towns.

This study is a specialist type of study called a prevalence study. Prevalence studies aim to accurately measure the prevalence of children's participation in physical activity and have scientifically designed approaches to measurement, sampling and data weighting to ensure that they produce accurate point–estimates of prevalence. For this reason, a number of scientific approaches were used to ensure that results are accurate for the Queensland population of children 5 to 17 years.

An integrated summary of the study methodology, main [study] findings and a discussion of the implications of findings for encouraging physical activity of Queensland children in sport, exercise and recreation activities is presented in the section *Integrated summary and discussion of findings*.

In summary, major findings are below.

Finding 1. Queensland children's physical activity participation is highest in Chores or work involving physical activity, Active play and General exercise and fitness activities and highest frequency in Active play, Chores and work involving physical activity and Cycling and scootering. In addition, 84.2% of children 5 to 17 years participated in physical activity Daily, 14.9% participated Weekly and 0.9% participated Less than weekly.

Finding 2. Queensland children have lower and less frequent participation in physical activities during adolescence.

Finding 3. A number of gender differences emerged in relation to physical activity participation and participation frequency in Queensland.

Finding 4. Queensland children's physical activity is much broader than just sport.

Finding 5. Queensland children's top INDIVIDUAL physical activities are Chores or work involving physical activity, Active play and Swimming for leisure.

Finding 6. Queensland children like to walk and cycle when participating in Active transport.

Finding 7. Queensland children like riding on the footpath/in open spaces and general scooter riding when participating in cycling/bike riding. BMX is also popular.

Finding 8. Walking the dog is a popular physical activity for Queensland children who take part in Walking (excluding walking for active transport), along with Walking for General exercise.

Finding 9. Soccer, Netball, Basketball and Rugby league are top sports for Queensland children.

Finding 10. Swimming, Running and Gym based cardio work outs are top ways that Queensland children like to keep fit when participating in General exercise and fitness activities.

Finding 11. Fishing, Horse riding, Snow sports, Dancing and Skateboarding are top recreational activities for Queensland children.

Finding 12. Many Queensland children are spending far too much sedentary time on screens for leisure and entertainment.

Finding 13. Most of the barriers to Queensland children participating in physical activity are parent/carer–related barriers, rather than child–related barriers.

Finding 14. Children with lower levels of physical activity are generally sedentary, spend higher amounts of time on screens and have lower physical literacy.

Finding 15. Findings revealed a range of insights about the physical activity of Aboriginal and/or Torres Strait Islander children and children speaking Languages Other Than English (LOTE) and of children with disabilities and the barriers to physical activity participation.

Integrated summary and discussion of key findings

This report presents findings for data collected during 2018–19 for the Queensland Sport, Exercise and Recreation Survey of Children – 2019 (QSERSC): A proxy–based, dual frame prevalence study of children's physical activity outside school hours. Participation was measured for children aged between 5 and 17 years, with parents and carers used as a proxy to report activity participation.

A single child was randomly selected from within the household for parent/carer reporting. Dual frame refers to the sampling of parents/carers in households with landline telephones and/or mobile telephones.

The following definitions guided the survey:

Physical activity: Any bodily movement produced by skeletal muscles that requires energy expenditure and produces progressive health benefits (US National Institutes of Health and World Health Organization).

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Other definitions used in the study are in Appendix A.

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The study was conducted on behalf of Sport & Recreation, Department of Housing and Public Works, within Queensland Government. Data collection was undertaken between December 2018 and April 2019.

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This section presents an integrated summary of the study methodology, main [study] findings and a discussion of the implications of findings for encouraging physical activity of Queensland children in sport, exercise and recreation activities.

Measurement, sampling and data weighting

This survey of Queensland children's physical activity outside of school hours is a prevalence study.

Prevalence studies aim to accurately measure the number or proportion of people in a population who demonstrate a characteristic of interest. Prevalence studies use scientifically designed approaches to measurement, sampling and data weighting to ensure they produce accurate point–estimates of prevalence in the population of interest.

A detailed technical report on the study methodology is also presented in Appendix D for reference.

In summary, a number of scientific approaches were used to ensure that results are accurate for the population of Queensland children aged 5–17 years. Most notably, these included:

- Use of a probability sampling approach using dual frame CATI interviewing – Historically, population surveys have relied on random digit dial CATI surveys to sample a population of interest. In spite of the availability of low cost online survey panels, research highlights that online panels may produce biased prevalence estimates. For these reasons, a full CATI dual frame sampling approach was used to sample parents/carers at random during data collection.

- An extensive program of soft refusal conversions was undertaken to achieve world class rates of consent and response to the survey. Consistent with best practice in prevalence studies, the current study achieved a rate of consent to the study of 82% for landline/86% for mobile and a rate of response of 49% (using a more conservative method) or 64% (using a less conservative method) (equivalent to the survey relative to all in–scope numbers dialled).

- Confidence intervals and standard errors were generated as part of data analysis and were adjusted to reflect the complex sampling design.

- A new questioning approach was used to ensure accurate reporting of physical activities by parents/carers. The entire domain of physical activities (over 200 activities) was identified and cognitive interviewing was conducted with parents/carers to develop a set of 12 activity prompts (based on activity clusters) to encourage parents/carers to report the complete domain of activities undertaken by their child during the past 12 months. If a general activity was reported by parents/carers, interviewers could then prompt parents/carers to report specific subtypes of each activity mentioned (e.g., not just bike riding, but whether it was BMX, mountain biking etc.).

- Physical activity was conceptualised to include not just sports, rather was conceived as any physical activity from a holistic perspective. This included sport, exercise and recreation activities, plus any physical activity from Active play and Chores or work involving physical activity and any physical activity from Active transport.

- A dual frame sampling approach was used in the survey to ensure complete representation of children 5–17 years. Quotas were set for four child and gender age bands proportional to population in each of the 15 sampling regions. Quotas were achieved in all bands, except for two in discrete Aboriginal and/or Torres Strait Islander community regions (which lack available commercial landline and mobile sample).

- A specialised data weighting approach was also used to correct for the dual sample frame design, along with adjustments for the complex sampling approach (including various adjustments for the probability of selection of respondents).

  This included adjustments for:

  - The total number of families in the household
  - The total eligible children 5–17 in the household
  - The number of landlines in the household
  - The number of mobiles owned and answered
  - The sampling design by region (including the 15 sampling strata)
  - Population benchmark estimates of children 5–17 years in each telephone ownership stratum.

The above best practice approaches to measurement design, sampling and data weighting effectively ensure that study results are both representative of Queensland children 5 to 17 and are accurate point estimates of their total physical activity participation outside of school hours.

When reviewing summary results, note the following to assist in interpretation:

SE, LCL and UCL

- SE refers to 'Standard error', which is a measure of the statistical accuracy of the result (a measure of the dispersion of the sample around a population estimate).
- LCL refers to the Lower Confidence Limit or the lower margin of error at the 95% confidence level.
- UCL refers to the Upper Confidence Limit or the upper margin of error at the 95% confidence level.
- Caps on lines on graphs effectively represent the margin of error around results (LCL to UCL).

Odds ratios (OR)

- Odds ratios are presented to allow identification of group trends in data.
- An odds ratio of 1 implies that a result is equally likely in both groups. An odds ratio greater than one implies that the event is more likely in the second group compared to the 'reference group'. An odds ratio less than one implies that the result is less likely in the second group (compared to the reference group).

Probability values (p)

- Probability values or p values less than 0.05 were used to assess statistical significant differences (indicated through $p<.05$).
- This implies that the null hypothesis (i.e., the theory that there is no difference between groups) must be rejected and differences between groups are unlikely to be due to random sampling error.
- While only a theoretical basis, this provides an indication of the likelihood that an observed trend is 'real' (although is by no means a guarantee).
- While $p<.05$ is used to infer statistically significant differences (rejection of the null hypothesis), p values lower than this threshold are provided for reader reference.
- Results where p values are lower than .05 (e.g., $p<.01$, $p<.001$) may provide stronger evidence for rejection of the null hypothesis. Lower probability values are proposed by some authors as needed to reduce the likelihood of incorrectly rejecting the null hypothesis (e.g., Benjamin et al, 2017).
- Given the many hundreds of exploratory analyses conducted in the study, Bonferroni and other adjustments for multiple comparisons were not deemed appropriate.

Percentages and means

- As parents/carers reported measures for a single randomly selected child 5–17 years in their household, presented percentages and means are effectively equivalent to the percentage or mean results for children 5–17 years. Parents/carers were only used as a proxy for answering questions about their child.

95% confidence interval

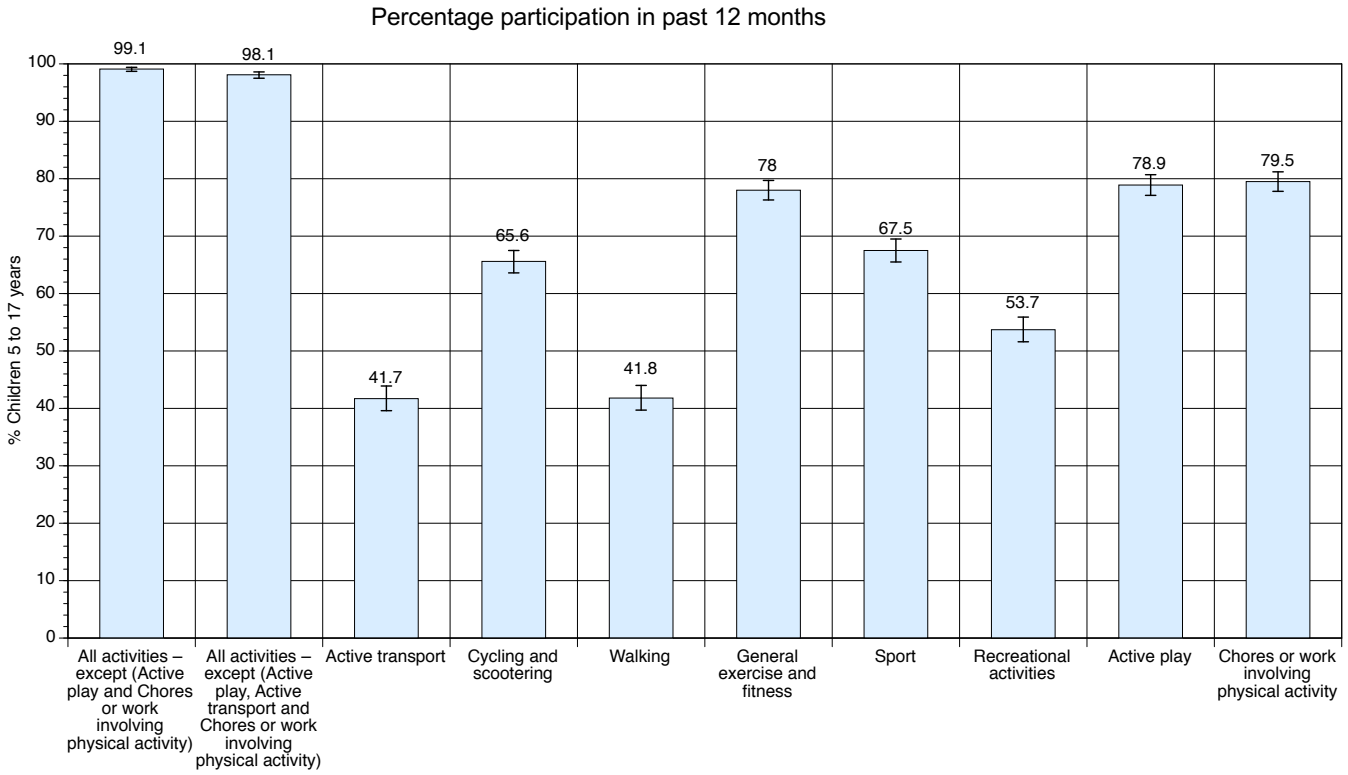
- The 95% confidence interval, denoted by the error bars defines the upper and lower confidence levels for results and reflects that the true population value for a result is likely to lie within this range in 95% of samples undertaken.

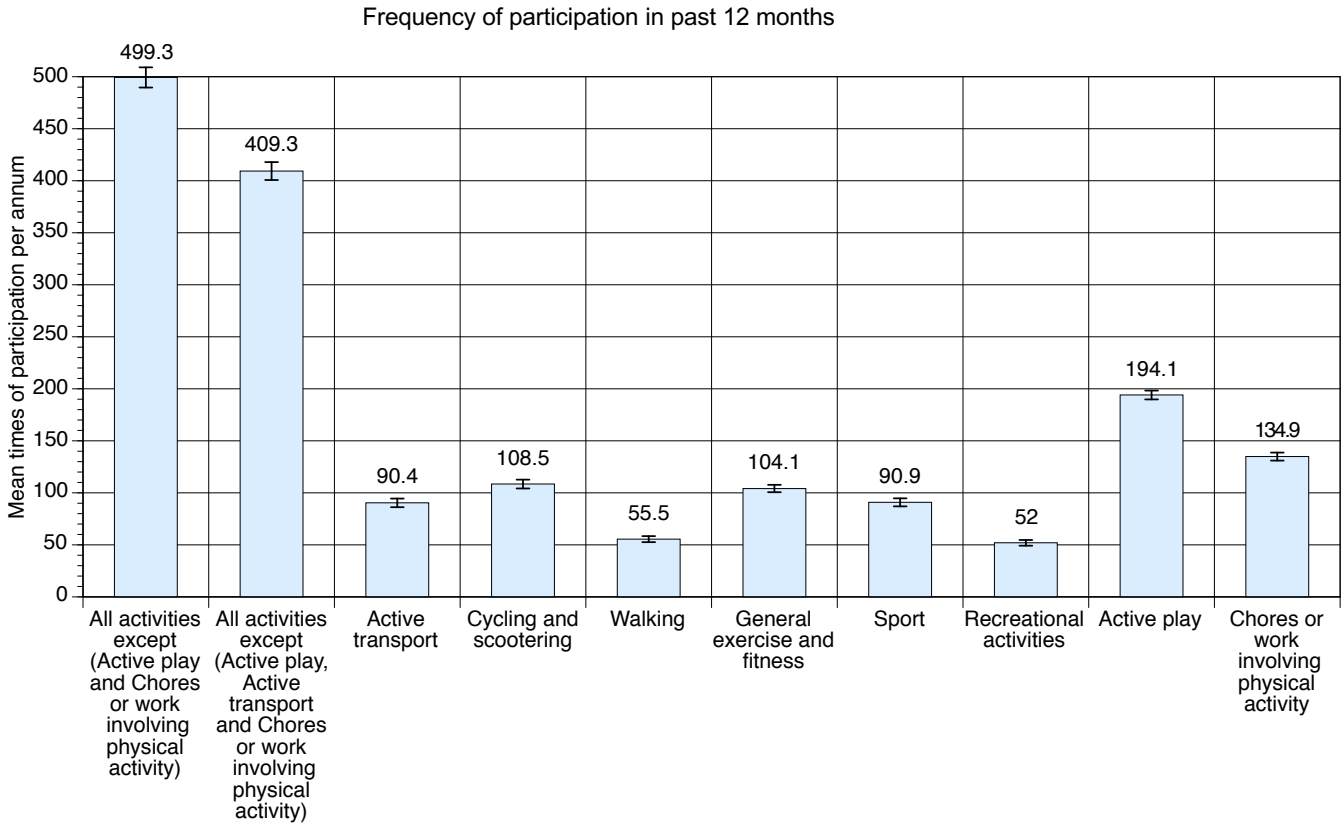
Finding 1. Queensland children's physical activity participation is highest in Chores or work involving physical activity, Active play and General exercise and fitness activities and highest frequency in Active play, Chores and work involving physical activity and Cycling and scootering.

In addition, 84.2% of children 5 to 17 years participated in physical activity Daily, 14.9% participated Weekly and 0.9% participated Less than weekly.

Queensland children 5 to 17 years had highest participation in Chores and work involving physical activity (79.5%), Active play (78.9%) and General exercise and fitness activities (78%) (Figure 1). Where the annual frequency of activity was examined, Active play (194.1 times per year) and Chores or work involving physical activity (134.9 times per year) were the most frequently undertaken activities, followed by Cycling and scootering (108.5 times per year).

Figure 1. Past year prevalence of and frequency of participation in physical activities for sport, exercise or recreation outside school hours for Queensland children aged 5 to 17 (N=5,273, December 2018 to April, 2019)





(Base: All parents/carers with a child aged 5 to 17 years – Children not participating are included in the frequency analysis to generate a population wide estimate for frequency of participation)

Findings also showed that:

- Based on all activities undertaken, 84.2% of children 5 to 17 years participated in physical activity Daily, 14.9% participated Weekly and 0.9% participated Less than weekly.
- The physical activities that had the highest percentage of Daily participation were Cycling or scootering (6.2%), General exercise and fitness (4.6%) and Active transport (4.3%).
- The physical activities that children had the lowest Daily participation were Walking (1.1%), Chores or work involving physical activity (0.2%) and Active play (0.1%).
- Following imputations of the mean session minutes per activity type for eight major types of physical activity (as the survey only examined session minutes for the three highest frequency physical activities), estimates suggested that 73.8% of children *may* have participated in at least 60 minutes of physical activity per day during the past 12 months.
- In addition, 81.5% of children 5–8 years, 79.4% of children 9–11 years, 68.7% of children 12–14 years and 61.6% of children 15–17 years *may* have participated in at least 60 minutes of physical activity per day during the past 12 months.

  It should, however, be noted that the results above relating to a minimum of 60 minutes are not equivalent to the minimum national standard of 60 minutes of Moderate to Vigorous physical activity (MVPA) for children 5–17 years.

  This is because only general physical activity, rather than MVPA was measured in the study (60 minutes of MVPA is one of the national standards) and data was only based on self–report by parents/carers (over the past 12 months) (rather than objective diary recording or use of accelerometers to measure physical activity).

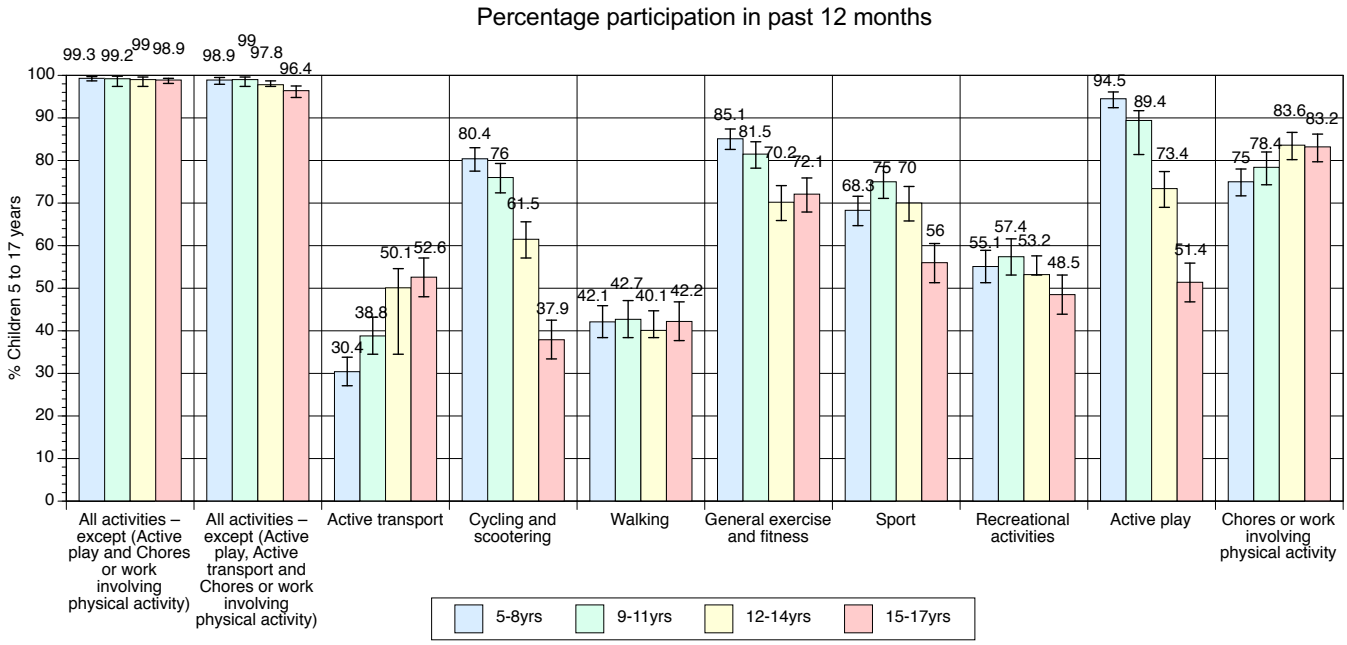
Finding 2. Queensland children have lower and less frequent participation in physical activities during adolescence.

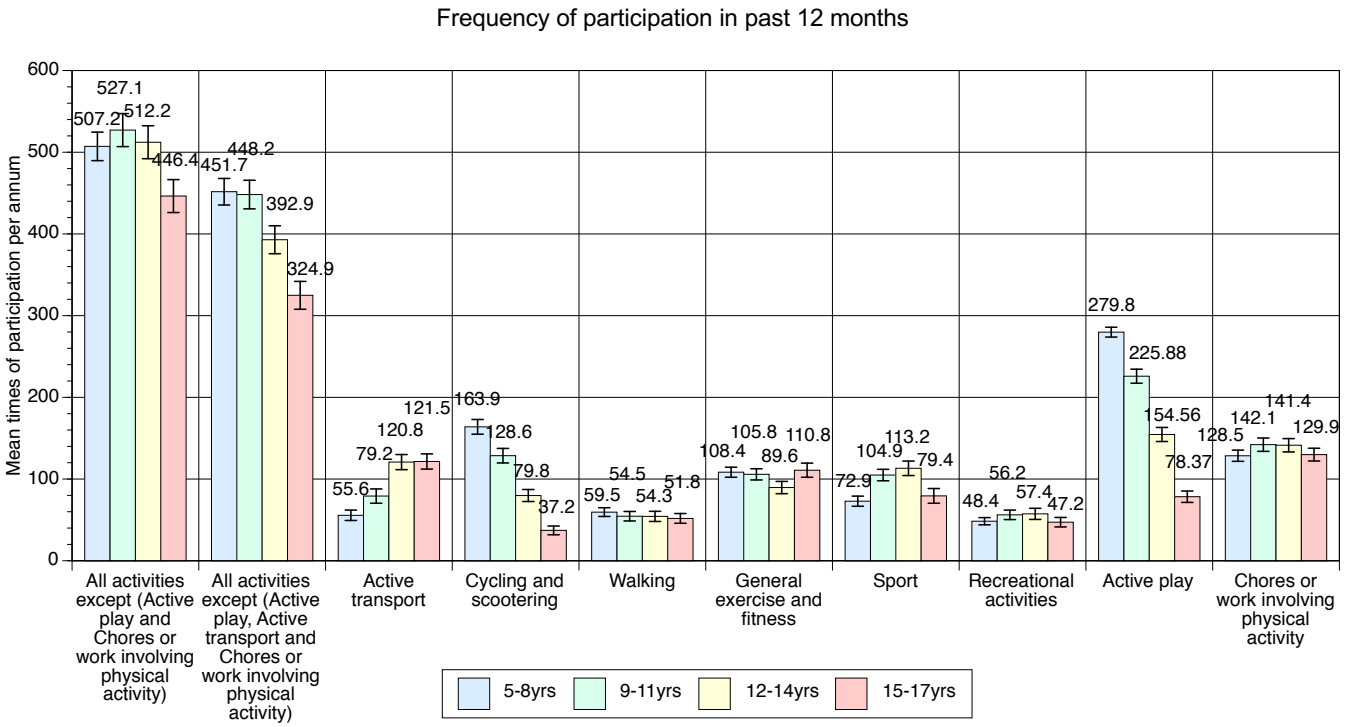
Queensland children's physical activity participation follows a developmental trajectory, with some activities showing higher or lower participation and participation frequency at particular ages (Figure 2). In particular, Active Transport participation and frequency is higher in children 15–17 years (and in older children generally), Cycling and scootering participation and frequency is higher in children 5–8 years (and in younger children generally). In comparison, walking and recreational activity participation are relatively more similar by age.

Results by age, however, highlight a general trend for children in older age groups (12–14yrs and 15–17yrs – around 'adolescent years') to have lower participation in many physical activities and undertake activities less frequently, compared to children in younger age groups (5–8yrs and 9–11yrs) (with the exception of Active Transport and participation in Chores or work involving physical activity was also higher for the older age groups). The entire population of Queensland children was the basis of both analyses below (non–participants were allocated a frequency of zero).

Lower participation by age highlights the potential for early intervention strategies to reverse declines in children's physical activity from a developmental perspective.

Figure 2. Past year prevalence and frequency of participation in physical activities for sport, exercise or recreation outside school hours for Queensland children aged 5 to 17 – Results by age
(N=5273, December 2018–April, 2019)





(Base: All parents/carers with a child aged 5 to 17 years – Children not participating are included in the frequency analysis to generate a population wide estimate for frequency of participation) See report Sections 1 and 3 for further detail.

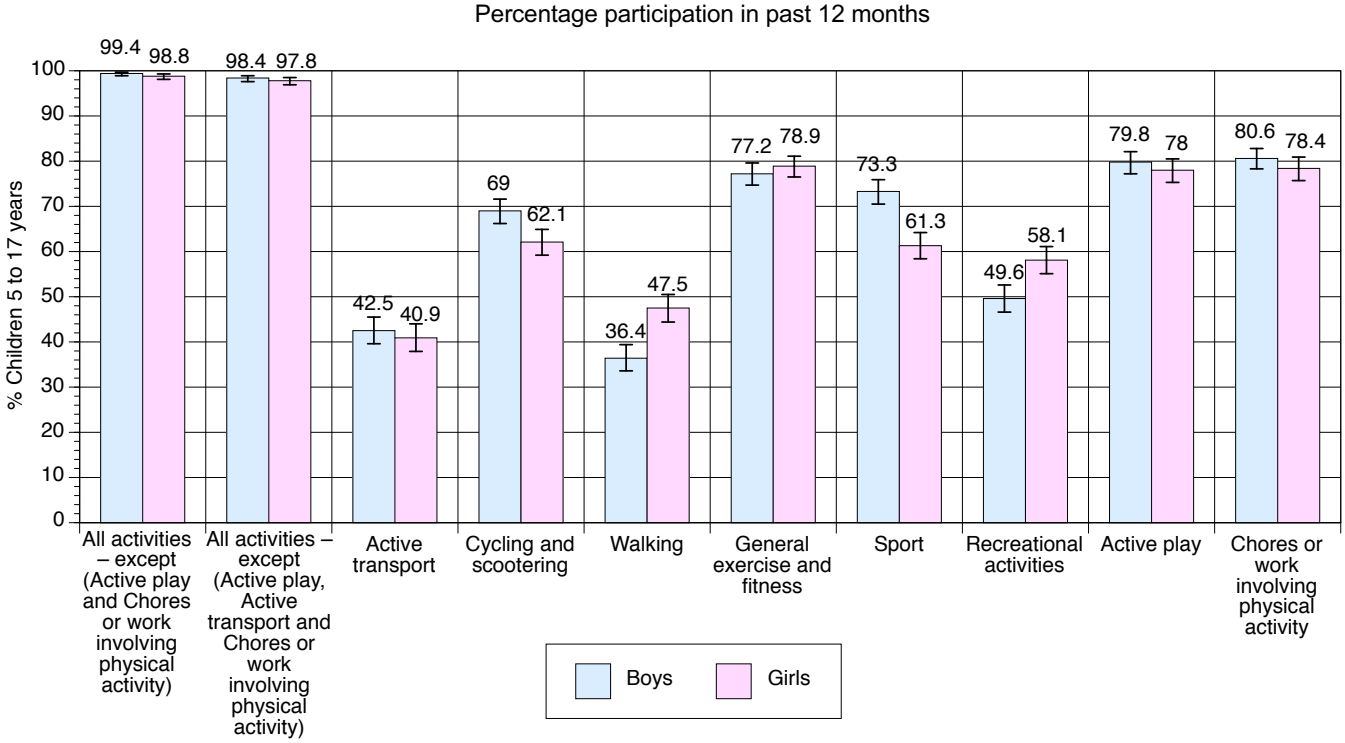
Finding 3. A number of gender differences emerged in relation to physical activity participation and participation frequency in Queensland.

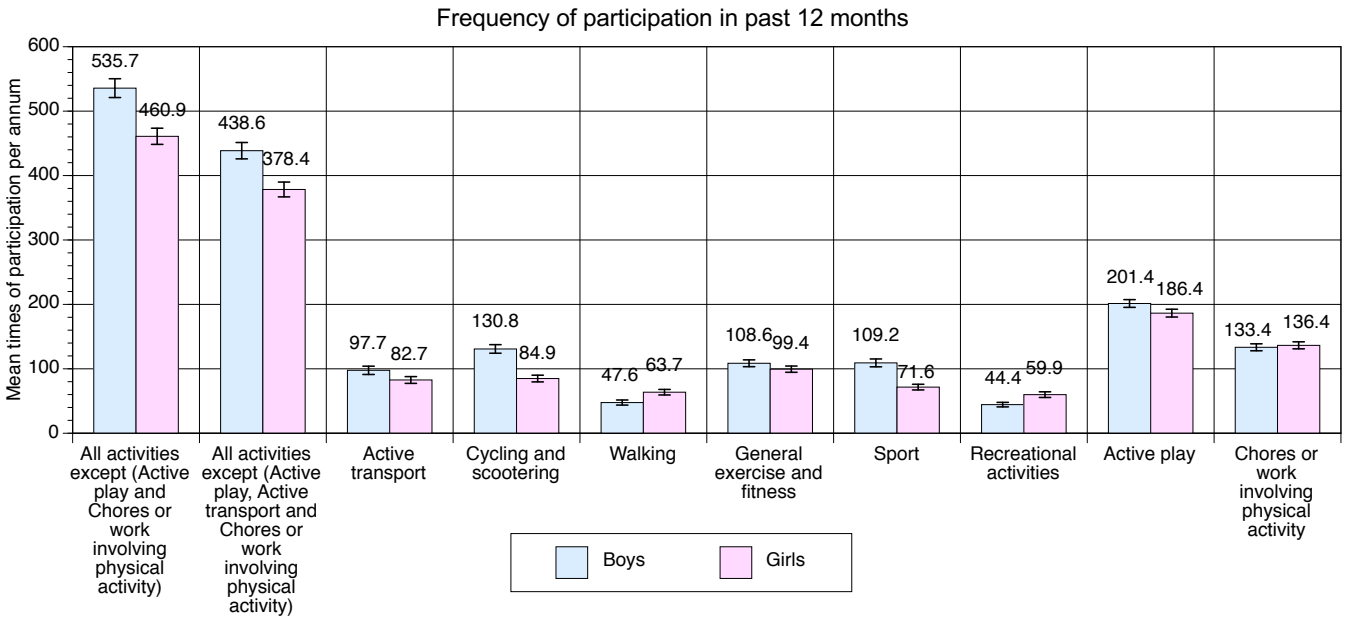
Findings highlight that boys have higher participation in some physical activities compared to girls. Compared to girls, boys were significantly more likely to have participated in Cycling and scootering (OR=1.4, p<.01) and Sport (OR=1.7, p<.001), although they were significantly less likely than girls to have participated in Walking (OR=0.6, p<.001) and Recreational activities (OR=0.7, p<.001) (The difference for Chores or work involving physical activity was not statistically significant between boys and girls).

In relation to activity frequency, boys participated significantly more frequently in Active transport (p<.001), Cycling and scootering (p<.001), Sport (p<.001) and General exercise and fitness (p<.05), while girls participated significantly more frequently in Walking (p<.001) and Recreational activities (p<.001).

Such findings highlight the potential to consider gender based differences in developing physical activity programs for Queensland children (e.g., Girls may enjoy walking more than boys, while boys may enjoy sport more than girls etc.).

Figure 3. Past year prevalence and frequency of participation in physical activities for sport, exercise or recreation outside school hours for Queensland children aged 5 to 17 – Results by gender
(N=5273, December 2018–April 2019)





(Base: All parents/carers with a child aged 5 to 17 years – Children not participating are included in the frequency analysis to generate a population wide estimate for frequency of participation) See report Sections 1 and 3 for further detail.

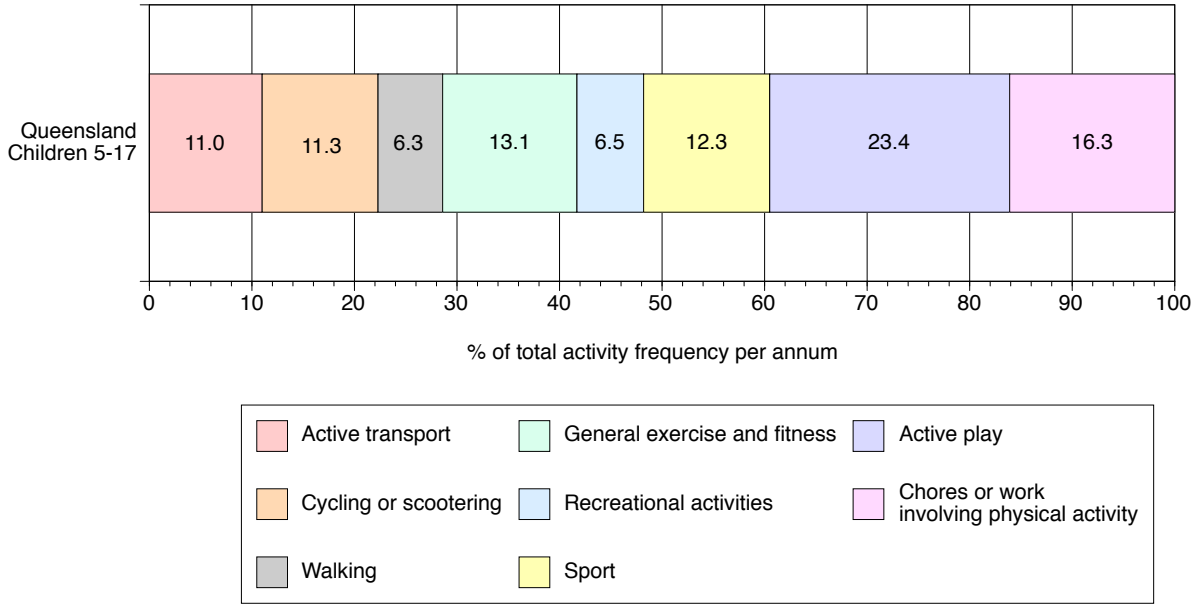
Finding 4. Queensland children's physical activity is much broader than just sport.

When the frequency of each type of physical activity was calculated as a proportion of the total frequency of all activities undertaken by each child per annum, the average 'share' of different types of physical activity (relative to total physical activity frequency) was able to be calculated.

Analysis showed that an average of 10.9% of the total times Children 5–17 undertook physical activities during the past 12 months related to Active Transport, 11.3% related to Cycling and scootering, 6.3% related to Walking, 13.1% related to General exercise and fitness, 6.5% related to Recreational activities, 12.3% related to Sport and 23.4% related to Active Play.

Such data highlights that Queensland children's physical activity is far broader than sport alone and needs to be viewed from a holistic perspective (including a strong focus on informal activities such as Active play, Walking, Cycling and scootering, General exercise and fitness). In particular, Active Play (23.4%) and General exercise and fitness activities (13.1%) are major parts of Queensland children's total physical activity.

Figure 4. Mean share of children's physical activity participation based on annual activity frequency data (N=5273, December 2018–April 2019)



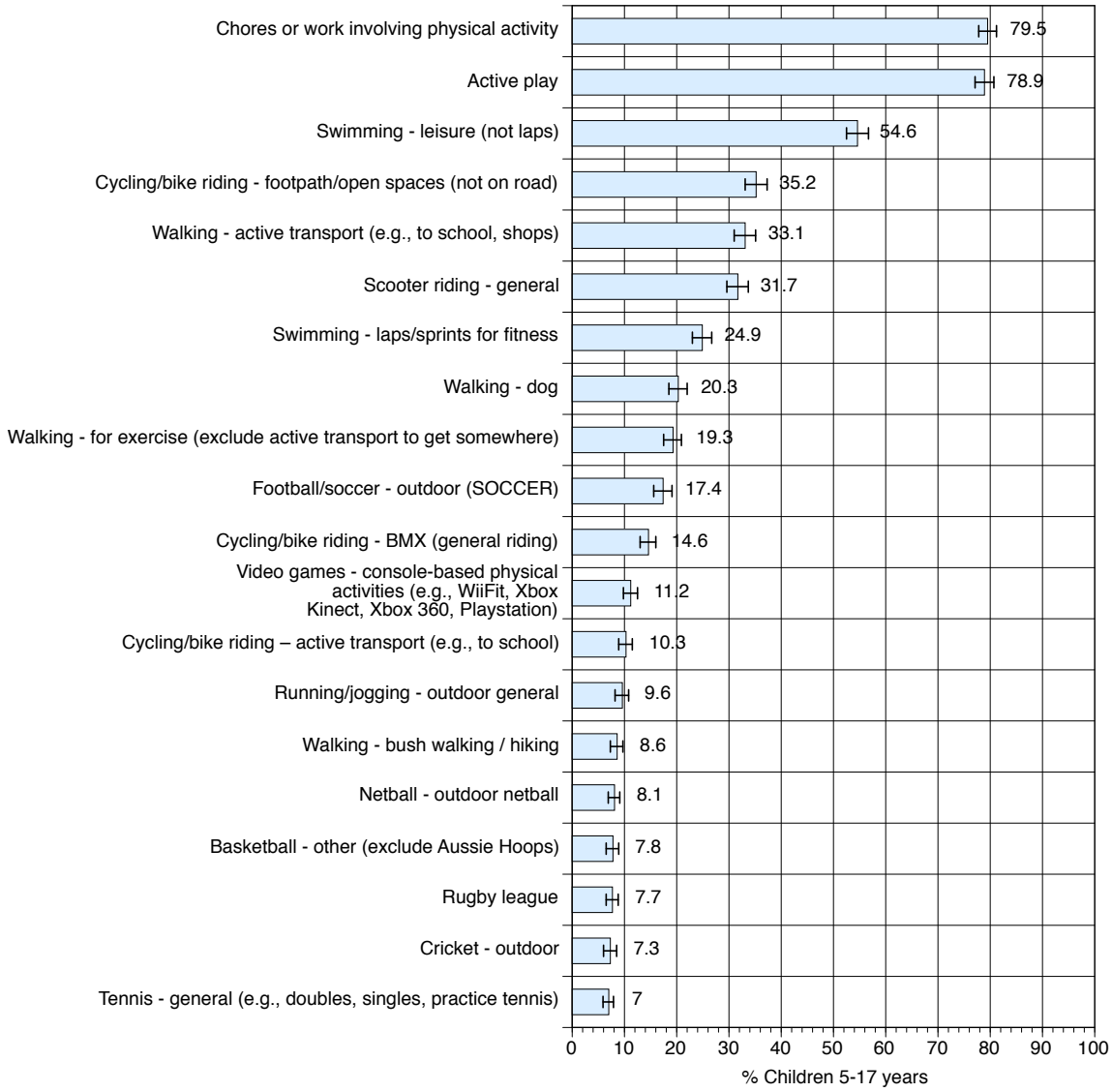
(Base: All parents/carers with a child aged 5 to 17 years – Children not participating are included in the frequency analysis to generate a population wide estimate for frequency of participation)
See report Sections 1 and 3 for further detail.

Finding 5. Queensland children's top INDIVIDUAL physical activities are Chores or work involving physical activity, Active play and Swimming for leisure.

Queensland children's top three INDIVIDUAL physical activities (excluding composite measures of multiple activities) are Chores or work involving physical activity (e.g., gardening, helping around the house) (79.5%), Active play (78.9%) and Swimming for leisure (not laps) (54.6%) (Figure 5). It is also noteworthy that most of the top 20 specific activities are informal, non–organised activities.

This highlights a need for children's physical activity to be encouraged from a holistic perspective – including a strong focus on informal activities that children do themselves.

Figure 5. Participation in specific physical activities for sport, exercise or recreation outside school hours for Queensland children aged 5 to 17 – Overall results for the top 20 activities (N=5,273, December 2018 to April, 2019)



Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

The top four INDIVIDUAL activities (excluding composite measures of multiple activities) were quite similar for different aged children, although participation differed slightly depending on the child's age:

- **For younger children** aged 5 to 8 years and 9 to 11 years, the top activities were Active play, Chores or work involving physical activity, Swimming – leisure (not laps) and cycling/bike or scooter riding.
- **For older children** aged 12 to 14 years and 15 to 17 years, the top four activities were Chores or work involving physical activity, Active play, Swimming – leisure (not laps) and Walking for active transport. This may highlight that activity changes may occur from around age 12, with slightly higher participation in activities such as Active transport, compared to younger age groups.

Top 10 for **children 5 to 8 years**	Top 10 for **children 9 to 11 years**
1. Active play – 94.5% 2. Chores or work involving physical activity – 75% 3. Swimming – leisure (not laps) – 58.1% 4. Scooter riding – general – 49.5% 5. Cycling/bike riding – Footpath/ open spaces (not on road) – 44.9% 6. Swimming – laps/sprints for fitness – 39.7% 7. Walking – active transport (e.g., to school, shops) – 23.9% 8. Walking – for exercise (exclude Active transport to get somewhere) – 21.7% 9. Football/soccer – outdoor (SOCCER) – 19.8% 10. Walking – dog – 17.7%	1. Active play – 89.4% 2. Chores or work involving physical activity – 78.4% 3. Swimming – leisure (not laps) – 61.4% 4. Cycling/bike riding – Footpath/open spaces (not on road) – 40.6% 5. Scooter riding – general – 39.1% 6. Walking – active transport (e.g., to school, shops) – 28.9% 7. Swimming – laps/sprints for fitness – 28% 8. Football/soccer – outdoor (SOCCER) – 22.4% 9. Walking – dog – 20.5% 10. Walking – for exercise (exclude Active transport to get somewhere) – 19.4%
Top 10 for children 12 to 14 years	**Top 10 for children 15 to 17 years**
1. Chores or work involving physical activity – 83.6% 2. Active play – 73.4% 3. Swimming – leisure (not laps) – 50.2% 4. Walking – active transport (e.g., to school, shops) – 38.4% 5. Cycling/bike riding – Footpath/open spaces (not on road) – 31.1% 6. Scooter riding – general. – 23.5% 7. Walking – dog – 21.6% 8. Walking – for exercise (exclude Active transport to get somewhere) – 17.8% 9. Swimming – laps/sprints for fitness – 16.8% 10. Football/soccer – outdoor (SOCCER) – 15.5%	1. Chores or work involving physical activity – 83.2% 2. Active play – 51.4% 3. Swimming – leisure (not laps) – 46.7% 4. Walking – active transport (e.g., to school, shops) – 45.4% 5. Walking – dog – 22.4% 6. Cycling/bike riding – Footpath/open spaces (not on road) – 19.7% 7. Walking – for exercise (exclude Active transport to get somewhere) – 17.3% 8. Gym – cardio exercising (exclude fitness classes) (e.g., Treadmill, Cross trainer – 13.4% 9. Running/jogging – outdoor general – 12.8 10. Gym – free weights exercising (exclude fitness classes) (e.g., dumbbells) – 10.7%

Interestingly, the top three activities for boys and girls were also virtually identical – Chores or work involving physical activity, Active play and Swimming – Leisure (not laps). Scooter riding was fourth for boys, while Cycling/bike riding – Footpath/open spaces (not on road) was fourth for girls.

Finding 6. Queensland children like to walk and cycle when participating in Active transport.

In total, 41.7% of Queensland children had participated in some type of Active transport during the past 12 months. Results showed that Walking was the top type of Active transport (33.1%), followed by Cycling/bike riding (10.3%) (Table 1).

In addition, while 93.9% of children undertook their Active transport on an informal basis, 5.9% were participating in school programs and 0.1% were participating in programs organised through clubs or other organisations.

Results also showed that (based on the three highest frequency activities reported):

- Active transport involved travel of a mean distance of 1.6 kms (one way).
- Mean session duration for Active Transport was 20.5 minutes.

Table 1. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Overall results for Active transport (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Walking – active transport (e.g., to school, shops)	33.1	1	31.1	35.2
Cycling/bike riding – active transport (e.g., to school)	10.3	0.6	9.1	11.7
Scooter riding – active transport (e.g., to school, shops)	2.9	0.3	2.3	3.6
Running/jogging – active transport (e.g., to school, shops)	0.3	0.1	0.2	0.6
Skateboarding – active transport (e.g., to school, shops)	0.2	0.1	0.1	0.4
Active transport (all of the above activities)	41.7	1.1	39.6	43.9

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

Finding 7. Queensland children like riding on the footpath/in open spaces and general scooter riding when participating in cycling/bike riding. BMX is also popular.

In total, 65.6% of Queensland children had participated in Cycling and scootering activities during the past 12 months. The top three highest participation activities were Cycling/bike riding – footpath/open spaces (not on road) (35.2%), Scooter riding – general (31.7%) and Cycling/bike riding – BMX (general riding) (14.6%) (Table 2).

Table 2. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Overall results for Cycling/scootering (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Cycling/bike riding – footpath/open spaces (not on road)	35.2	1.1	33.1	37.3
Scooter riding – general	31.7	1.0	29.7	33.8
Cycling/bike riding – BMX (general riding)	14.6	0.8	13.2	16.2
Cycling/bike riding – mountain biking/On trails	4.9	0.5	3.9	6.1
Cycling/bike riding – on–road	3.3	0.3	2.7	4.1
Cycling/bike riding – BMX at skate park	2.4	0.4	1.7	3.3
Cycling/bike riding – track or velodrome cycling	0.4	0.2	0.2	1.2
Cycling/bike riding – BMX freestyle	0.2	0.1	0.1	0.4
Cycling and scootering	65.6	1.0	63.6	67.5

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

In addition, while 98.7% of children undertook their Cycling and scootering on an informal basis, 1.4% were participating in club/organisation programs and 0.1% (each) were participating in either school or other programs.

Results also showed that (based on the three highest frequency activities reported):

- Cycling and scootering involved travel of a mean distance of 1.2 kms (one way).
- Mean session duration for Cycling and scootering was 44.6 minutes.

Finding 8. Walking the dog is a popular physical activity for Queensland children that take part in Walking (excluding walking for active transport), along with Walking for General exercise.

Overall, 41.8% of Queensland children participated in Walking during the past 12 months (excluding walking in active transport). Of all types of Walking, Walking the dog was the highest participation activity (20.3%), closely followed by Walking – general exercise (19.3%). Bush walking / hiking was also popular (8.6%) (Table 3).

Table 3. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Overall results for Walking (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Walking – dog	20.3	0.9	18.6	22.1
Walking – general exercise (exclude active transport to get somewhere)	19.3	0.9	17.7	21.1
Walking – bush walking / hiking	8.6	0.6	7.5	9.9
Walking (all of the above activities)	41.8	1.1	39.7	44

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

While 98.8% of walking participation was on an informal basis, 1% of participation was undertaken as part of a club/organisation and 0.2% was undertaken via a school program.

Results also showed that (based on the three highest frequency activities reported):

- Walking activities involved travel of a mean distance of 1.7 kms (one way).
- Mean session duration for Walking activities was 41.7 minutes.

Finding 9. Soccer, Netball, Basketball and Rugby league are top sports for Queensland children.

Overall, 67.5% of Queensland children participated in Sport during the past 12 months. Of all types of sporting activities, the top four highest participation sports were Football/soccer – outdoor (SOCCER) (17.4%), Netball – outdoor netball (8.1%), Basketball – other (exclude Aussie Hoops) (7.8%) and Rugby league (7.7%).

Table 4. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Top 10 results for Sports (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Football/soccer – outdoor (SOCCER)	17.4	0.9	15.7	19.2
Netball – outdoor netball	8.1	0.6	7.1	9.3
Basketball – other (exclude Aussie Hoops)	7.8	0.6	6.7	9.1
Rugby league	7.7	0.6	6.6	8.9
Cricket – outdoor	7.3	0.6	6.1	8.6
Tennis – general (e.g., doubles, singles, practice tennis)	7.0	0.5	6.1	8.1
Football – touch football	6.2	0.6	5.2	7.4
Gymnastics – aerobic	5.4	0.4	4.7	6.3
Football – AFL / Aussie Rules	4.2	0.4	3.5	5.0
Rugby union	3.1	0.4	2.4	3.9
Sports (all activities – not just the top 20 sports)	67.5	1.0	65.5	69.5

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

The highest participation channel for Sport was through clubs or organisations (78.7%), followed by informal channels (14.2%) and school (10.9%).

Results also showed that (when respondents reported only their three highest frequency activities):

- Sporting activities involved travel of a mean distance of 15.5 kms (one way).
- Mean session duration for Sport was 79.1 minutes.

Finding 10. Swimming, Running and Gym based cardio work outs are top ways that Queensland children like to keep fit when participating in General exercise and fitness activities.

Overall, 78% of Queensland children participated in General exercise and fitness activities during the past 12 months. Of all types of General exercise and fitness activities, swimming, running and gym had high participation.

The top four specific activities were Swimming – leisure (not laps) (54.6%), Swimming – laps/sprints for fitness (24.9%), Running/jogging – outdoor general (9.6%) and Gym–cardio exercising (4.1%) (Table 5).

Table 5. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Top 10 results for General exercise and fitness (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Swimming – leisure (not laps)	54.6	1.1	52.5	56.7
Swimming – laps/sprints for fitness	24.9	1	23.1	26.8
Running/jogging – outdoor general	9.6	0.7	8.4	11
Gym – cardio exercising (exclude fitness classes) (e.g., Treadmill, Cross trainer)	4.1	0.5	3.3	5.1
Running/jogging – Parkrun	3.8	0.4	3.1	4.6
Running/jogging – cross country	3.5	0.4	2.9	4.3
Gym – free weights exercising (exclude fitness classes) (e.g., dumbbells)	2.9	0.3	2.3	3.6
Fitness classes – boxing or boxercise (non–contact – fitness only)	1.4	0.3	0.9	2.2
Gym – weight machine exercising (exclude fitness classes)	1.1	0.2	0.8	1.5
Exercise at home – cardio (including exercise bikes, treadmill, dancing)	1.0	0.4	0.5	2
General exercise and fitness (all activities)	78	0.9	76.3	79.7

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

General exercise and fitness was undertaken largely through informal channels (69.3%), followed by clubs/organisations (27.8%) and through school (5.2%).

Results also showed that (based on the three highest frequency activities reported):

- General fitness and exercise activities involved travel of a mean distance of 5.0 kms (one way).
- Mean session duration for General fitness and exercise activities was 59.4 minutes.

Finding 11. Fishing, Horse riding, Snow sports, Dancing and Skateboarding are top recreational activities for Queensland children.

Overall, 53.7% of children aged 5 to 17 years participated in Recreational activities during the past 12 months. The top five reported Recreational activities were Fishing – recreational angling/fishing (6.6%), Horses – horse riding / trail riding / Pony Club (non–equestrian) (6.2%), Ice/snow sports – skiing, snowboarding, ice skating (excluding ice hockey) (6.2%), Dancing – jazz dancing (5.3%) and Skateboarding – general (5%) (Table 6).

Table 6. Participation in physical activities for sport, exercise or recreation outside school hours during the past 12 months for Queensland children aged 5–17 years – Top 10 results for Recreational activities (N=5273, December 2018 – April 2019)

Activities	%	SE	LCL	UCL
Fishing – recreational angling/fishing	6.6	0.5	5.7	7.6
Horses – horse riding / trail riding / Pony Club (non–equestrian)	6.2	0.5	5.2	7.3
Ice/snow sports – skiing, snowboarding, ice skating (excluding ice hockey)	6.2	0.6	5.2	7.4
Dancing – jazz dancing	5.3	0.5	4.4	6.4
Skateboarding – general	5.0	0.5	4.2	6
Dancing – ballet	4.2	0.4	3.6	5
Kayaking/ canoeing / paddling (exclude rafting, stand up paddleboard)	4.0	0.4	3.3	4.8
Dancing – Hip Hop dancing	3.7	0.4	3	4.6
Martial arts – Karate	3.5	0.5	2.6	4.6
Rollerblading – outdoor	3.4	0.4	2.7	4.2
Recreational activities (All activities)	53.7	1.1	51.6	55.9

Question: During the past 12 months, did (Child) participate in any physical activities for sport, exercise or recreation outside school hours? (Base: All parents/carers with a child aged 5 to 17 years)

Recreational activities were most commonly undertaken informally (50.4%), followed by participation through a club/organisation (46%), school (5.6%) or through another location (0.7%).

Results also showed that (based on the three highest frequency activities reported):

- Recreational activities involved travel of a mean distance of 17.2 kms (one way).
- Mean session duration for Recreational activities was 78.7 minutes.

Finding 12. Many Queensland children are spending far too much sedentary time on screens for leisure and entertainment.

The amount of time that Queensland children were reported by parents and carers to spend on screens was examined in the survey. This involved asking parents and carers to report the total minutes spent on screens outside school hours both for school work and for leisure, entertainment or other reasons.

Results showed that:

- **For school work** – 49.4% of parents and carers reported that children spent up to one hour per day, 11.9% spent more than one hour per day and 38.7% spent none per day.
- **For other screen time** (e.g., for leisure, entertainment or other reasons) – 46.3% of parents and carers reported their child spent up to one hour per day, 31.5% spent between one and two hours per day, 19.5% spent more than two hours per day and just 2.7% spent no screen time on other activities per day.
- **For total screen time** – 27.4% of Queensland children 5–17 years spent a total of one hour or less of screen time per day, 32.8% spent between one and two hours per day and 39.9% spent over two hours per day.

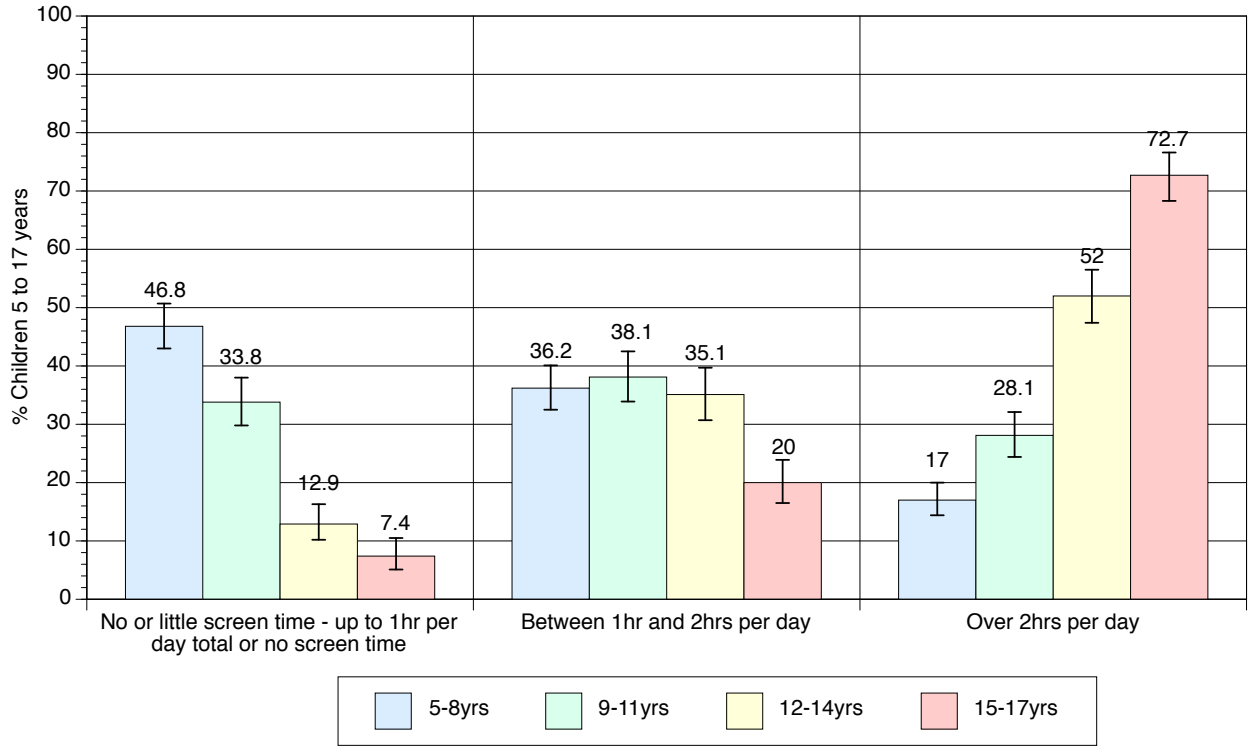
As two hours is the suggested national maximum for screen time, this implies that an estimated 39.9% of Queensland children 5–17 years are spending far too much time on screens (Australian 24–hour movement guidelines for children and young people (5–17 years)).

As parents and carers reported that children spent an average of 34.8 minutes in screen time for school work and 102.3 minutes screen time for leisure, entertainment and other reasons (a total screen time of 137.1 minutes per day), results highlight that there is potential to divert some part of children's leisure and entertainment screen time to regular physical activity.

Findings also highlighted that the total time spent on screens was extremely high for older children, with 72.7% of 15–17 year olds in particular exceeding the maximum daily recommendation of two hours screen time (Figure 6).

Boys spent a significantly lower mean number of minutes on school work, compared to girls and a significantly higher mean number of minutes on screen time for leisure, entertainment and other reasons (each $p<.001$).

Figure 6. Amount of time per day Queensland children aged 5–17 years spent on screens in total during the past 12 months – Percentage results by age (N=5273, December 2018 – April 2019)



Question: During the past 12 months, how many minutes per day on average has (Child) spent on screens outside school hours – like TV, tablets, video games and computers? Could you break this into screen time spent on school work and screen time for leisure, entertainment and other reasons? (e.g., TV, Internet, messaging or chats, social media etc.). (Base: All parents/carers with a child aged 5–17 years)

Finding 13. Most of the barriers to Queensland children participating in physical activity are parent/carer–related barriers, rather than child–related barriers.

As part of the study, parents and carers were asked to report the barriers for children doing or increasing their physical activity over the past 12 months.

Results showed that:

- **When asked to report child–related barriers** – Around 55% of parents/carer reported no barriers for children at all to increasing their physical activity. The top five reported barriers were not enough time/too many commitments (8.6%), not being interested or not liking physical activity/exercise/sport (7.2%), being too lazy (7%) and the child having a temporary illness or injury (6.5%).
- **When asked to report parent/carer–related barriers** – Around 37.2% reported no barriers for parents/carers. In addition, the top reported barriers were lack of time (30.7%), work commitments (27.5%) and the expense/costs (26.8%). Having to care for other children (8.2%) and no car or transport issues (6.2%) were also highlighted as key barriers for parents and carers.

Together, results suggest that a large proportion of parents/carers acknowledge that there are really few child–related barriers to their child increasing their physical activity level. Rather, most barriers to children taking part in physical activity are actually barriers for parents/carers, rather than for children.

Such findings highlight the need to address mainly parent/carer barriers in increasing children's physical activity and to particularly focus on ways of reducing travel and costs of activities to cater to the needs of busy Queensland parents/carers.

Finding 14. Children with lower levels of physical activity are generally sedentary, spend higher amounts of time on screens and have lower physical literacy.

As part of data analysis, all physical activity frequency variables were summed to form the total times of physical activity for each child per annum. This data was then broken down into three groups, each representing approximately one third of children (i.e., Terciles, or as close as possible to terciles).

The cut points for the terciles based on the frequency of physical activity of children were as follows:

- Low physical activity (bottom tercile or the lowest third) – less than or equal to 572 times physical activity was undertaken per annum
- Medium physical activity (middle tercile or the middle third) – 572 to 962 times that physical activity was undertaken per annum
- High physical activity (top tercile or the top third) – 963 times or over that physical activity was undertaken per annum

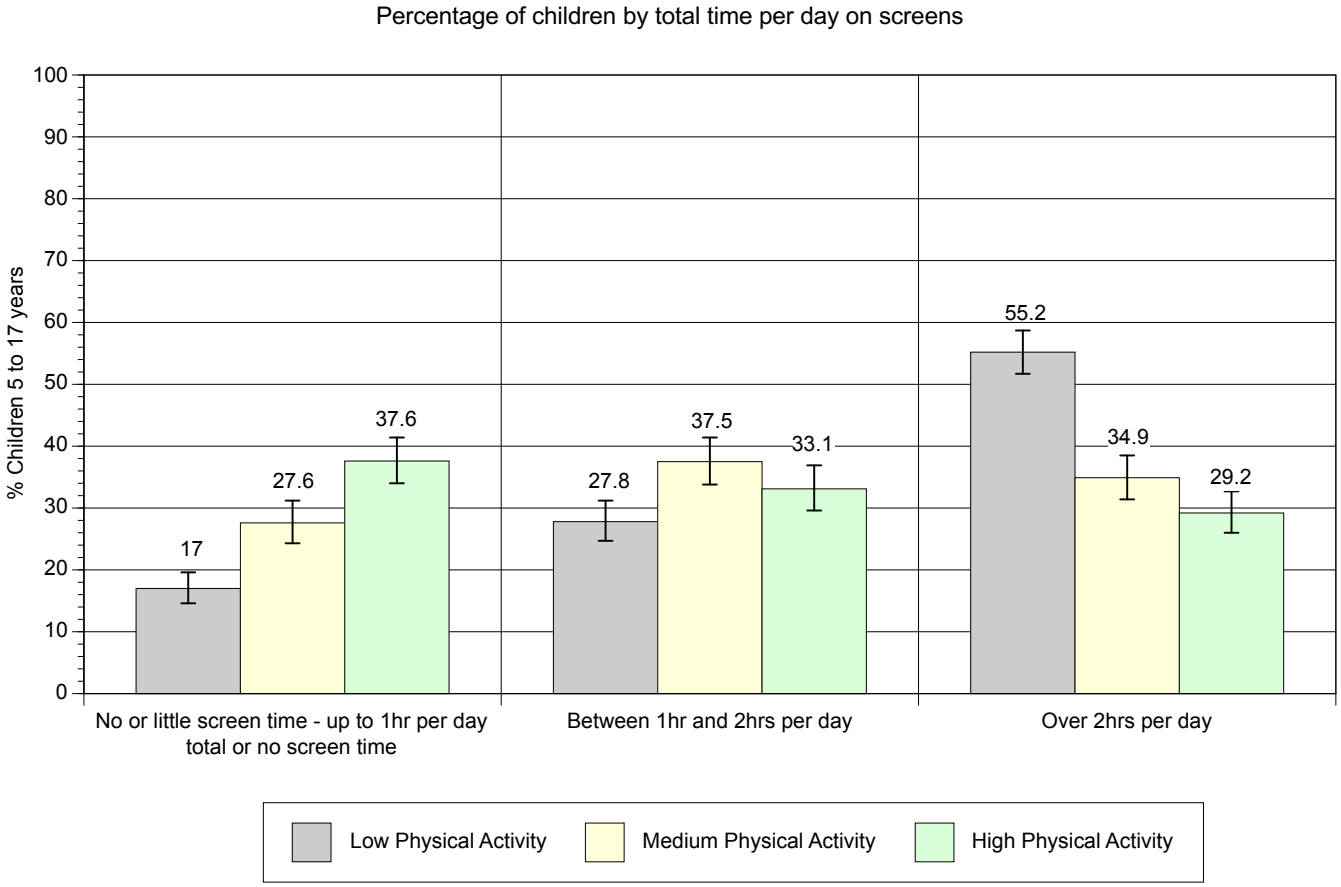
Segments were then profiled to identify the characteristics of low, medium and high physical activity groups in Queensland. It should be noted in this context that these segments are only based on Terciles and do not necessarily indicate that 'high' physical activity was sufficient.

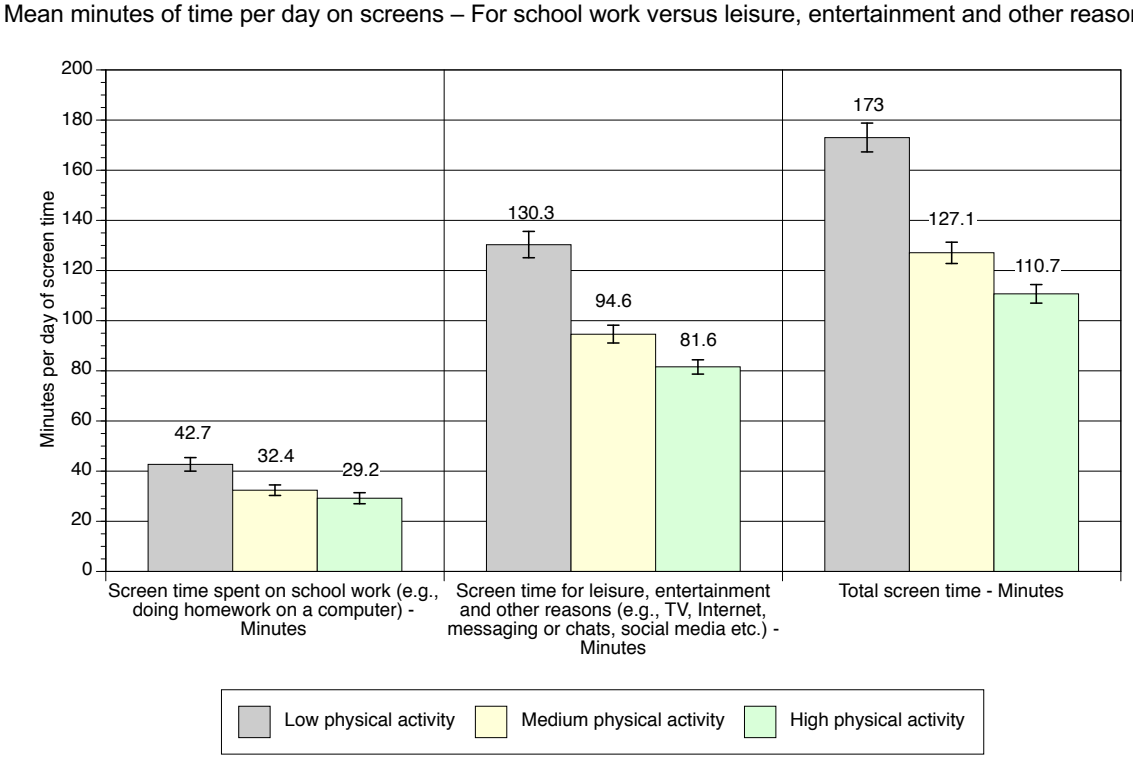
Findings interestingly showed that very few major demographic differences emerged between physical activity segments. This may suggest that low physical activity occurs for children regardless of socioeconomic background.

However, the following **important differences** were observed:

- Children in the High Physical Activity segment and Medium Physical Activity segment spent a significantly lower amount of minutes on screens for school work, leisure, entertainment and other reasons and in total, compared to the Low Physical Activity segment (each $p<.001$).

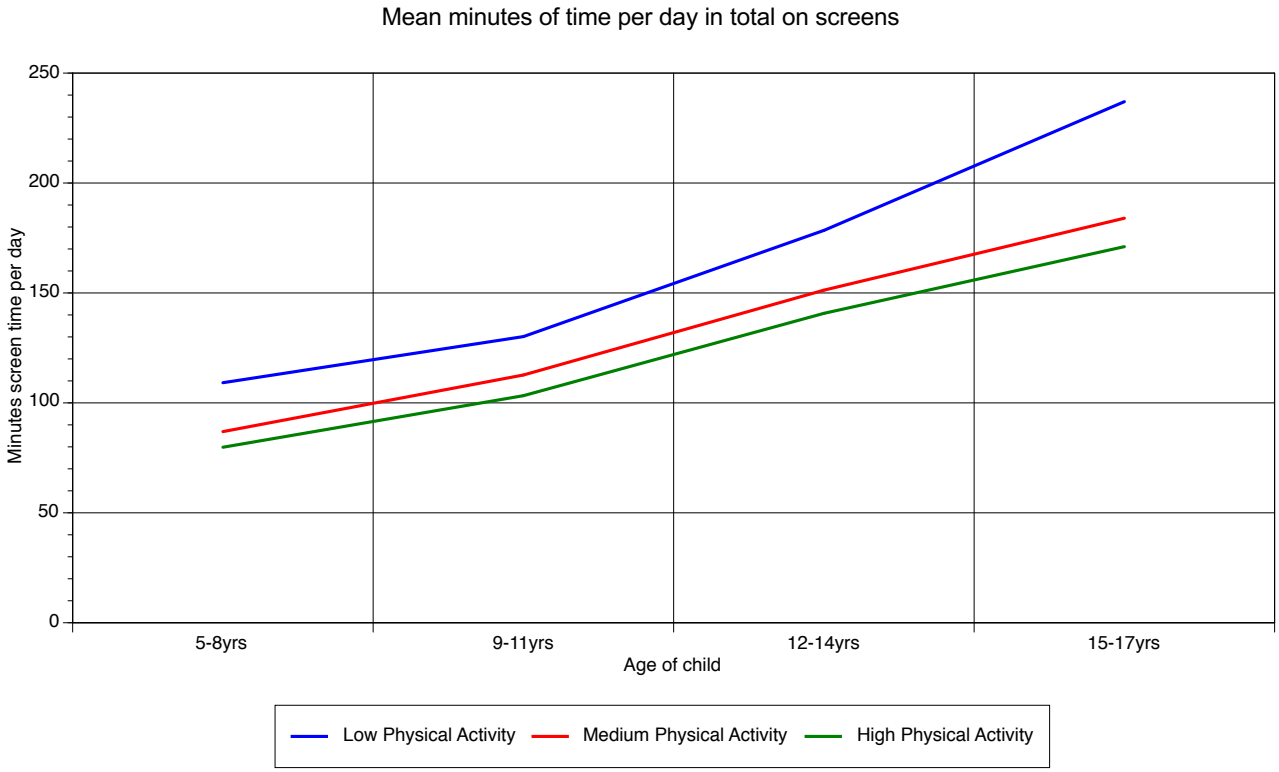
Figure 7. Low, medium and high physical activity segments in Queensland children 5–17 years – Screen time profile (N=5273, December 2018–April 2019)





(Base: All parents/carers with a child 5–17 years)

- The tendency for Low Physical Activity children in teenage years to spend more time on screens per day was particularly salient, with 15–17 year olds in the Low segment spending much higher time on screens.



(Base: All parents/carers with a child 5–17 years)

- Regardless of age, children in the Higher Physical Activity segment were reported by their parents/carer as having greater physical literacy. That is, they:

  (a) Were more likely to have sufficient experience with physical movement to feel confident with physical activity

  (b) Had a greater appreciation of the importance of physical activity and;

  (c) Were more frequently encouraged by their parent/carer to be physically active.

- Children in the High Physical Activity segment and Medium Physical Activity segment had significantly higher participation levels in all forms of physical activity (for the 200+ activities measured), compared to the Low Physical Activity segment.

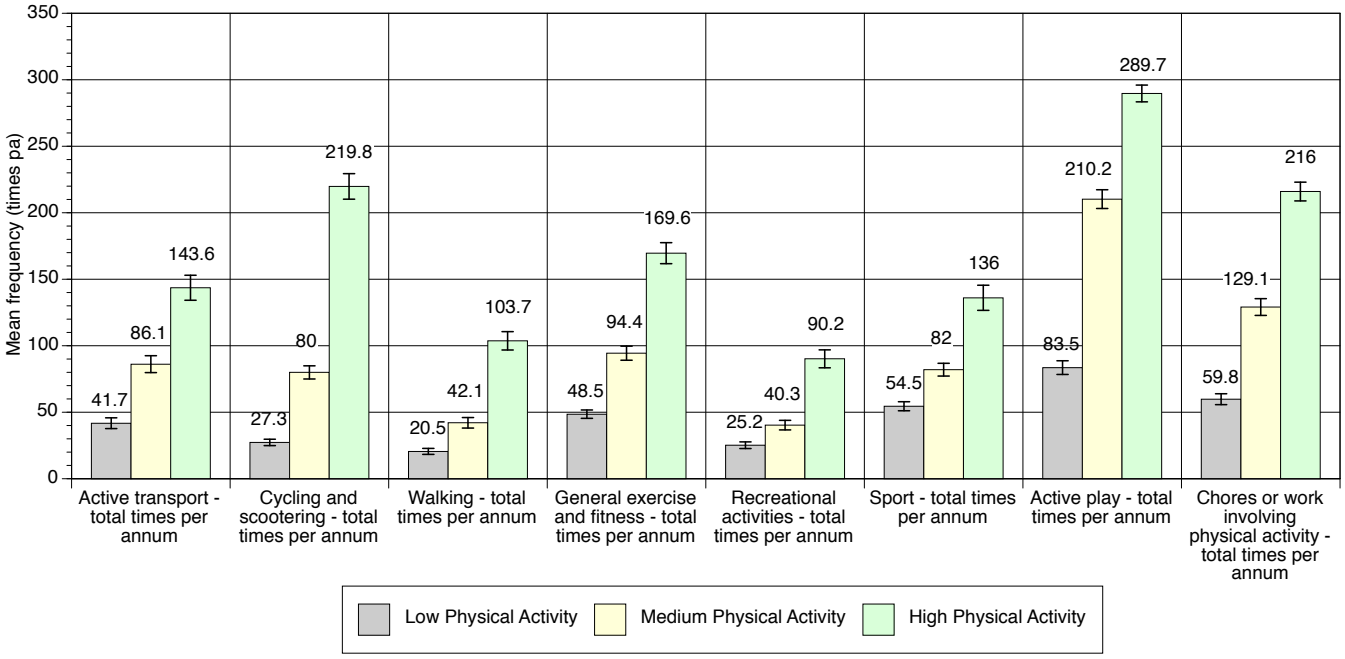
- Children in the High Physical Activity segment participated significantly more frequently in activities (for the 200+ activities measured) than the Medium and Low Physical Activity segments (each p<.001).

- Children in the High Physical Activity segment spent significantly more minutes on average on General exercise and fitness participation than the Low Physical Activity segment (p<.01).

- When their specific activity participation was observed by major or specific types of activities, overall patterns highlighted that most Low Physical Activity children were **globally sedentary**.

  This may suggest that Low Physical Activity children have generally low involvement in physical movement, whether movement is part of Sport, Exercise or even Recreational activities (etc.). It is particularly notable that they even have low involvement in readily accessible activities like Walking.

Figure 8. Low, medium and high physical activity segments in Queensland children 5–17 years – Physical activity profile (N=5273, December 2018–April 2019)



Question: How often did (Child) participate in (ACTIVITY) during the past 12 months? (Base: All parents/carers with a child aged 5 to 17 years – Children not participating are included in this analysis to generate a population wide estimate for frequency of participation) (Though children participating who did more than 12 activities may have their data excluded from the analysis, if that activity was not randomly selected for frequency data) (as a maximum of 12 activities were rated).

- When child–related barriers were examined – the top barrier for children in the Low Physical Activity segment was not being interested/not liking physical activity/exercise/sport (12.4%), not enough time/too many commitments (10.1%) and being too lazy (9.5%).

  A number of significant trends were identified in relation to child–related barriers to physical activity. Compared to the Low Physical Activity segment, the High Physical Activity segment reported the following notable child related barriers (for further barriers, see report):

  - They were less likely to report not liking physical activity/exercise/sport (OR=0.2, p<.001)
  - They were less likely to report being lazy (OR=0.5, p<.01)
  - They were less likely to report fear about participation/being scared (OR=0.4, p<.05)
  - They were less likely to report the barrier of girl/boy sport stereotypes (OR=0.04, p<.01)
  - They were less likely to report (the child – rather than the parent/carer) having a disability (OR=0.5, p<.01).

- The top parent/carer barriers to low physical activity children increasing their physical activity were all related to not having time or cost. They included lack of time (30.1%), too expensive/high cost (27.4%), work commitments (23.6%), caring for children (7.5%) and no car/poor public transport/can't get there/too far (5.9%).

Together, findings highlight that key barriers to Low Physical Activity in Queensland children are likely to primarily relate to not liking physical activity and not prioritising physical activity for MOST children (with the exception of children with disabilities).

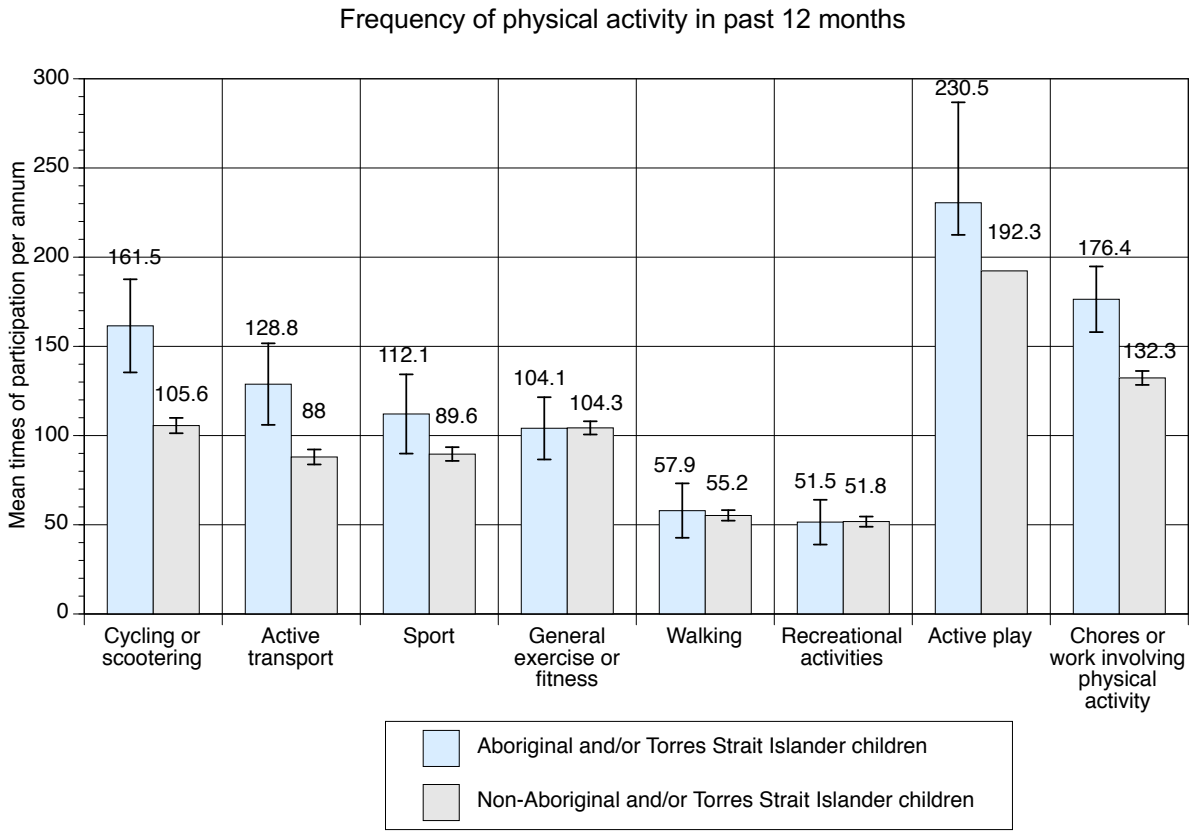
In addition, it is likely that parents/carers not having time (whether for travel, work or caring responsibilities) and having to travel to activities is a major barrier to children taking part in physical activities in Queensland, along with the cost of activities.

This highlights the need to design and implement practical strategies to provide opportunities for physical activities for Queensland children that overcome the time, travel and cost issues faced by some Queensland parents/carers.

Finding 15. Findings revealed a range of insights about the physical activity of Aboriginal and/or Torres Strait Islander children, children speaking Languages Other Than English (LOTE) and of children with disabilities and the barriers to physical activity participation.

Aboriginal and/or Torres Strait Islander children

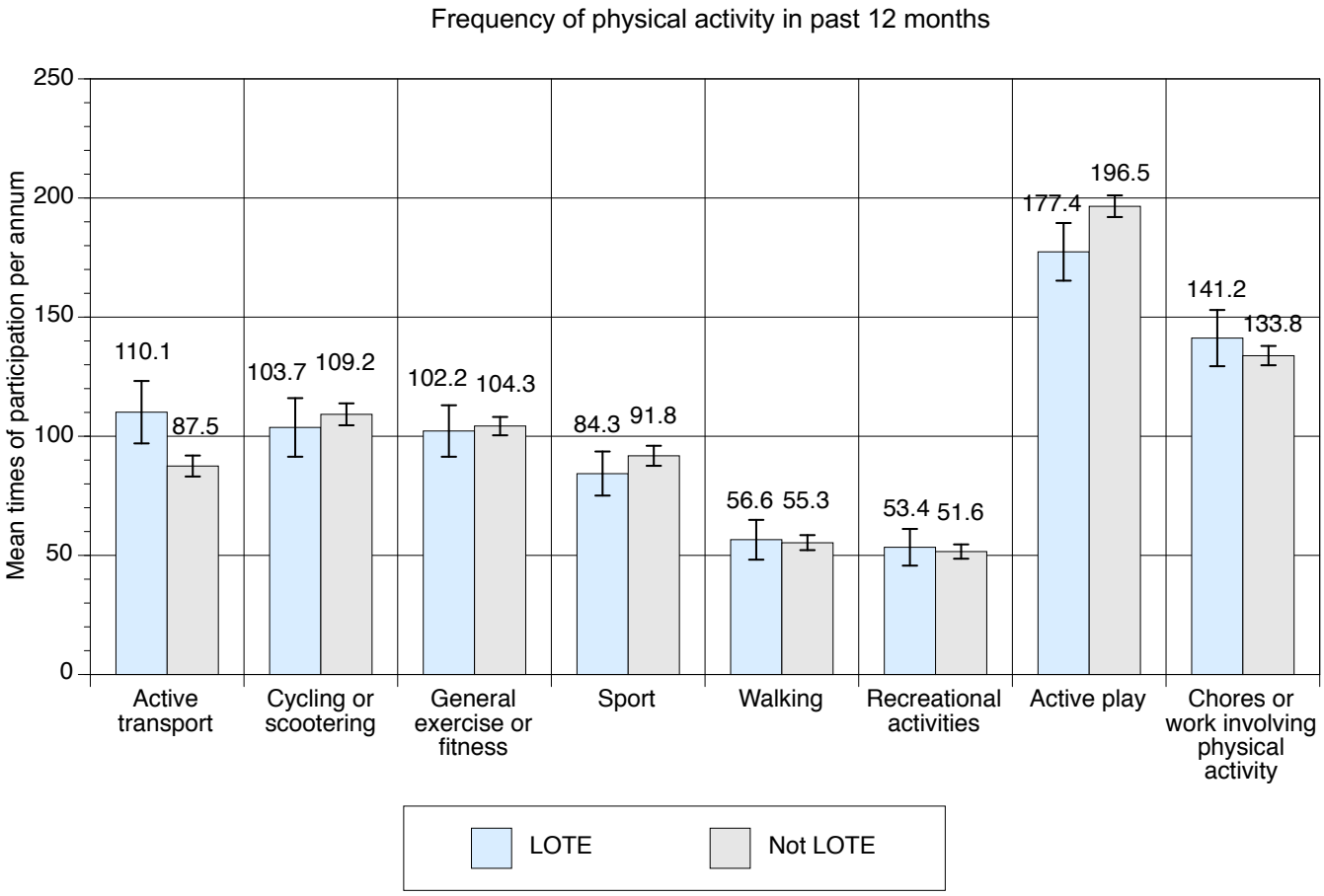
- The top three most frequent activities for Aboriginal and/or Torres Strait Islander children were Active play (230.5 times per annum), Chores or work involving physical activity (176.4 times per annum) and Cycling and scootering (161.5 times per annum).
- Aboriginal and/or Torres Strait Islander children participated more frequently than non–Aboriginal and/or Torres Strait Islander children in Active transport (p<.01), Active play (p<.01), Cycling and scootering (p<.001) and Chores or work involving physical activity (p<.01). Participation in Sport was also tending towards significance.



(Base: All parents/carers of Aboriginal and/or Torres Strait Islander background)

Children of LOTE backgrounds

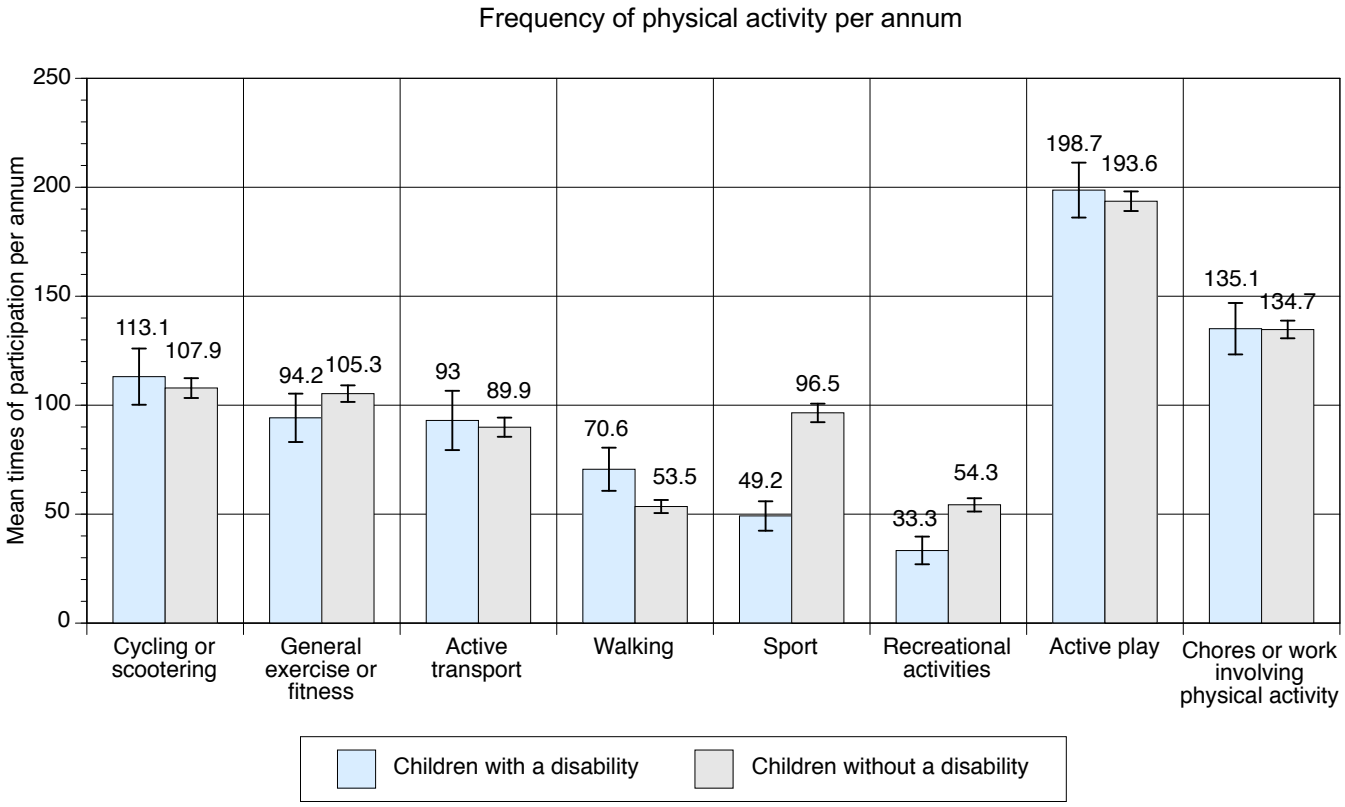
- The top three most frequent activities for children of LOTE background were Active play (177.4 times per annum), Chores or work involving physical activity (141.2) and Active transport (110.1 times per annum).
- Children of LOTE background participated more frequently than children of non–LOTE background in Active transport (p<.01).



(Base: All parents/carers of Aboriginal and/or Torres Strait Islander background)

Children with a disability

- The top three most frequent activities for children with a disability were Active play (198.7 times per annum), Chores or work involving physical activity (135.1 times per annum) and Cycling and scootering (113.1 times per annum).
- Children with a disability participated more frequently than children without a disability in Walking (p<.01) and less frequently in Recreation (p<.001) and Sport (p<.001).



(Base: All parents/carers of children with any type of disability)

Barriers for Aboriginal and/or Torres Strait Islander children and children of LOTE background and for children with a disability

The top child–related and parent–related barriers for the three segments to doing or increasing the child's physical activity were as follows (apart from 'no barriers'):

<table>
<tr><th colspan="2">Aboriginal and/or Torres Strait Islander children
(55% reported no child–related barriers, 33.1% reported no parent/carer–related barriers)</th></tr>
<tr><td>The top child–related barriers were:
Child has illness or injury – temporary (10.5%)
Not interested/doesn't like physical activity/exercise/sport (7.4%)
Child has disability (7.4%)
Fear about participation/scared (6.6%)
Too lazy (5.8%)</td><td>The top parent/carer barriers were:
Lack of time (29.9%)
Too expensive/high cost (29.7%)
Work commitments (26.2%)
No car/poor public transport/can't get there/too far (14%)
Caring for children (10%)</td></tr>
<tr><th colspan="2">Children of LOTE background
(52.8% reported no child–related barriers, 41.4% reported no parent/carer–related barriers)</th></tr>
<tr><td>The top child–related barriers were:
Not enough time/too many commitments (10.5%)
Not interested/doesn't like physical activity/exercise/sport (6.9%)
Too tired (6.6%)
Too lazy (6.4%)
Child has illness or injury – Temporary (5.6%)</td><td>The top parent–related barriers were:
Lack of time (31.5%)
Work commitments (27%)
Too expensive/high cost (22.3%)
Caring for children (7.3%)
No car/poor public transport/can't get there/too far (4.9%)</td></tr>
<tr><th colspan="2">Children with a disability
(28.1% reported no child–related barriers, 31% reported no parent/carer–related barriers)</th></tr>
<tr><td>The top child–related barriers were:
Child has disability (38.9%)
Child has illness or injury – ongoing (10.4%)
Not interested/doesn't like physical activity/exercise/sport (9.7%)
Fear about participation/scared (7.4%)
Too lazy (7.0%)</td><td>The top parent–related barriers were:
Lack of time (36.3%)
Too expensive/high cost (32.3%)
Work commitments (27%)
Caring for children (13.7%)
No car/poor public transport/can't get there/too far (9.1%)</td></tr>
</table>

Together, results highlight that, while Aboriginal and/or Torres Strait Islander children and LOTE children have few barriers to physical participation, children with disabilities report that disabilities may act as a barrier to physical activity participation.

This highlights the importance of designing and delivering mainstream programs for children with accessibility adaptations to ensure that all children can take part.

For parents, as time and related commitments (e.g., work, child care) and cost also present barriers to children's participation, this further highlights the need for future strategies to address parent/carer barriers as a means to increasing children's physical activity participation in Queensland.