



Respond

**Regional Childhood Health Behaviours and
Anthropometry Report (2019-2022):**

**Ovens Murray & Goulburn Valley
Regional Report**



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Executive Summary

Introduction

In Australia, approximately one in four school children live with overweight or obesity (1). It is estimated that obesity costs the economy around \$21 billion annually in direct health and indirect cost among adults (2). Childhood and adolescence are a critical window for obesity prevention, as childhood obesity largely persists into adulthood (3), as do health behaviours established during early life including diet and physical activity (4).

In Australia and internationally, it is imperative to monitor overweight and obesity to examine current trends in the population, identify areas of high risk or emerging disparity, support interventions, and inform policy. Australia currently lacks a systematic, routine monitoring system at the local, state, and national level (5). This contrasts with several other countries and states, including England, many US states, Singapore, Sweden, and The Netherlands (6). The Australian Institute of Health and Welfare has acknowledged that regular and extensive monitoring of overweight and obesity, including behavioural, genetic, and environmental risk factors is required locally (7).

To help support the establishment of routine monitoring in Victorian primary schools, the Ovens Murray and Goulburn Valley Health Behaviours Monitoring study was established as part of the RESPOND Partnership Project (NHMRC Reference: APP1151572). This study aims to understand the current state of children's health, providing real-time data to support and inform the work of the RESPOND communities across the Ovens Murray & Goulburn Valley regions of Victoria.

Methods

The data presented in this report were collected from two rounds of data collection between April and June 2019, and April and August 2022. In both 2019 and 2022, all primary schools (Government, Independent and Catholic) across the 12 Victorian Local Government Areas (LGAs) that make up the Ovens Murray and Goulburn Valley areas were invited to participate comprising 163 schools in 2019 and 161 schools in 2022 (two schools closed). Within participating schools, students in grade 2 (aged approx. 7-8 years), grade 4 (aged approx. 9-10 years) and grade 6 (aged approx. 11-12 years) were invited to participate.

In 2019, a total of 91 schools participated for a school-level participation rate of 56%. Out of 4,736 eligible grade 2, 4, and 6 students at participating schools, 3889 participated using an opt-out (passive) recruitment approach, resulting in a student-level participation rate of 82%. In 2022, the sample of children came from 54 primary schools across the RESPOND region, resulting in a school participate rate of 34%. Using the same opt-out recruitment approach, 1819 children (out of 2945) in grades 2, 4, and 6 participated in the study in 2022 (62% participation rate). It is important to note the very high absentee rate in 2022, at the time, there were approximately 17%

of students away from school due to illness (most likely COVID-19 infections) as Victoria was experiencing high infections rates (8).

Participating students were invited to have their height and weight measured by data collectors trained in standardised protocols including prioritising student safety and privacy and minimising COVID transmission risk/social distancing. Grade 4 and grade 6 students were also invited to complete a questionnaire examining food and drink consumption, physical activity and screen time, sleep, and wellbeing.

Prevalence of overweight/obesity was calculated using the World Health Organization's age and sex-specific body mass index growth reference (9). The Australian Dietary Guidelines were used for fruit consumption (≥ 2 serves/day) and vegetable consumption (≥ 5 serves/day for 9–13-year-olds, ≥ 5.5 serves/day for boys aged 12+) (10). The Australian Department of Health and Aged Care's 24-hour Movement guidelines were assessed for physical activity (≥ 60 mins of moderate-to-vigorous physical activity per day for the previous 7-days), screen-time (≤ 2 hrs/day for the previous 7-days) outside of school and sleep (9-11 hrs per night) (11).

This report presents the findings for children's health and wellbeing as an entire "whole-of-region" representing the Ovens Murray and Goulburn Valley region, and by the Local Public Health Unit (LPHU) catchments (Goulburn Valley Public Health Unit and Ovens Murray Public Health Unit) level. Prevalence estimates at the LGA level are provided in tables in the appendices.

Results

Key general finding across the RESPOND region level, across the two times points, are outlined in the table below. Detailed findings at the LPHU catchment level, are provided within the body of the report.

<p>Overweight and obesity*</p>	<p>Overall, 39.2% of students were classified with overweight or obesity in 2022.</p> <p>Trend across timepoints – Prevalence of combined overweight and obesity significantly increased by 4.4% (95%CI:1.2; 7.6) from 2019-2022. This change was significant overall and among boys.</p>
<p>Vegetable and Fruit consumption**</p> <p>Recommendations: Vegetables (≥5 serves/day, ≥5.5 for boys 12+) Fruit (≥2 serves/day)</p>	<p>Overall, 11.9% of students (10.4% of boys and 13.4% of girls) met the daily vegetable intake recommendation in 2022.</p> <p>Overall, 73% of students (72.4% of boys and 73.6% of girls) met the daily fruit intake recommendations in 2022.</p> <p>Trend across timepoints – Proportion of students meeting the vegetable consumption guideline significantly decreased overall [-4.3% (95%CI: -7.3; -1.4)] and among boys [-4.8% (95%CI: -8.3; -1.3)] between 2019 and 2022. No significant changes were noted in fruit consumption among boys or girls.</p>
<p>Meeting Physical Activity guidelines**</p> <p>(≥ 1 hr/ day moderate to vigorous, 7 days/week)</p>	<p>In 2022, 14.5% of students (17.8% of boys and 11% of girls) met the 7-day physical activity guidelines every day of the week.</p> <p>Trend across timepoints – The proportion of boys meeting this recommendation significantly declined [-11.4% (95%CI: -16.0; -6.8)] and also among girls [-7.6% (95%CI: -11.5; -3.8)].</p>
<p>Meeting Screen-Time guidelines**</p> <p>(≤ 2 hrs/ day recreational screen time, 7 days/week)</p>	<p>Overall, 45.6% of students (40.6% of boys and 50.9% of girls) met the 7-day screen-time guidelines in 2022.</p> <p>Trend across timepoints – There was a significant decrease in the proportion of students meeting the 7-day screen-time guidelines between 2019 and 2022 (overall, [-9.5% (95%CI: -13.7; -5.2)]).</p>
<p>Active Transport**</p>	<p>In 2022, 29.1% of students reported (32.2% of boys and 25.8% of girls) using active transport to get to, and/or home again from, school.</p> <p>Trend across timepoints – Between 2019 and 2022, rates of active transport remained stable for the overall region and for boys but decreased significantly among girls (-4.9% [95%CI-9.7; -0.1]).</p>
<p>Meeting Sleep recommendations**</p> <p>(9-11 hours/day)</p>	<p>Overall, 72% of students met the recommended sleep guidelines in 2022 (boys 71.5%; girls 72.4%).</p> <p>Trend across timepoints – The proportion of students meeting the sleep recommendation remained stable across 2019 and 2022.</p>
<p>Takeaway food consumption**</p> <p>(≤ 1 meal/fortnight)</p>	<p>Collectively, 45.5% of students consumed take-away as a meal once a fortnight or less in 2022.</p> <p>Trend across timepoints – The reported frequency of consumption of take-away food as a meal increased between 2019 and 2022 among both boys (-13.0% [95%CI-18.1; -7.9]) and girls (-16.9% [95%CI-22.1; -11.7]).</p>
<p>Health Related Quality of Life Scores (HRQoL)**</p> <p>(Score range 1-100)</p>	<p>In 2022, mean Physical HRQoL scores were 76.4/100 for students and 66.4/100 for Psychosocial HRQoL.</p> <p>Trend across timepoints – Significantly lower HRQoL scores, for both Physical HRQoL [-5.2 (95%CI: -6.5; -3.8)] and Psychosocial HRQoL [-6.3 (95%CI: -7.8; -4.9)], were observed in 2022, compared to 2019.</p>

*Among Grade 2,4 and 6 students **Among Grade 4 and 6 students

Conclusions

These data demonstrate change in many RESPOND domain measures across the timepoints (i.e., overweight/obesity, physical activity, and health-related quality of life) and some distinct differences between genders within the domains (i.e., screentime). The notable changes in several domains (i.e., healthy weight, physical activity, takeaway consumption and wellbeing) highlight the opportunities for improvement in the health of children across the Ovens Murray and Goulburn Valley region. In addition, the measures in this report illustrate health behaviour changes across the regions from immediately before COVID19 pandemic through to the post-COVID19 recovery, and reinforces the need for collaborative, whole-of-community efforts to improve children's health across the region.

1. Introduction

The Study

The RESPOND Ovens Murray and Goulburn Valley Primary School Health Behaviours Monitoring study is a large population study aiming to understand the current state of healthy weight and associated behaviours among primary school children within the Ovens Murray and Goulburn Valley regions of Victoria.

This report outlines findings from data collection that occurred in early 2019 and again in 2022. Having two rounds of data, allows for examination on how children’s healthy weight and health behaviours changed across the Ovens Murray and Goulburn Valley, particularly given the implications of the COVID-19 pandemic experienced during this period.

The data presented in this document may be classified into four domains: Food and Drinks, Activity and Screen Time, Sleep & Wellbeing, and Healthy Weight.

Figure 1: Core domains of the RESPOND Health Behaviours Monitoring Study



The delivery of this study was enabled by strong support from various community partners across the RESPOND region. We sincerely thank all the partners for their contributions, as well as the schools and students across the RESPOND region who participated in data collection.

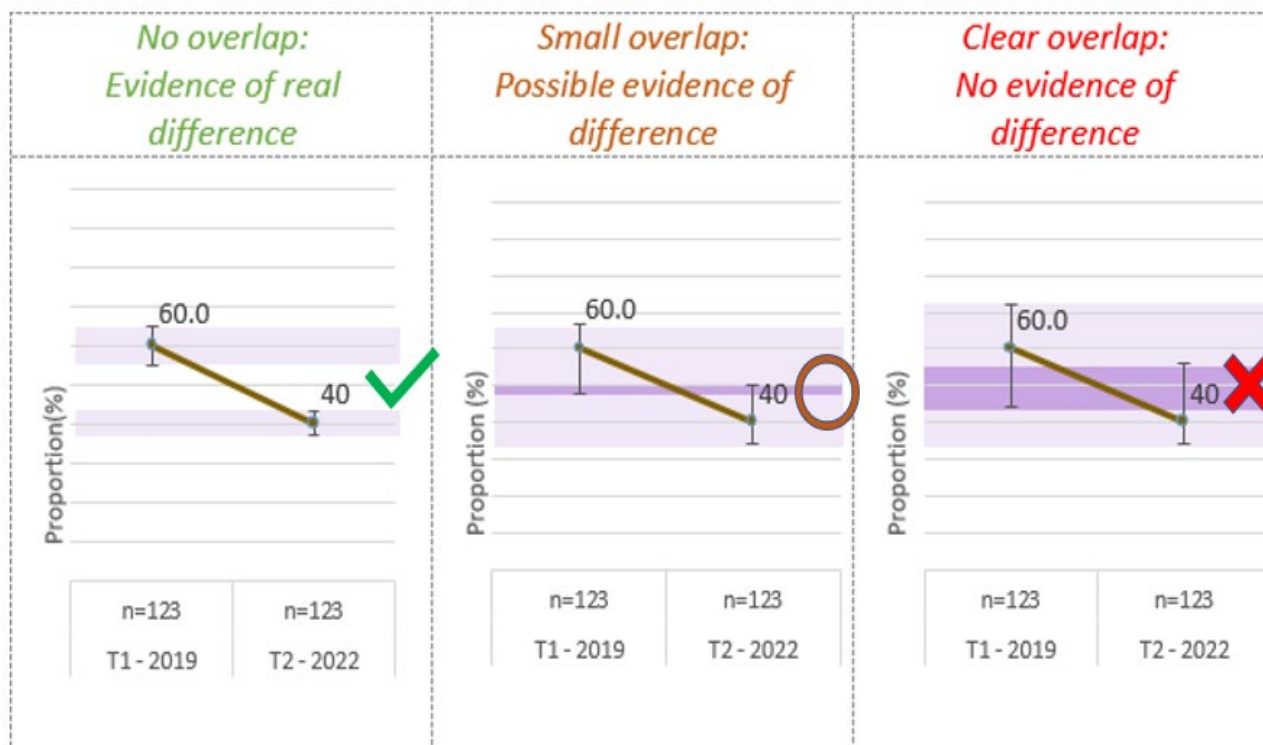
Reading and Comparing Figures in This Report

This report contains data that have been processed to allow fair comparisons between groups, across regions and between 2019 and 2022. Factors such as socioeconomic advantage, rurality, and school type (i.e., Government, Catholic or Independent school) can change from region to region, meaning that we may not be comparing like with like when it comes to the unprocessed data.

The RESPOND Monitoring Team have conducted small, but important adjustments to the data to make sure differences in these data are meaningful, using statistical analyses that are standard in large population-level studies like this one. The adjustments may have changed the figures presented in this report by between 0.01 to 2.5 percentage points.

The figures in this report show differences between statistics using Confidence Intervals. The Confidence Intervals (shown as the black bars that extend a little above and below the tops of each data point in the graphs) are an indicator of how confident we are in a particular statistic. The distance between two confidence intervals gives us an idea of how likely it is that two groups are truly different, given the size of the sample and the frequency of the outcome. If two confidence intervals have a large gap between them, we can be confident that we are seeing a real difference between the groups, whereas if there is a clear overlap, we have not seen a difference between groups.

Figure 2: Visual interpretation of differences between statistics using confidence intervals



2. Our Study Participants

In both 2019 and 2022, prior to data collection, every school across the Ovens Murray and Goulburn Valley region was invited to participate in the study. At participating schools, we invited every grade 2, 4, and 6 student to participate. The table below provides a summary of school and student response rates for 2019 and 2022 monitoring rounds.

Table 1: RESPOND 2019 and 2022 Ovens Murray and Goulburn Valley Primary School Health Behaviours Monitoring study response rates

	School Response Rate		Student Response Rate	
	n	%	n	%
2019	91/163	56%	3889/4736	82%
2022	54/161	34%	1819/2945	62%

The table below provides basic characteristics of study sample for 2019 and 2022.

Table 2: Basic characteristics of the RESPOND 2019 and 2022 Ovens Murray and Goulburn Valley Primary School Health Behaviours Monitoring study sample

	2019		2022	
	n	%	n	%
Gender				
Male	1959	50.5	923	50.8
Female	1917	49.4	877	48.3
Don't wish to say	1	0.0	16	0.9
Grade				
2	1288	33.1	624	34.4
4	1376	35.4	609	33.5
6	1225	31.5	583	32.1
School type				
Government	3427	88.1	1607	88.5
Catholic	248	6.4	142	7.8
Independent	214	5.5	67	3.7
Indigenous/TSI	212	10.1	113	11.2
Speak LOTE at home	209	8.1	156	13.4

Notes: TSI = Torres Strait Islander; LOTE = Language Other Than English

3. Findings - The RESPOND Region

This section of the report presents the results of the 2019 and 2022 Ovens Murray and Goulburn Valley Primary School Health Behaviours Monitoring study, at the “whole-of-region” level. Figure 3 provides a map overview of the Ovens Murray and Goulburn Valley RESPOND region within Victoria.

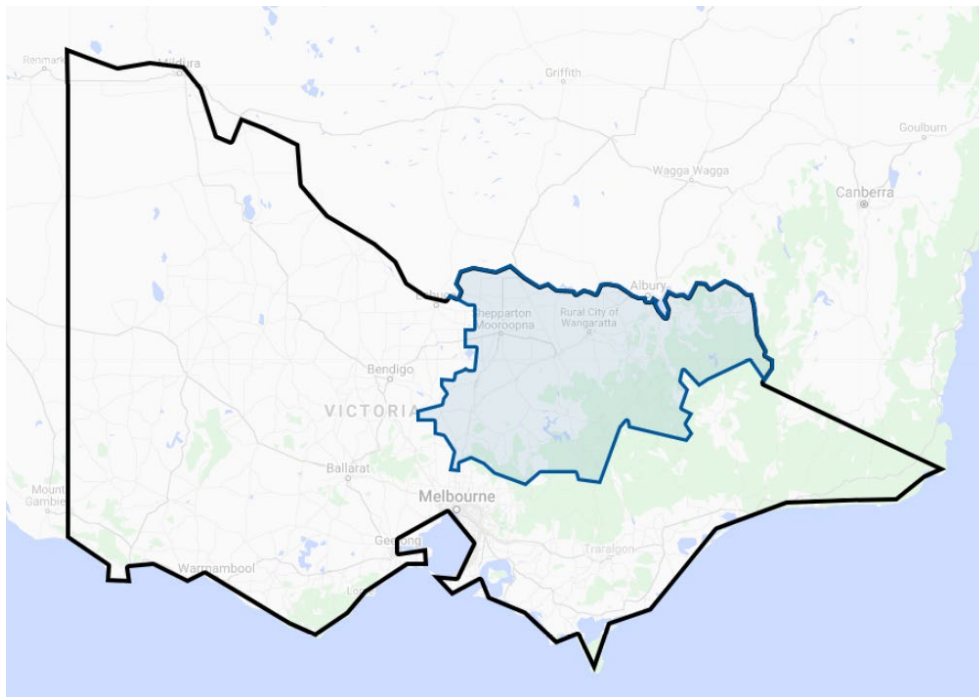
Data are presented by gender and grade and have been adjusted to allow for comparison between the different groups of students.

The following outcomes are presented in this section:

Table 3: Overview of monitoring outcomes presented at the RESPOND region level

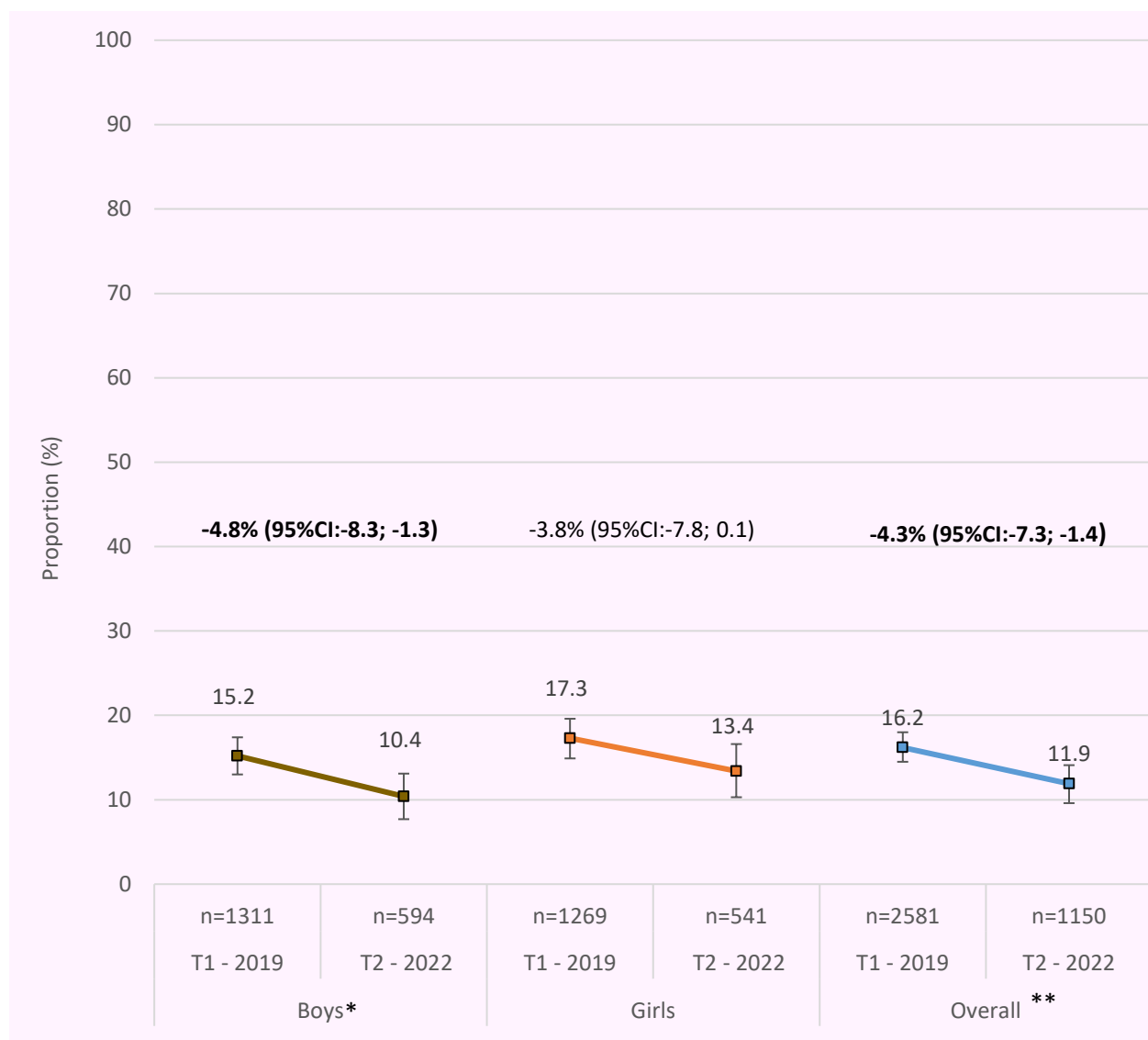
Food & Drinks	Vegetable Guideline Attainment Fruit Guideline Attainment Takeaway Meal Consumption Unhealthy Snack Consumption Water Consumption Sugary Drink Consumption
Activity & Screen Time	Physical Activity Guideline Attainment Screen Time Guideline Attainment Active Transport Use
Sleep & Wellbeing	Sleep Guideline Attainment Physical Wellbeing Psychosocial Wellbeing
Healthy Weight	Combined Overweight & Obesity

Figure 3: Overview of the Ovens Murray and Goulburn Valley RESPOND region within Victoria



Figures 4 and 5 show the proportion of students consuming the recommended number of serves of vegetables (≥ 5 serves per day, ≥ 5.5 per day for boys 12+) and fruit (≥ 2 serves per day). There has been a significant decrease in boys' consumption of vegetables ($p < 0.01$) and an overall decrease in consumption of vegetable across the region ($p < 0.01$).

Figure 4: Proportion of participating grade 4 & 6 students meeting the vegetable consumption guidelines every day



* $p < 0.05$ ** $p < 0.01$

Figure 5: Proportion of participating grade 4 & 6 students meeting the fruit consumption guidelines every day

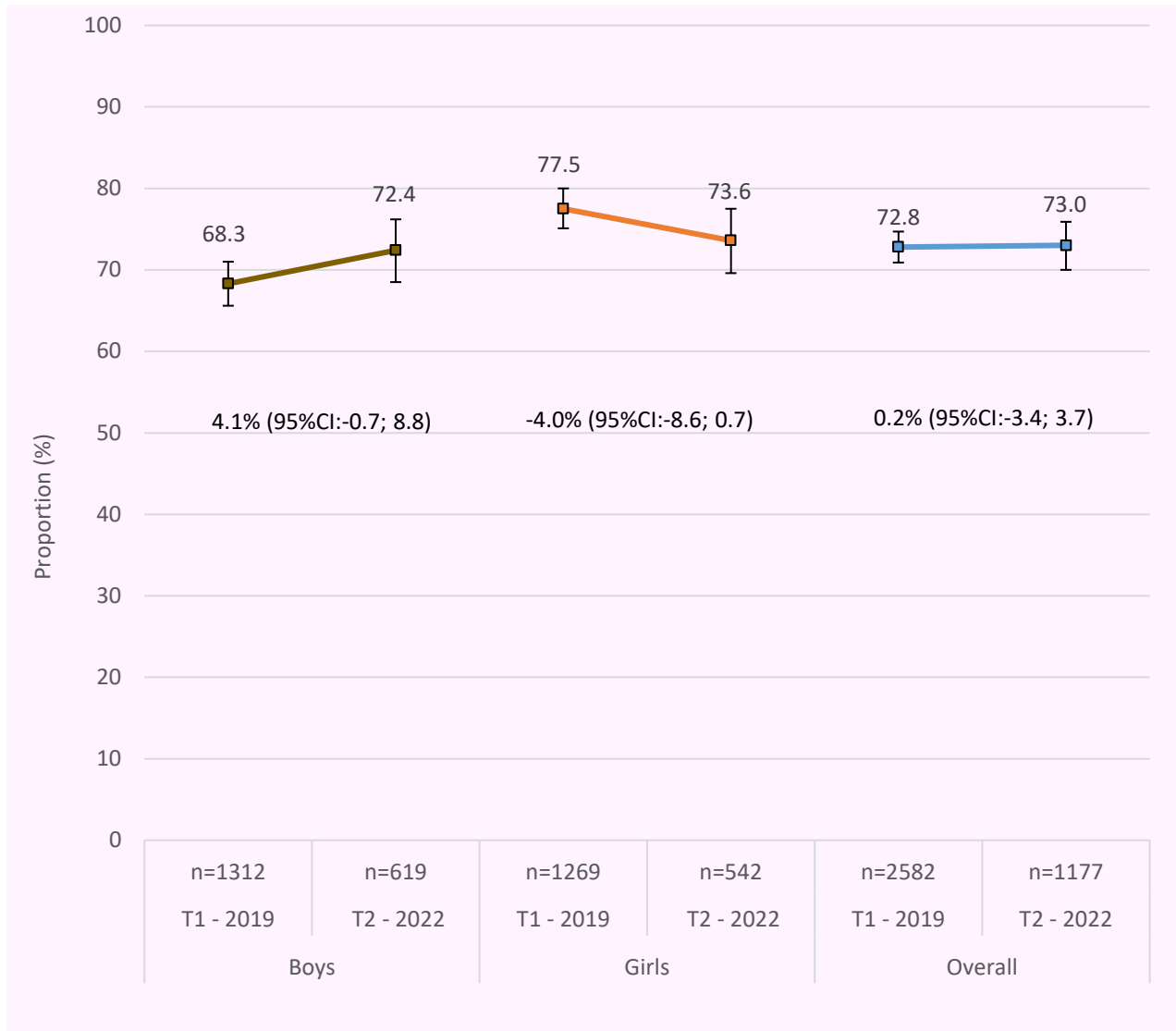
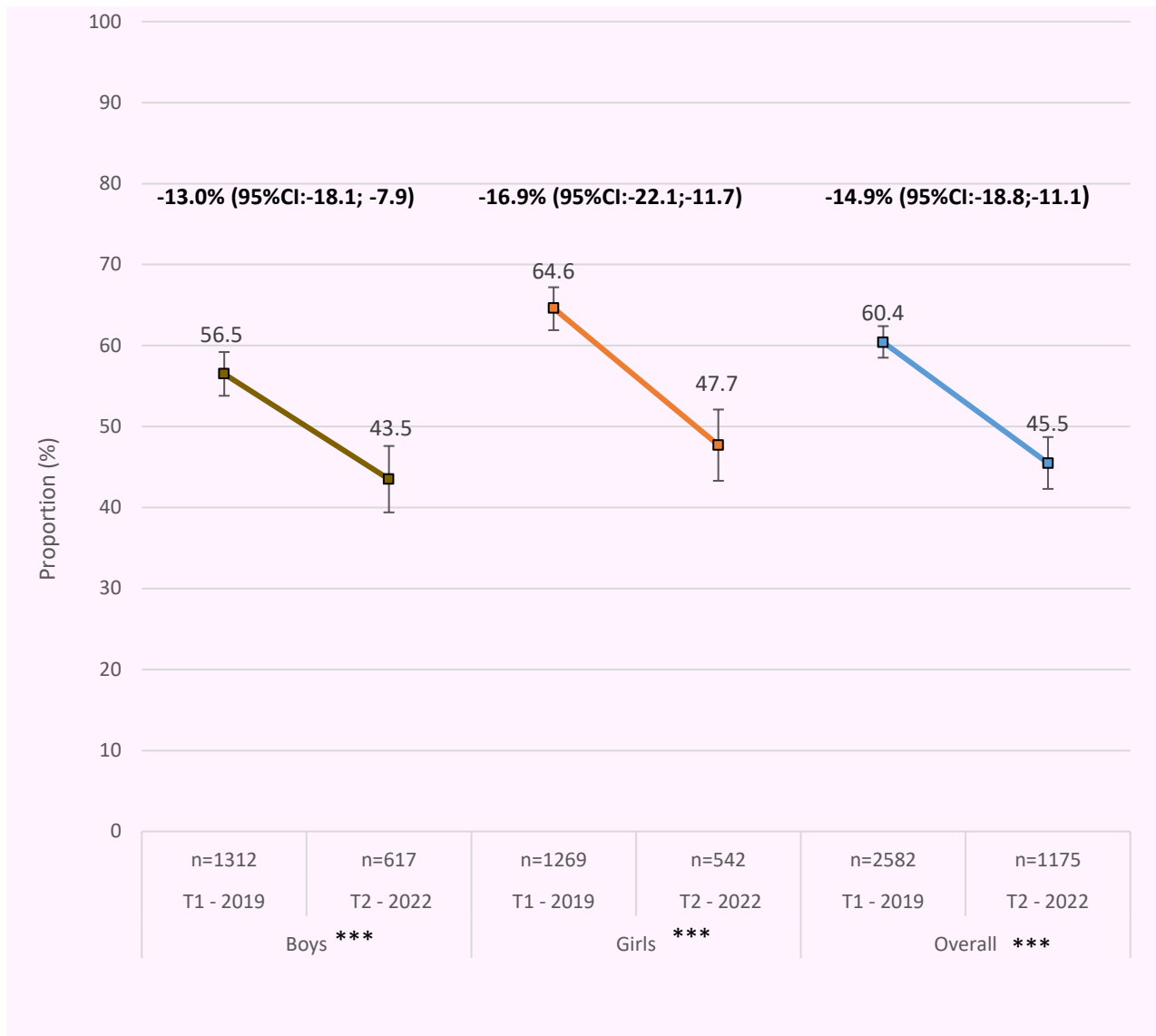


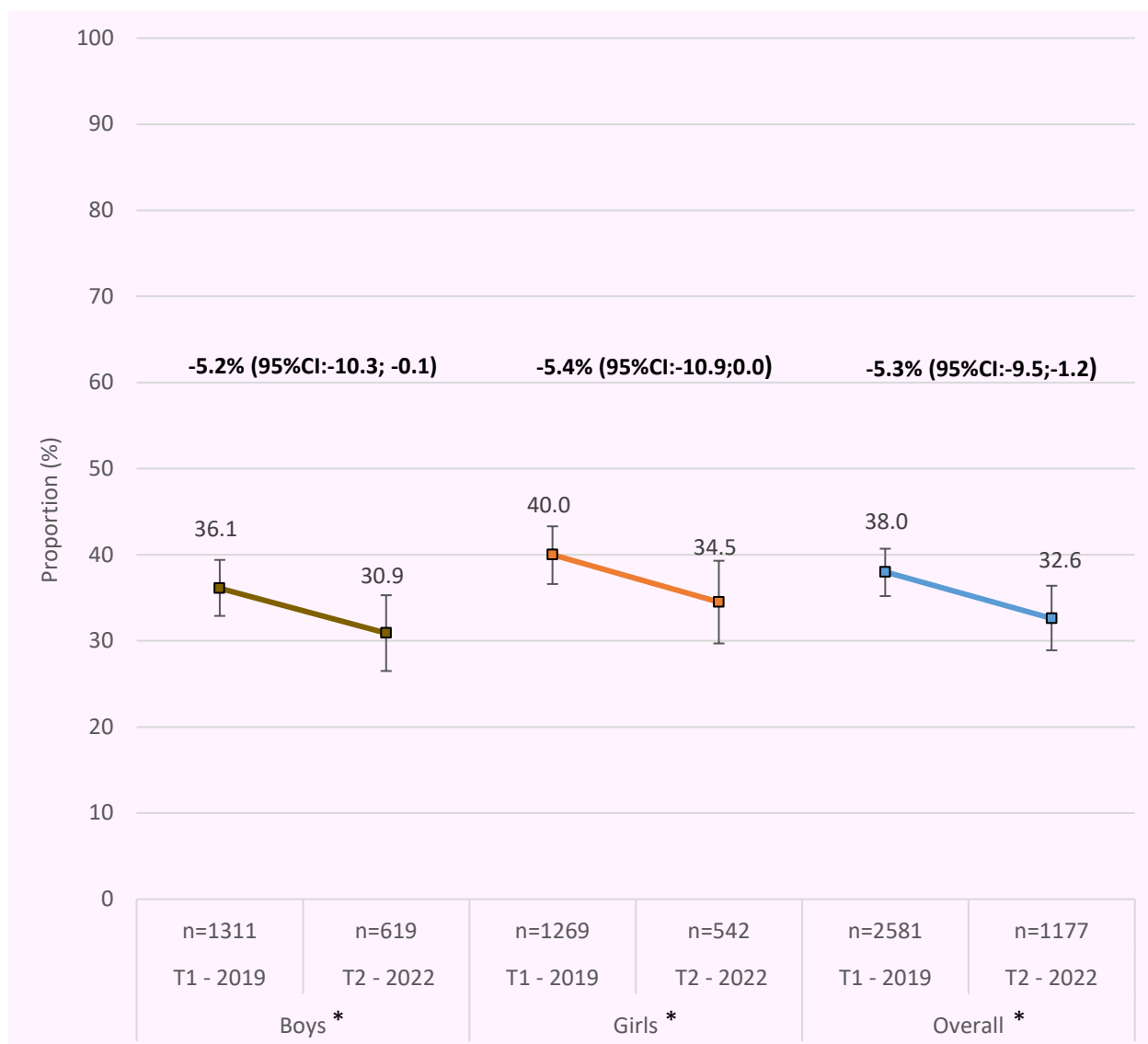
Figure 6 and 7 show the proportion of students eating takeaway as a meal infrequently (once a fortnight or less) and eating unhealthy snacks (e.g. packet potato chips, chocolate, lollies and cakes/sweet pastries) less than once per day. The frequency of takeaway consumption as a meal, significantly increased between 2019 and 2022 among both boys and girls ($p < 0.001$). There was also some evidence that boys and girls increased their frequency of consumption of unhealthy snacks ($p < 0.05$).

Figure 6: Proportion of participating grade 4 and 6 students eating takeaway as a meal once a fortnight or less



***p<0.001

Figure 7: Proportion of participating grade 4 and 6 students eating unhealthy snack foods (including savoury snacks, lollies, cakes, and biscuits) less than once per day



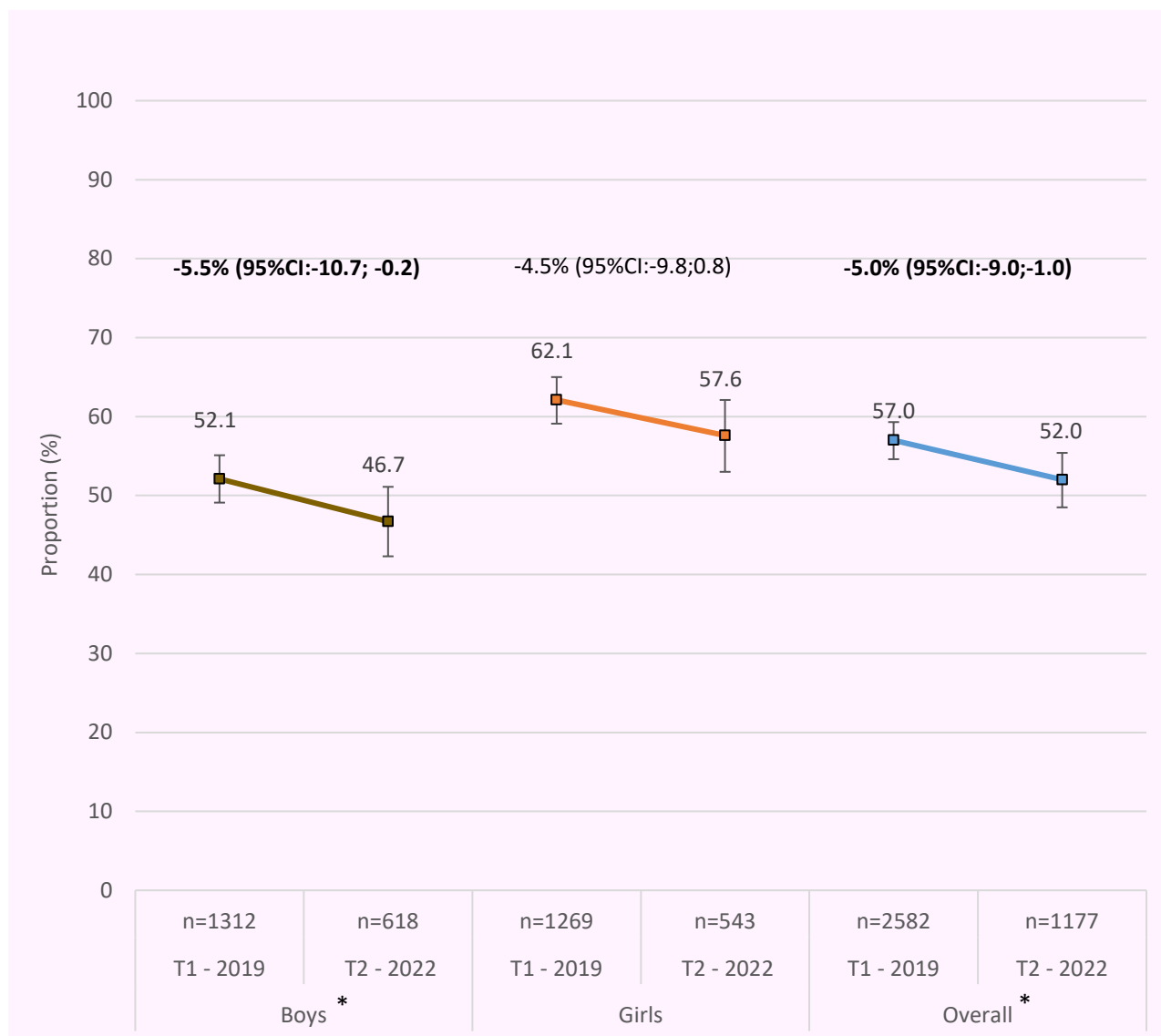
*p<0.05

Figures 8 and 9 show the proportion of students drinking at-least five cups (250ml) of water every day, and consuming less than one sugar-sweetened drink per day. Consumption of water remained relatively stable across time points. The number of students consuming less one sugar-sweetened drink per day declined across time, providing some evidence of an increase in consumption among boys ($p < 0.05$), and in all students ($p < 0.05$).

Figure 8: Proportion of participating grade 4 and 6 students drinking at least five 250ml cups of water per day



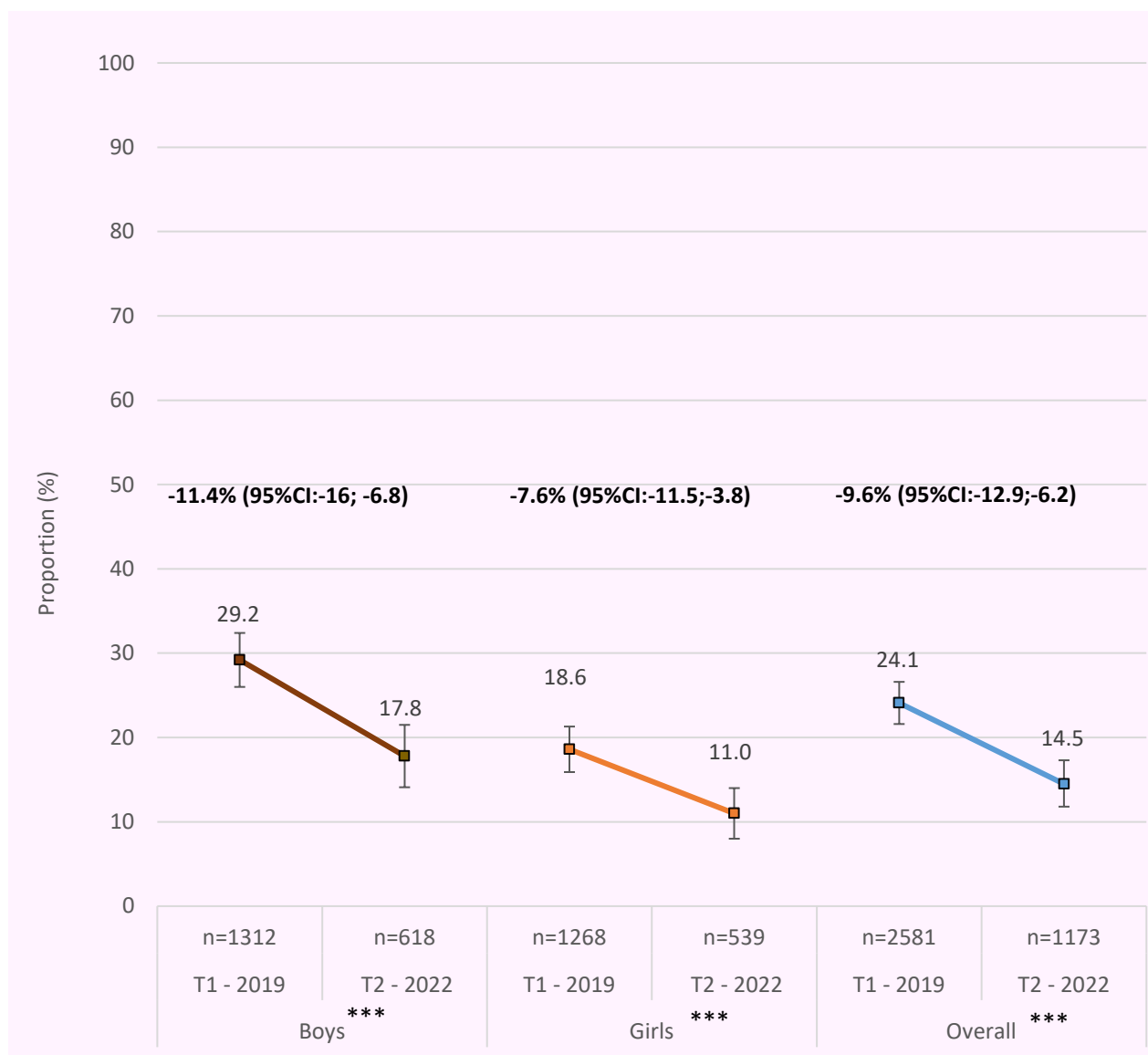
Figure 9: Proportion of participating grade 4 and 6 students drinking sugar-sweetened drinks (including soft drinks, sports drinks, juices, and flavoured milks) less than once per day



*p<0.05

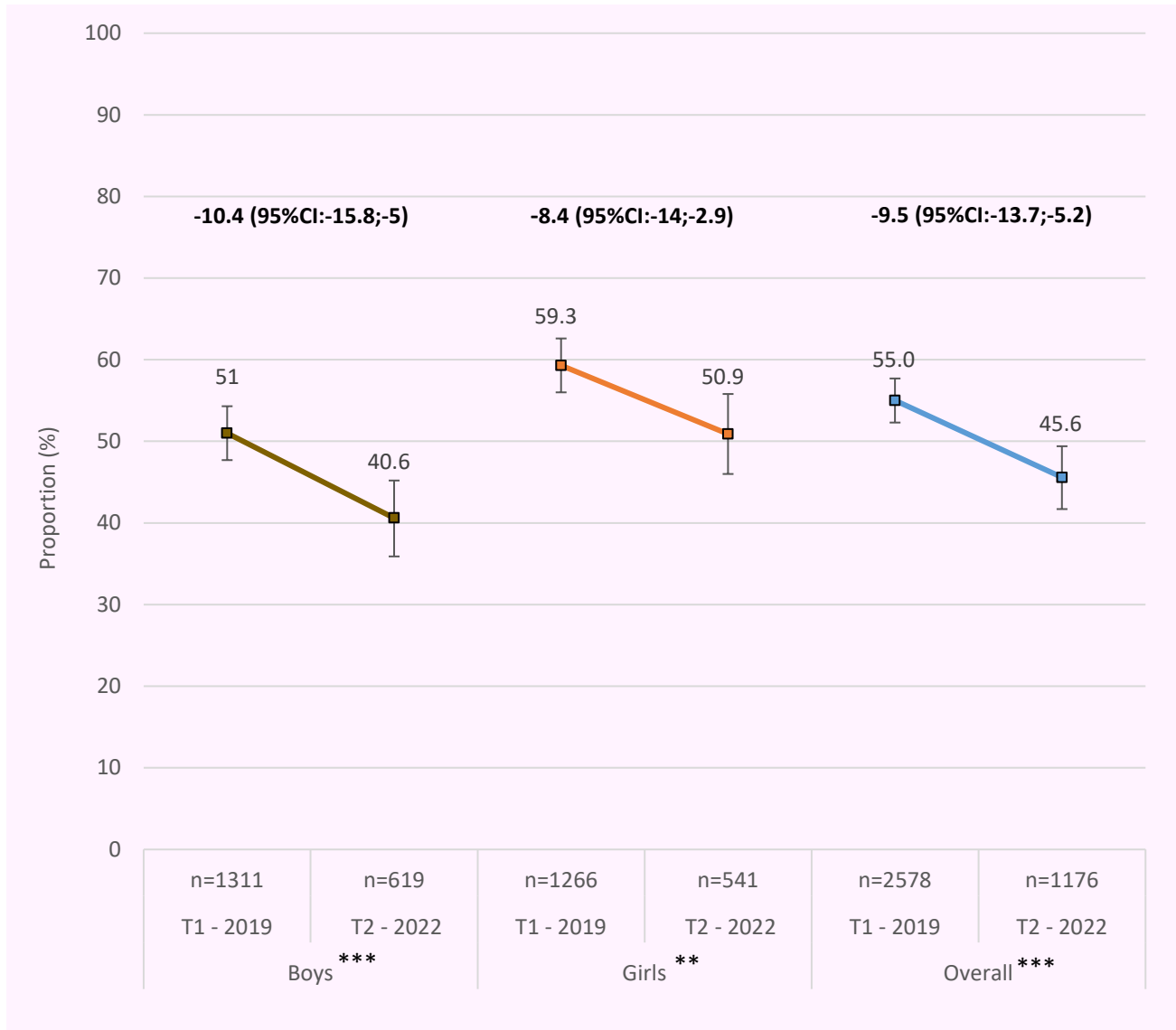
Figures 10 and 11 show the proportion of students who meet the recommended 60 minutes of moderate to vigorous physical activity every day (all 7-days), according to self-reported data, and the proportion of students who report staying below the recommended limit of two hours of screen time (outside of school) every day. There was strong evidence of a decline in the proportion of students meeting the 7-day physical activity guidelines ($p < 0.001$), among both boys ($p < 0.001$) and girls ($p < 0.001$). Similarly, there was strong evidence of a decline in girls ($p < 0.01$) and boys ($p < 0.001$) meeting the screentime guidelines every day.

Figure 10: Proportion of participating grade 4 and 6 students meeting the physical activity guidelines every day of the last week, according to self-reported physical activity time



*** $p < 0.001$

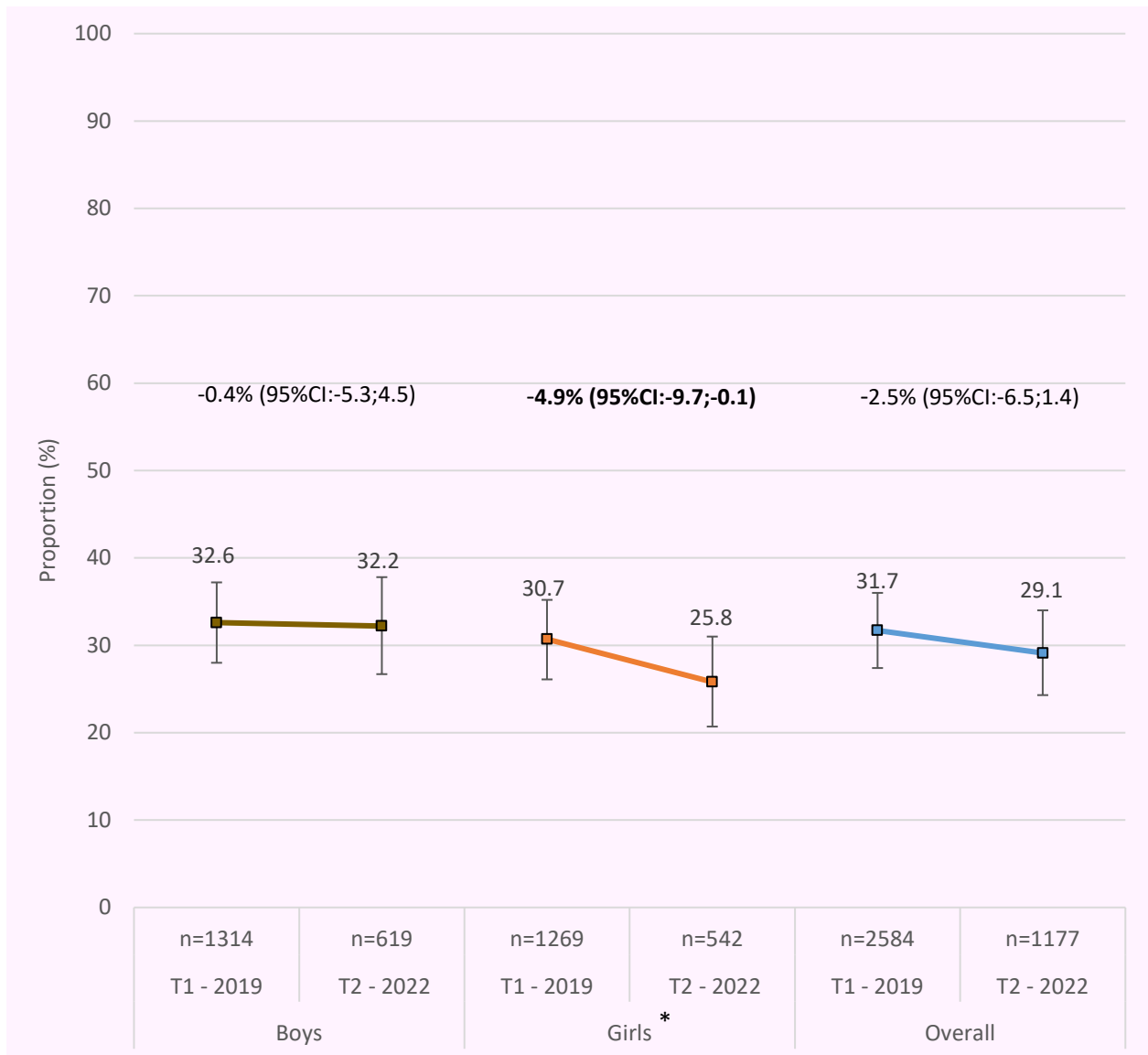
Figure 11: Proportion of participating grade 4 and 6 students meeting the screen-time guidelines (two hours per day or less, excluding screen time at school) every day of the last week



p<0.01 *p<0.001

Figure 12 shows the proportion of students who usually use active transport to get to, and/or home again from, school. There was some evidence suggesting a decline in girls using active transport to get to, and/or home again from, school ($p < 0.05$).

Figure 12: Proportion of participating grade 4 and 6 students using active transport to get to, and/or home again from, school



* $p < 0.05$

Figure 13 shows the proportion of students who met the sleep time recommendations (between 9-11 hrs/night) using self-report estimates of a usual school night. There were no indications of change in the proportion of students meeting sleep time recommendations between timepoints.

Figure 13: Proportion of participating grade 4 and 6 students meeting the sleep duration guidelines (between 9 and 11 hours of sleep per night)

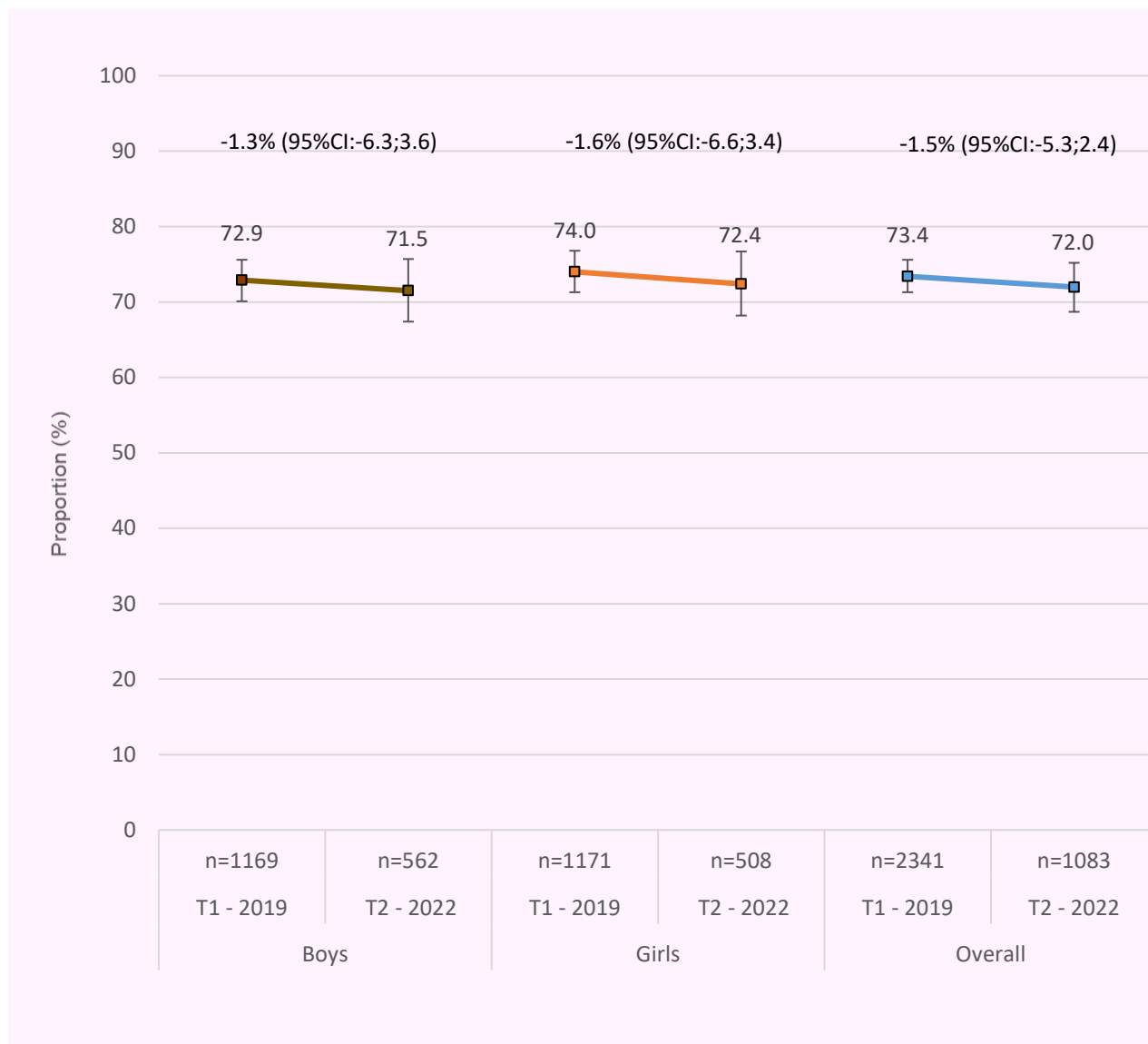
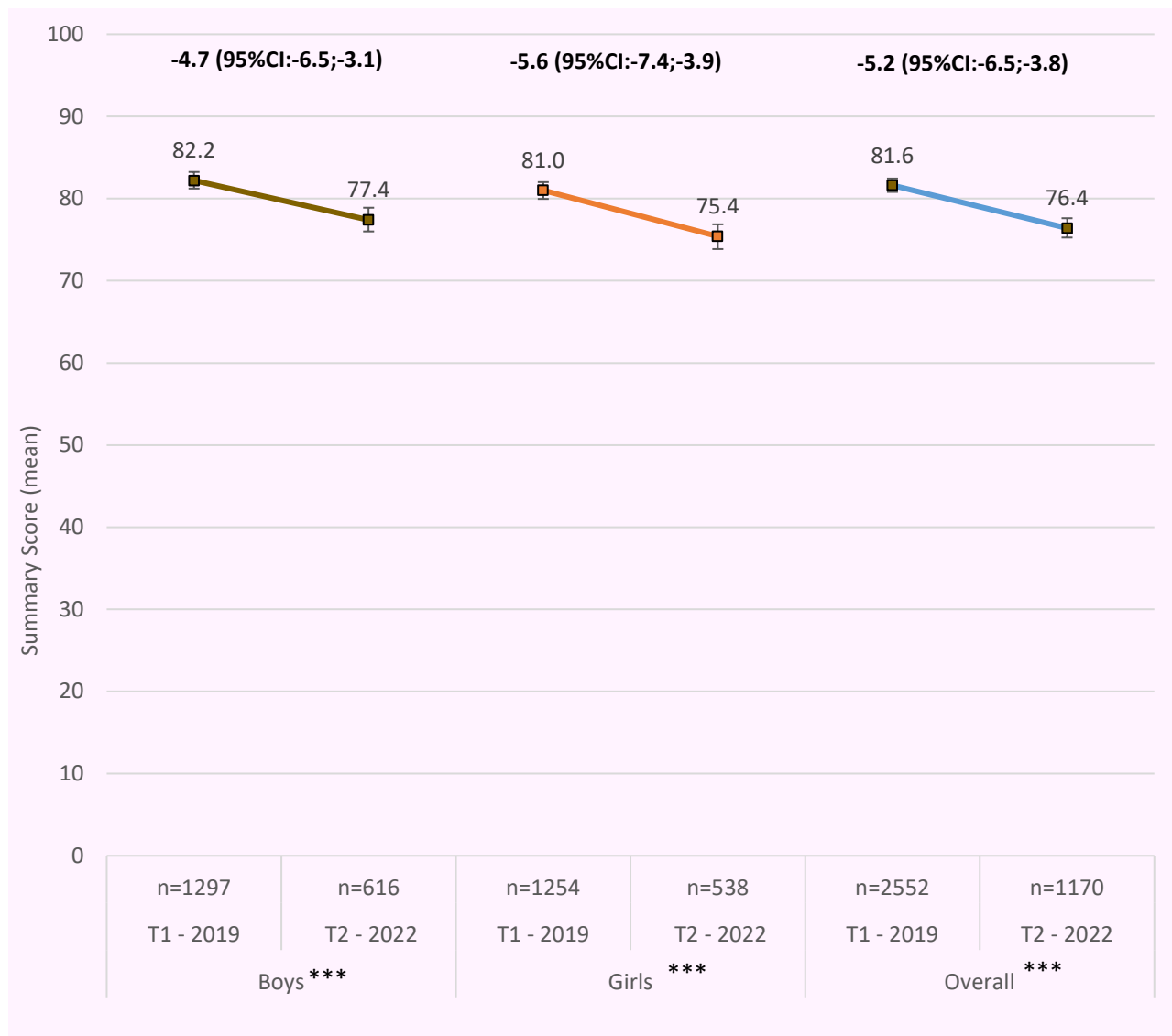


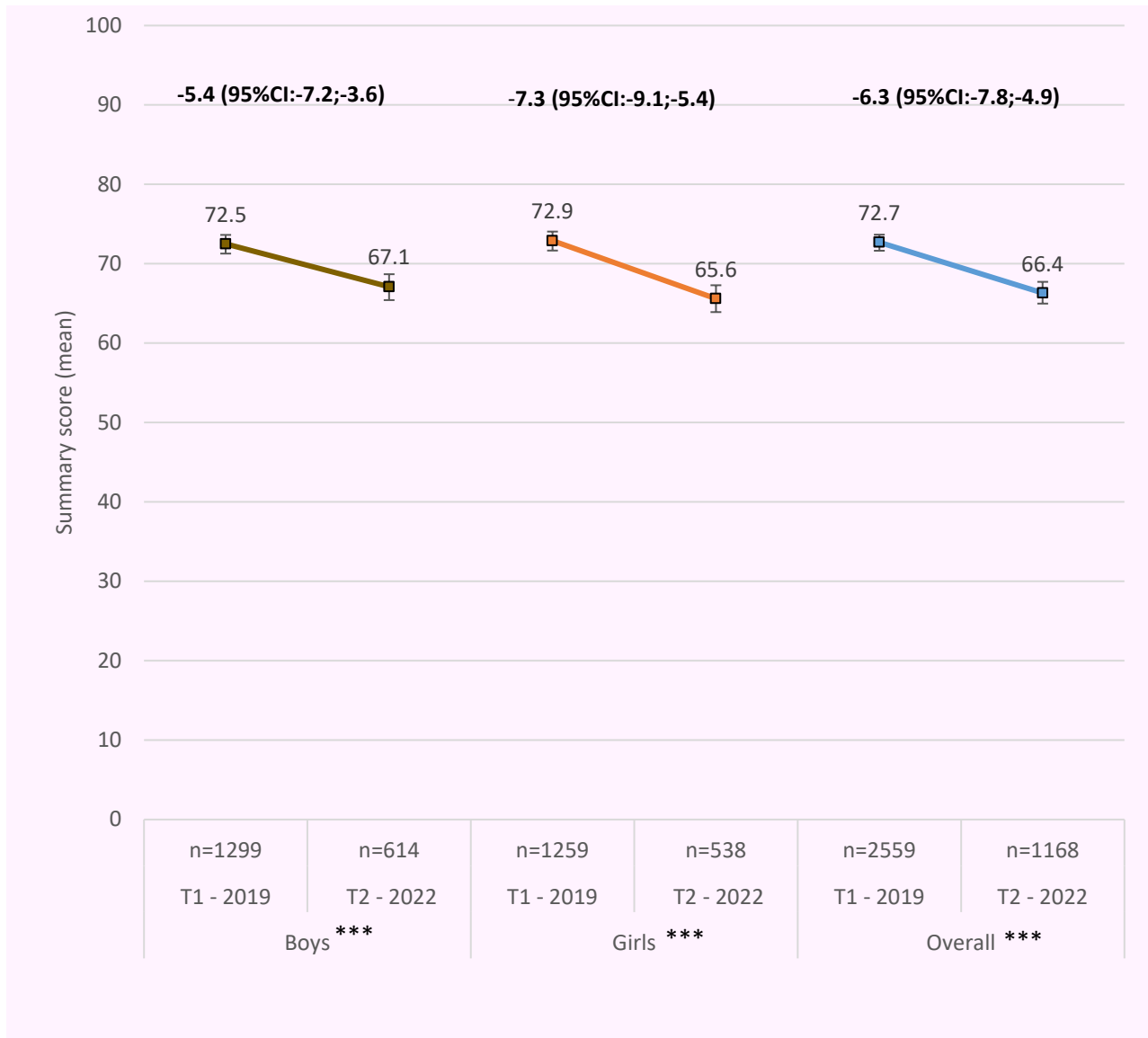
Figure 14 and 15 show students’ average health-related quality of life scores on the dimensions of physical wellbeing, and psychosocial wellbeing. These dimensions are scored so that a higher score represents better quality of life, with a maximum possible score of 100. Across both the physical and psychosocial health-related quality of life scores, there were significant decreases across the timepoints ($p < 0.001$).

Figure 14: Average physical health-related quality of life score for participating grade 4 and 6 students



*** $p < 0.001$

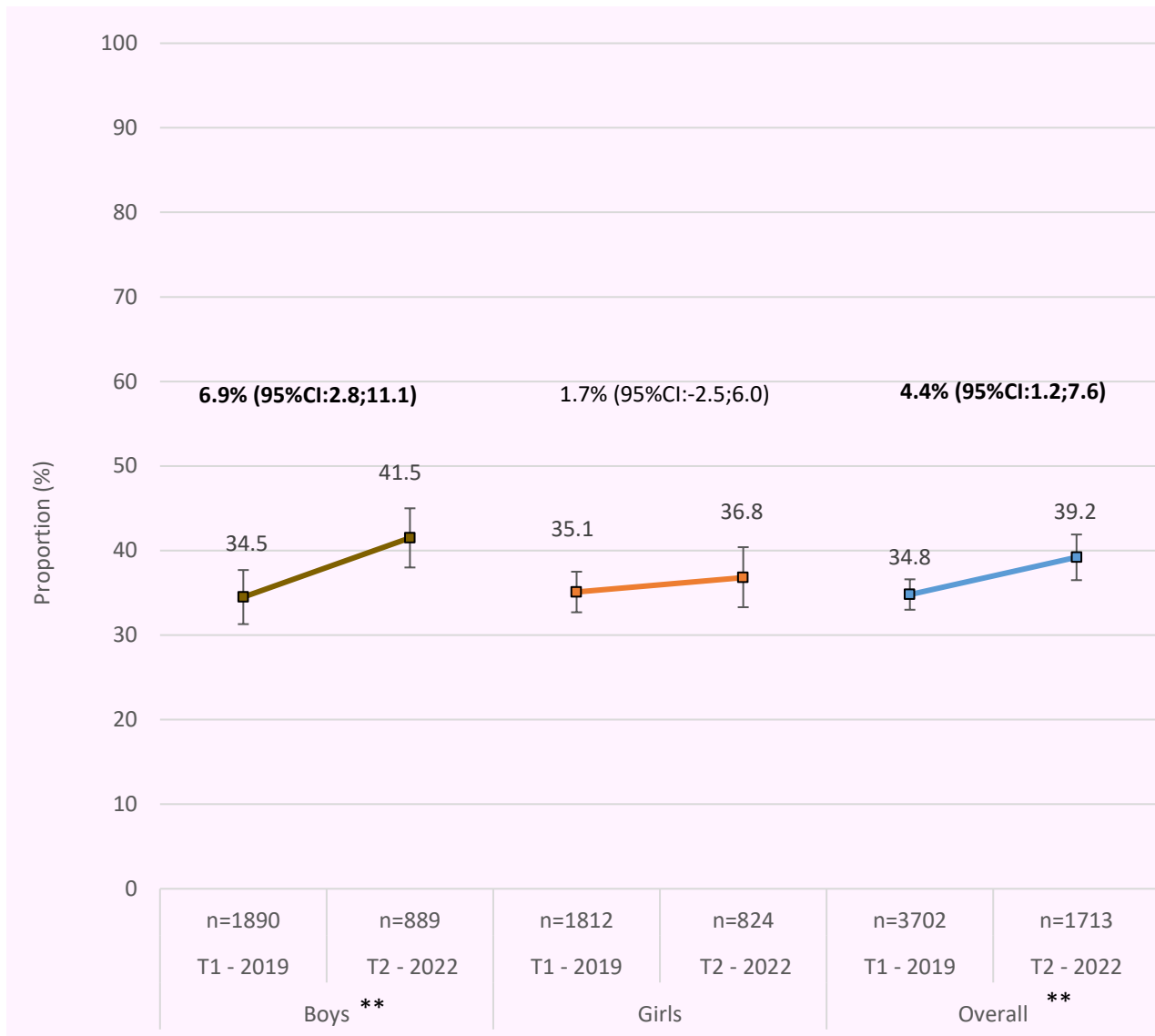
Figure 15: Average psychosocial health-related quality of life score for participating grade 4 and 6 students.



***p<0.001

Figure 16 shows the proportion of students who were classified with either overweight or obese according to World Health Organisation criteria that are adjusted to account for students’ age and biological sex. Overall, there was a significant increase in overweight and obesity between 2019 and 2022 ($p < 0.01$).

Figure 16: Proportion of participating grade 2, 4, and 6 students with overweight or obesity – using World Health Organisation weight classifications



** $p < 0.01$

4. Findings - The Region by Local Public Health Unit Catchment

This section of the report presents the results of the 2019 Ovens Murray and Goulburn Valley Primary School Health Behaviours Monitoring study, by Local Public Health Unit (LPHU) catchment.

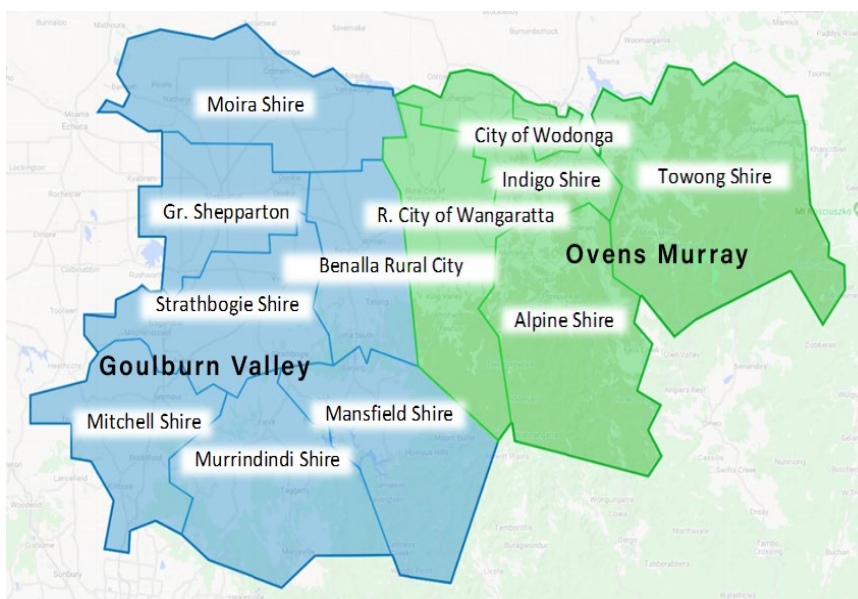
Data are presented by gender and grade, for each of the catchments, and have been adjusted to allow for comparison between the different groups of students in both areas.

The following outcomes are presented in this section:

Table 4: Overview of monitoring outcomes presented by LPHU catchment area.

Food & Drinks	Vegetable Guideline Attainment Fruit Guideline Attainment Takeaway Meal Consumption Unhealthy Snack Consumption Water Consumption Sugary Drink Consumption
Activity & Screen Time	Physical Activity Guideline Attainment Screen Time Guideline Attainment Active Transport Use
Sleep & Wellbeing	Sleep Guideline Attainment Physical Wellbeing Psychosocial Wellbeing
Healthy Weight	Combined Overweight & Obesity

Figure 17: Zoomed view of the RESPOND region by LPHU catchment



Ovens Murray Public Health Unit (OMPHU) Catchment

Figures 18 and 19 show the proportion of students, within OMPHU catchment, consuming the recommended number of serves of vegetables (≥ 5 serves per day, ≥ 5.5 per day for boys 12+) and fruit (≥ 2 serves per day) every day. Consumption of fruit and vegetables remained relatively stable across time points.

Figure 18: Proportion of participating grade 4 & 6 students meeting the vegetable consumption guidelines every day

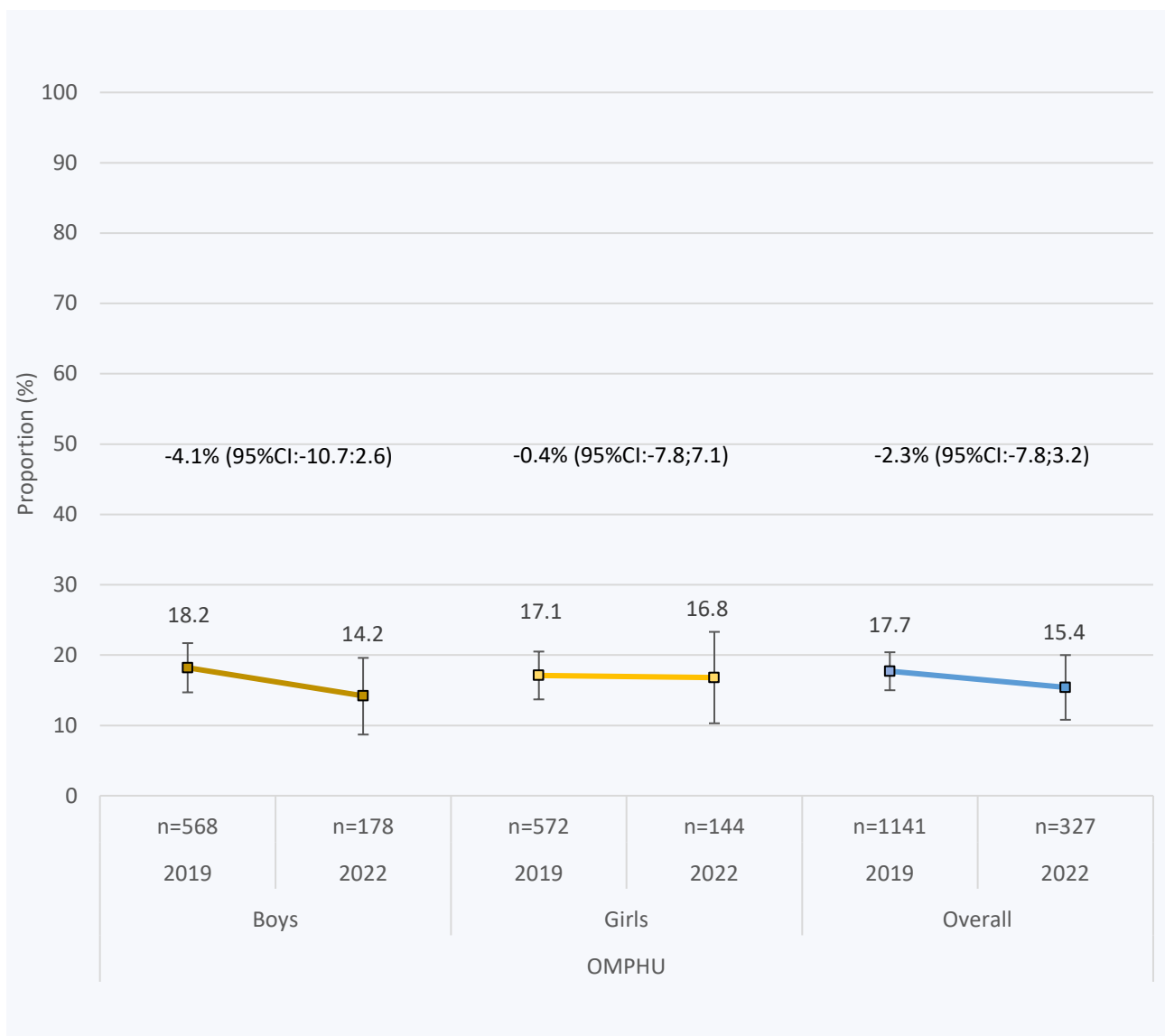
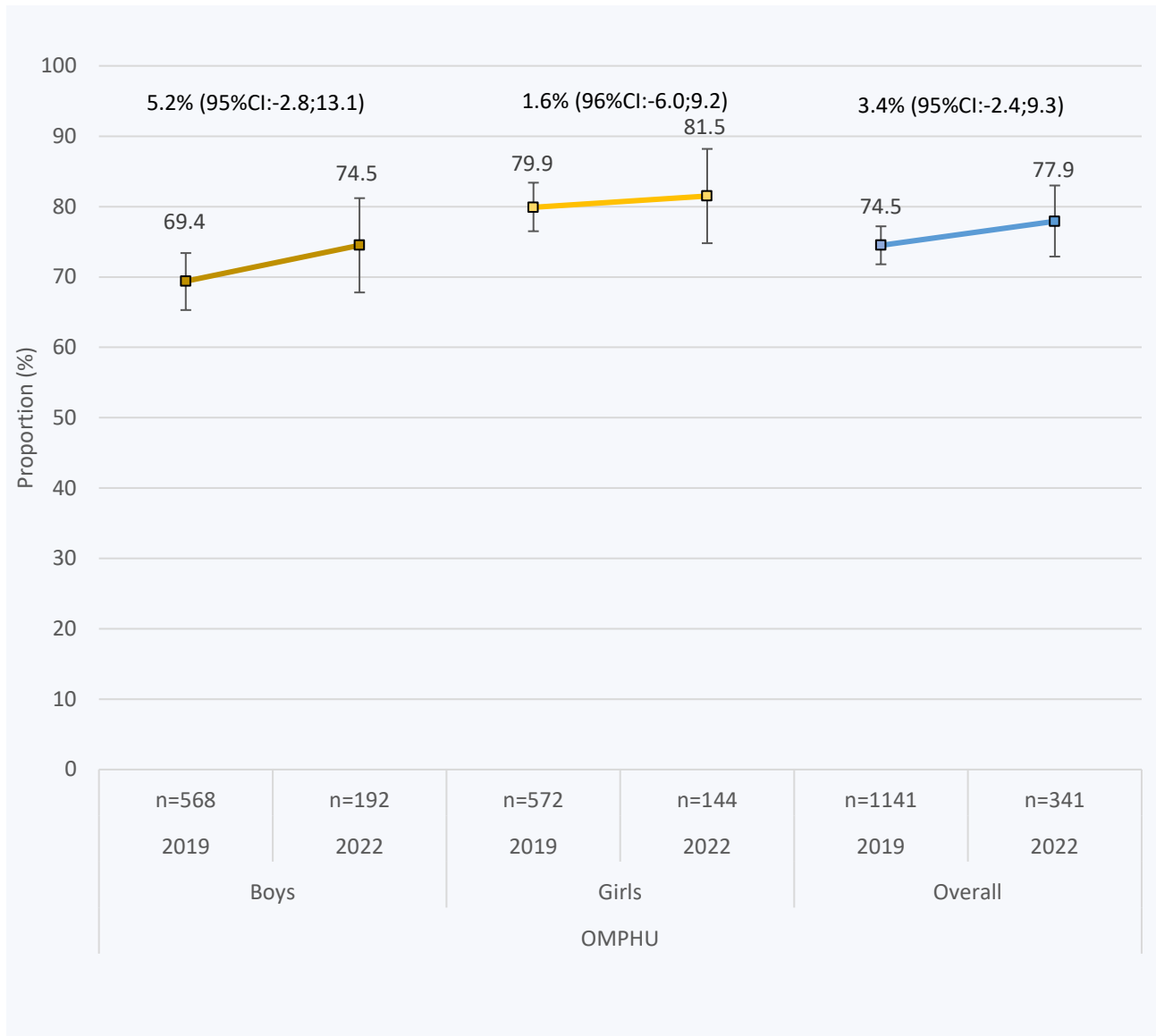
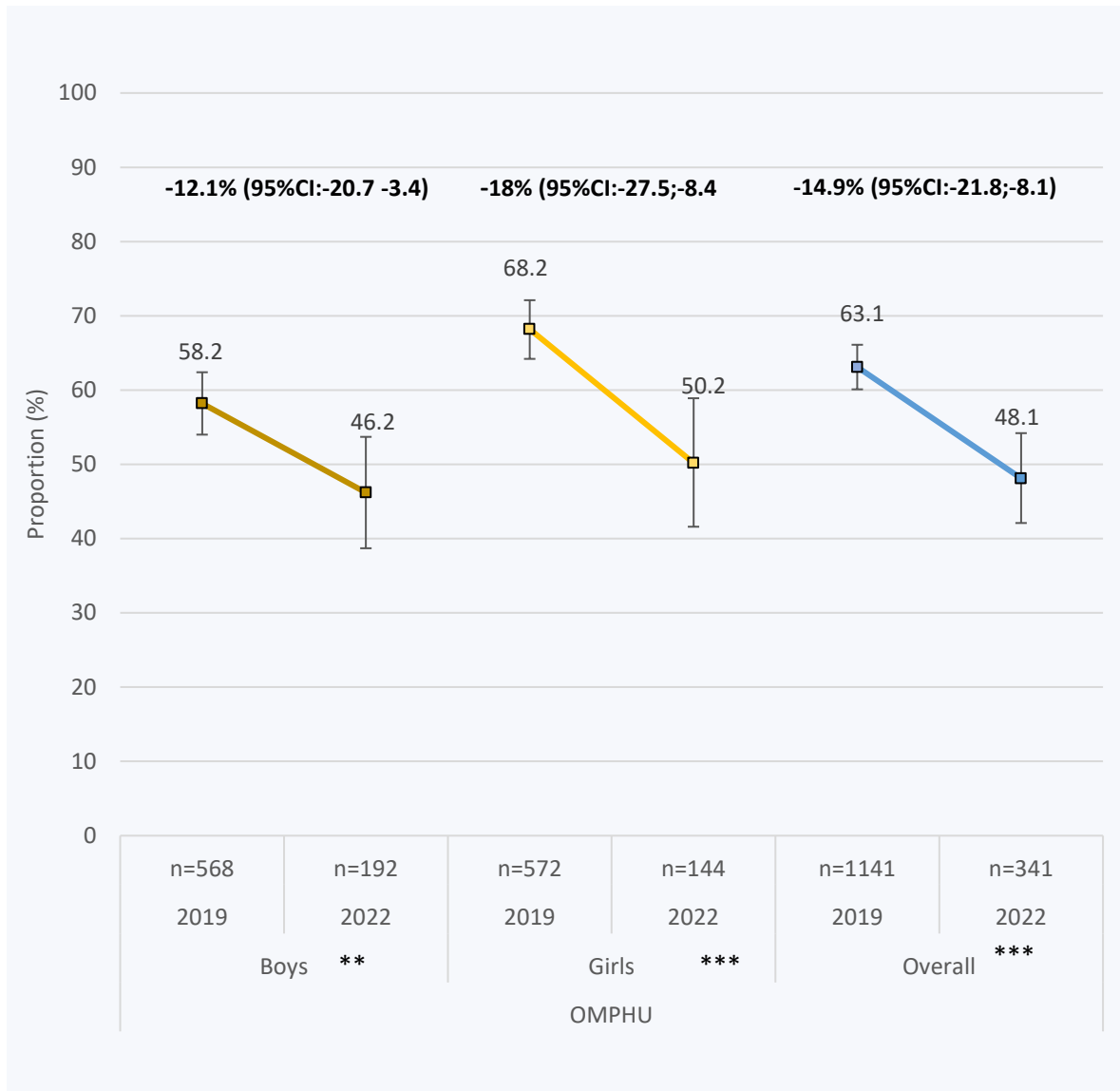


Figure 19: Proportion of participating grade 4 & 6 students meeting the fruit consumption guidelines every day



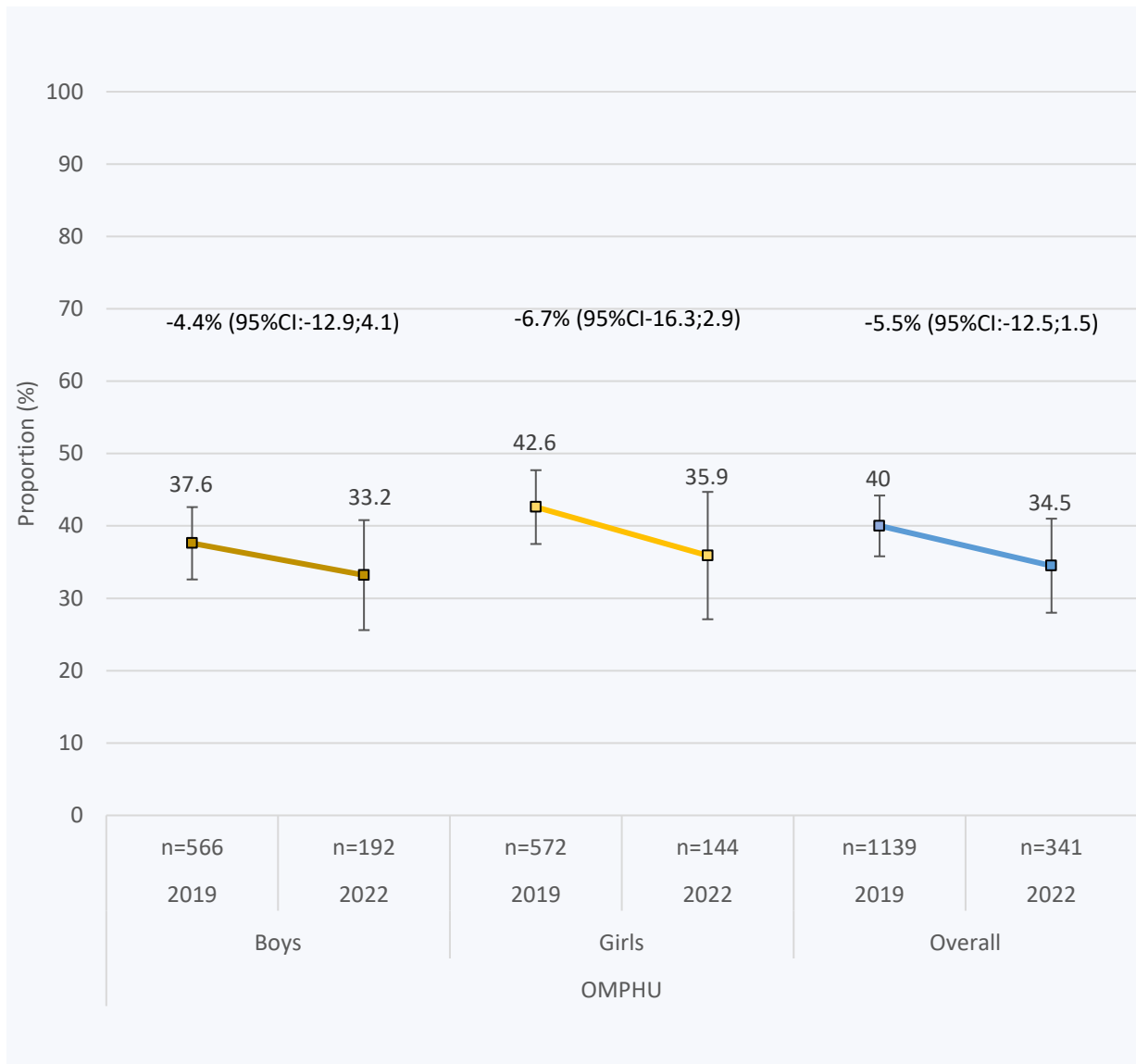
Figures 20 and 21 show the proportion of students, within OMPHU catchment, eating takeaway as a meal infrequently (once a fortnight or less) and eating unhealthy snacks less than once per day. Overall, the frequency of takeaway consumption as a meal, significantly increased between 2019 and 2022 ($p < 0.001$ for girls and in total; $p < 0.01$ for boys).

Figure 20: Proportion of participating grade 4 and 6 students eating takeaway as a meal once a fortnight or less



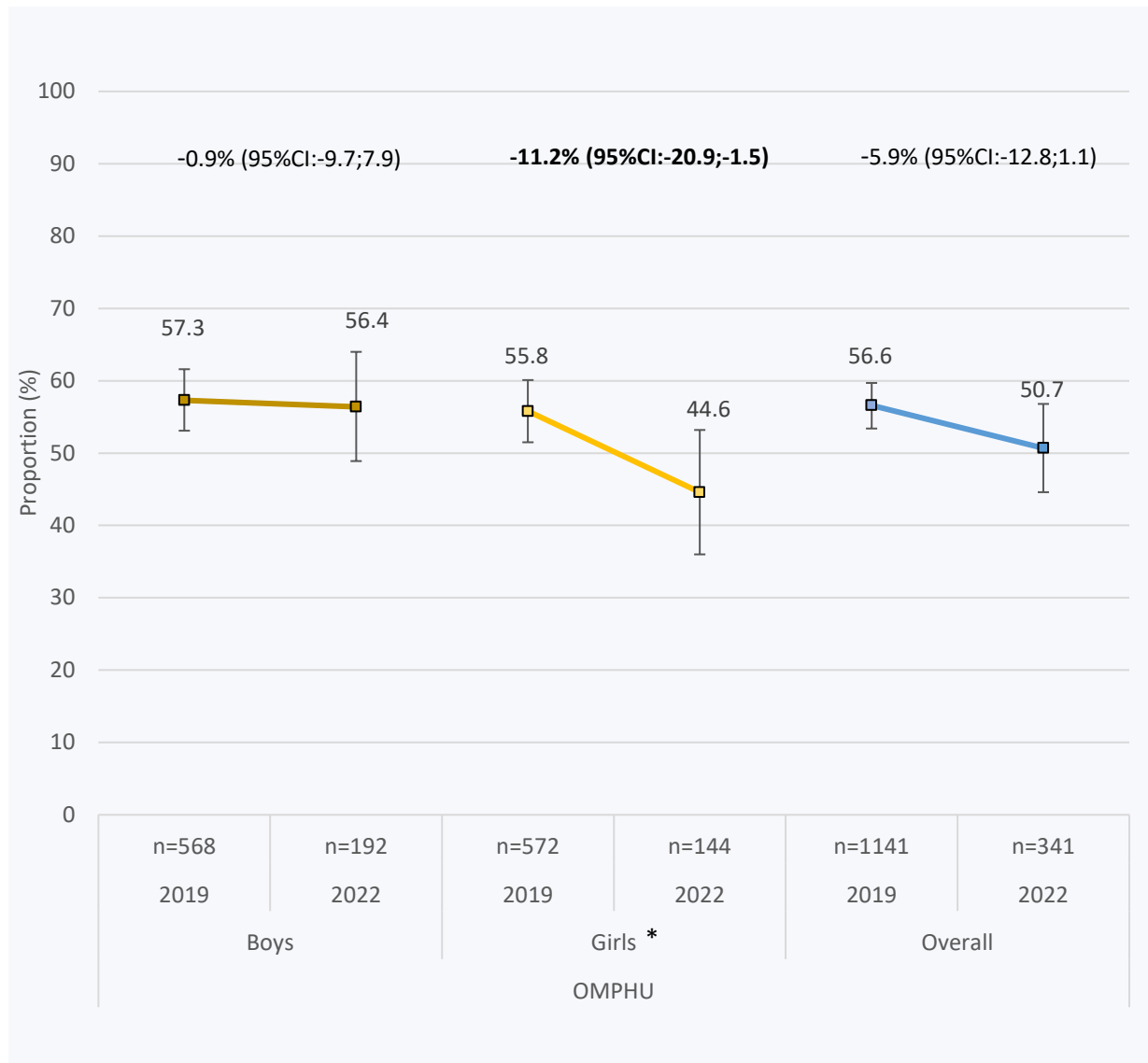
** $p < 0.01$ *** $p < 0.001$

Figure 21: Proportion of participating grade 4 and 6 students eating unhealthy snack foods (including savoury snacks, lollies, cakes, and biscuits) less than once per day



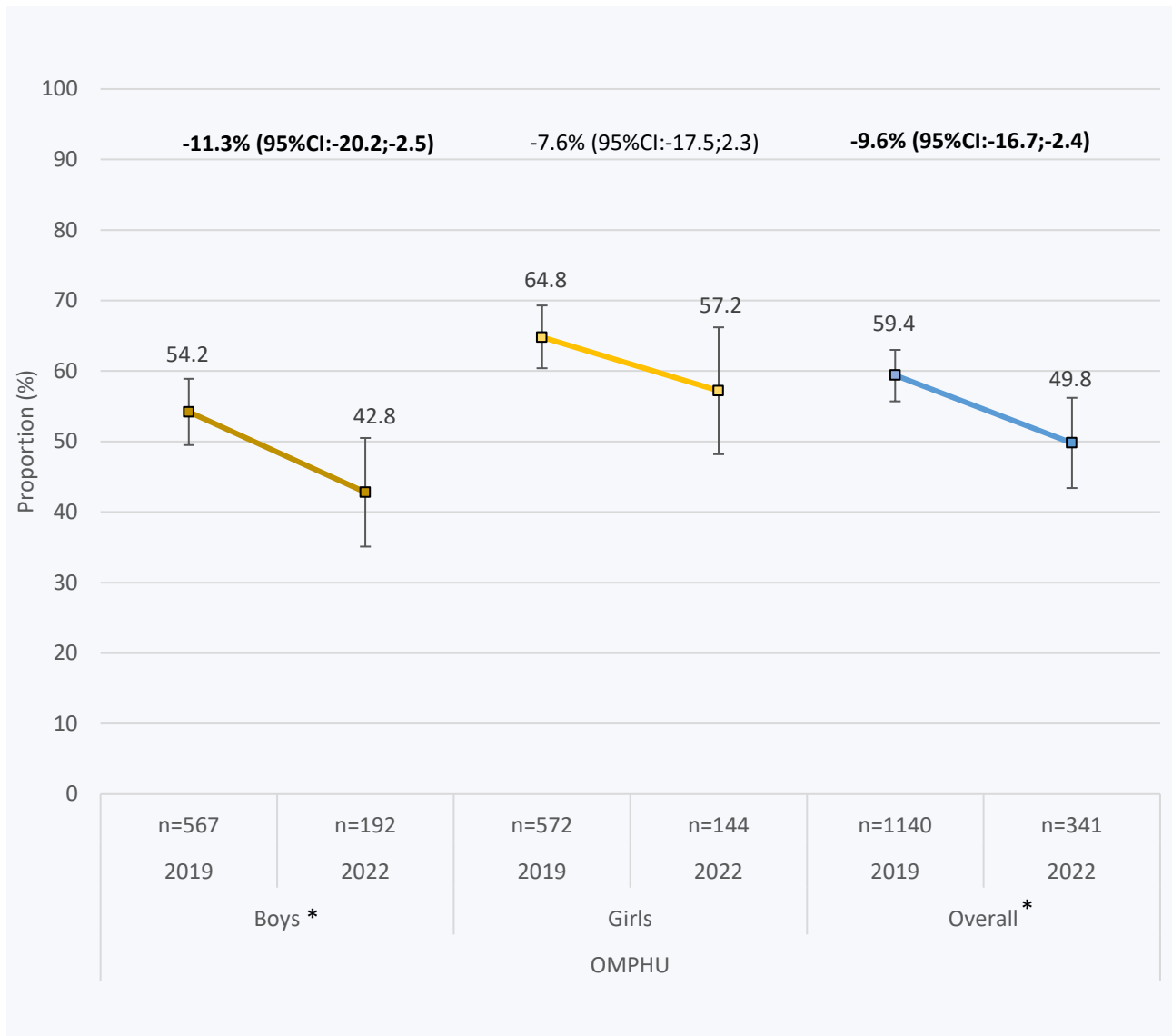
Figures 22 and 23 show the proportion of students, within OMPHU catchment, drinking ≥ 5 glasses (250ml) of water every day and drinking sugar-sweetened drink less than once per day. There was some indication of a decline in water consumption among girls ($p < 0.05$) and similarly, overall indications of an increase in the consumption of sugar-sweetened drinks ($p < 0.05$) across timepoints.

Figure 22: Proportion of participating grade 4 and 6 students drinking at least five 250ml cups of water per day



* $p < 0.05$

Figure 23: Proportion of participating grade 4 and 6 students drinking sugar-sweetened drinks (including soft drinks, sports drinks, juices and flavoured milks) less than once per day



*p<0.05

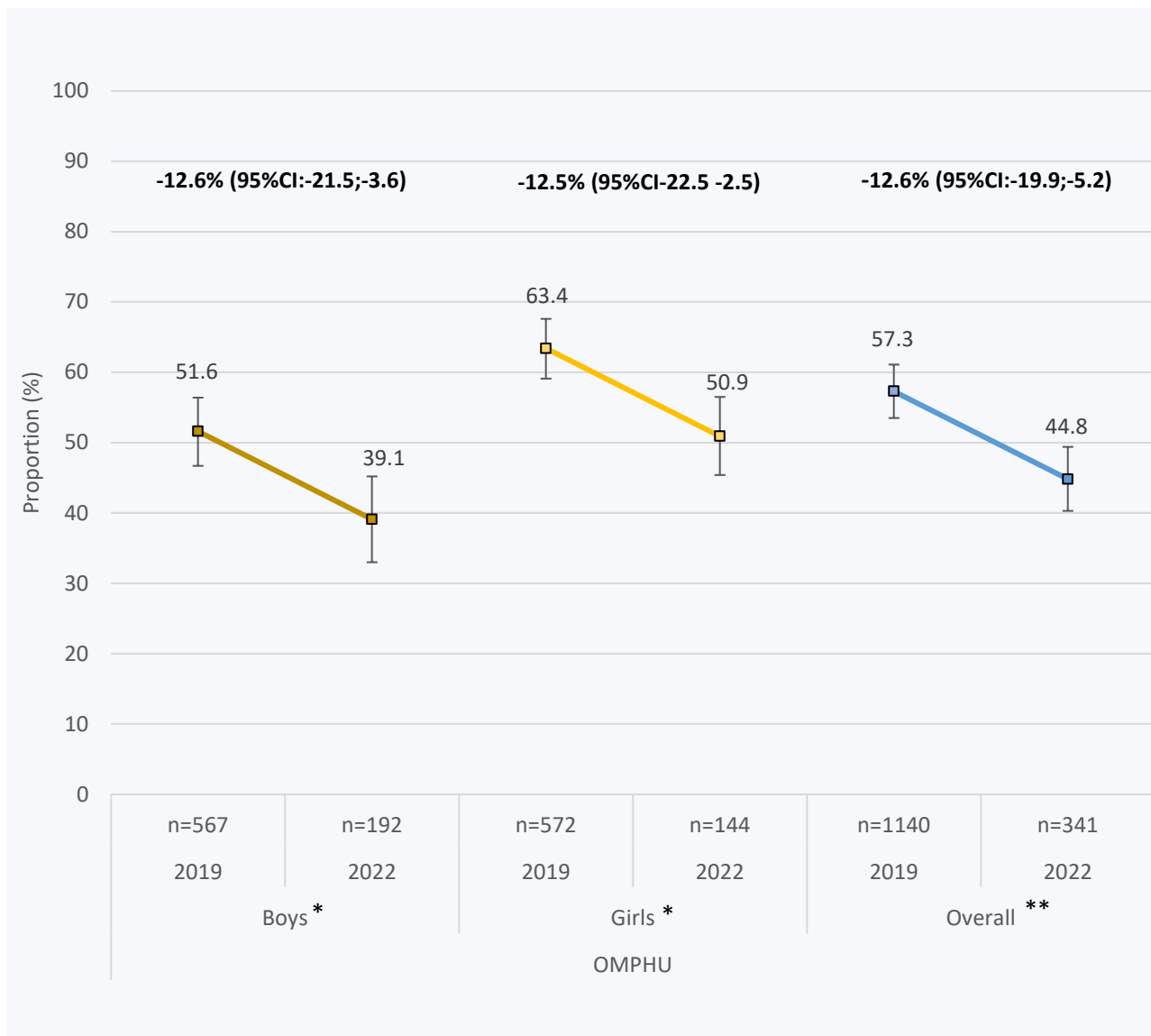
Figures 24 and 25 show the proportion, within OMPHU catchment, of students who met the recommended 60 minutes of moderate to vigorous physical activity every day on the previous 7-days, according to self-reported data, and the proportion of students who stay below the recommended limit of two hours of screen time (outside of school) every day on the previous 7-days. Overall, there was strong evidence of a decline in the proportion of students meeting 7-day physical activity guidelines (boys and all children $p < 0.001$, girls $p < 0.01$) between time points. There was also a decline, overall, in the proportion of students meeting screen-time guidelines every day (boys and all children $p < 0.01$, girls $p < 0.05$).

Figure 24: Proportion of participating grade 4 and 6 students meeting the physical activity guidelines every day of the last week, according to self-reported physical activity time



** $p < 0.01$ *** $p < 0.001$

Figure 25: Proportion of participating grade 4 and 6 students meeting the screen-time guidelines (two hours per day or less, excluding school activities)



*p<0.05 **p<0.01

Figure 26 shows, the proportion of students, within OMPHU catchment, who usually use active transport to get to, and/or home again from, school. Use of active transport among students, remained relatively stable across time points.

Figure 26: Proportion of participating grade 4 and 6 students using active transport to get to, and/or home again from, school

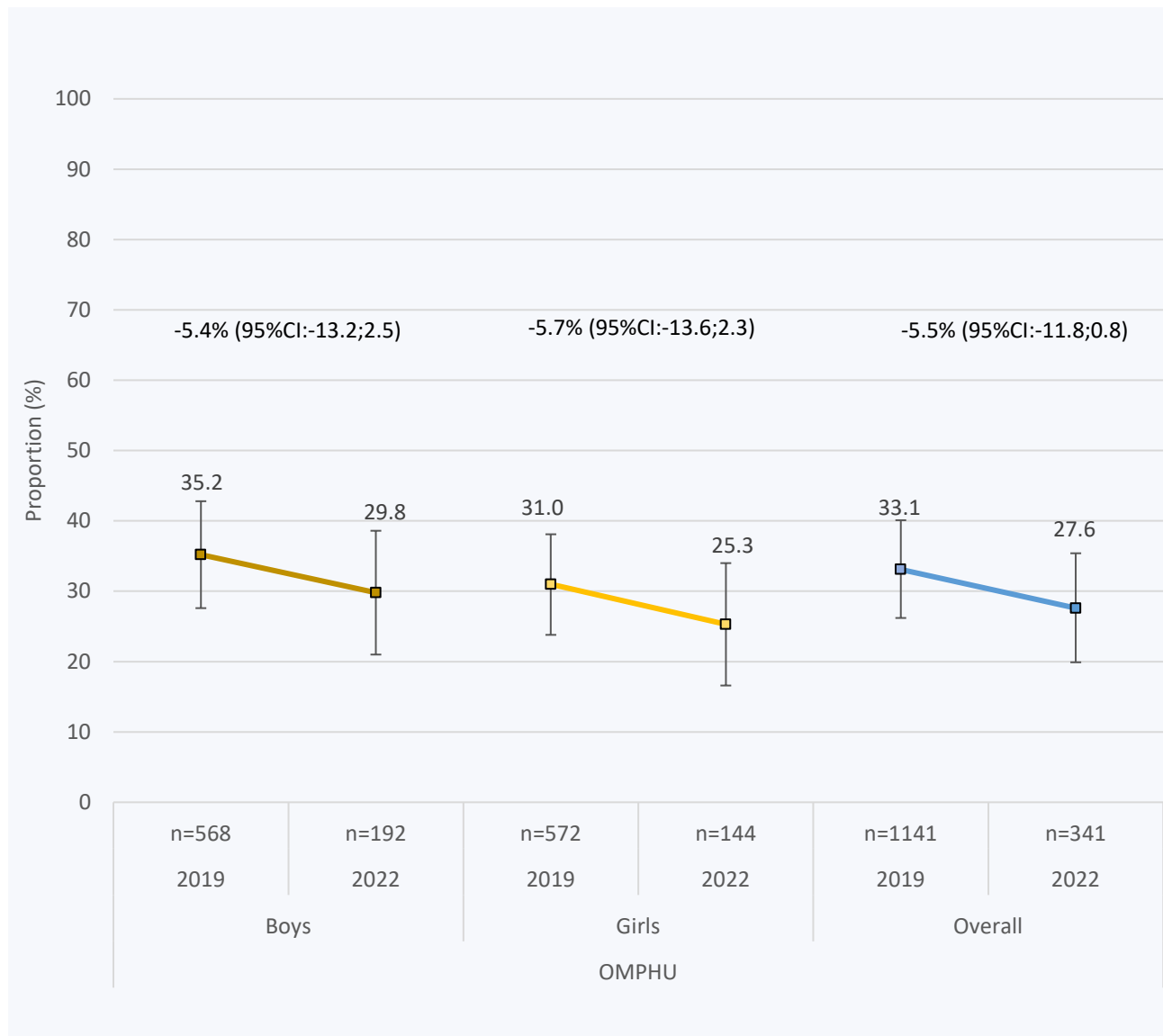
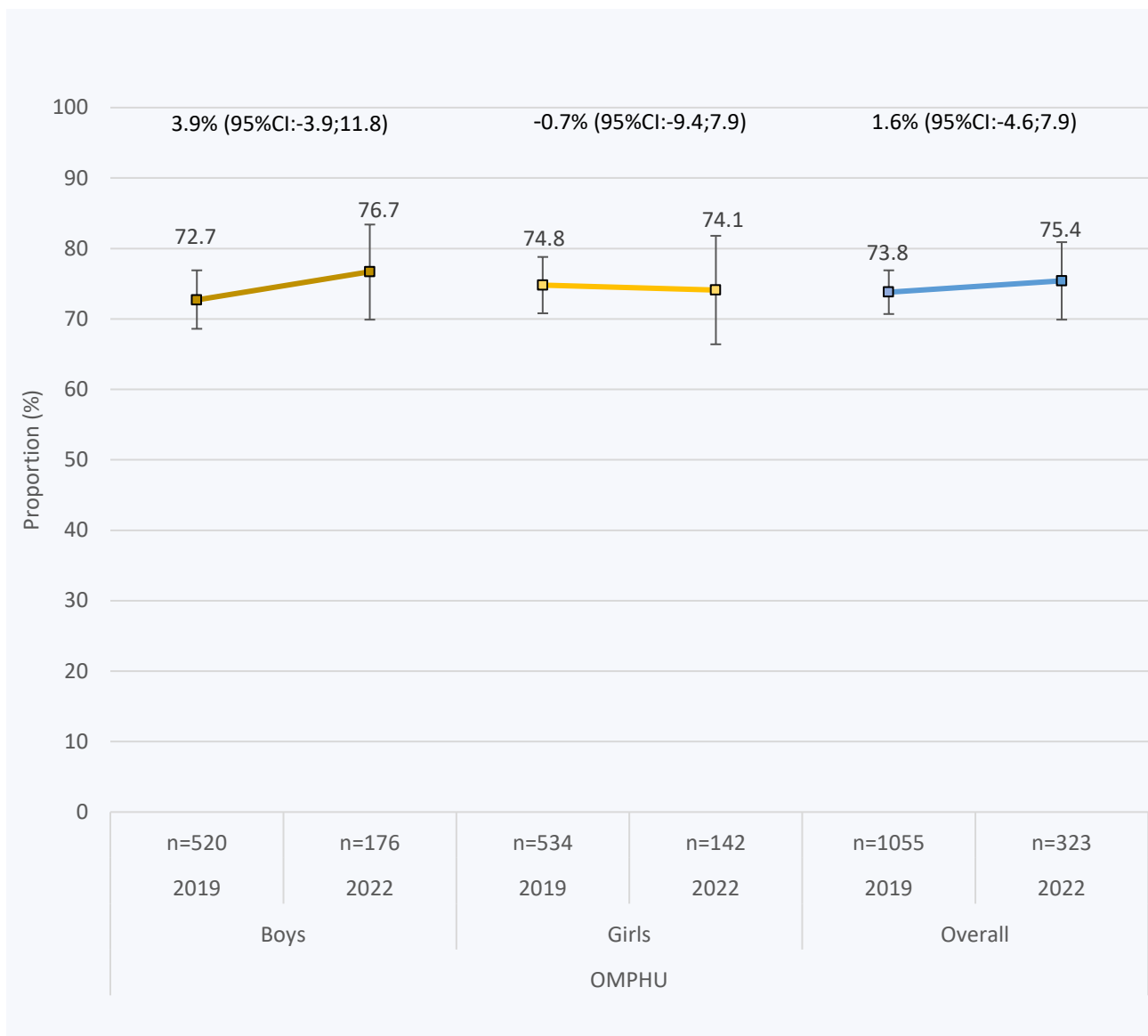


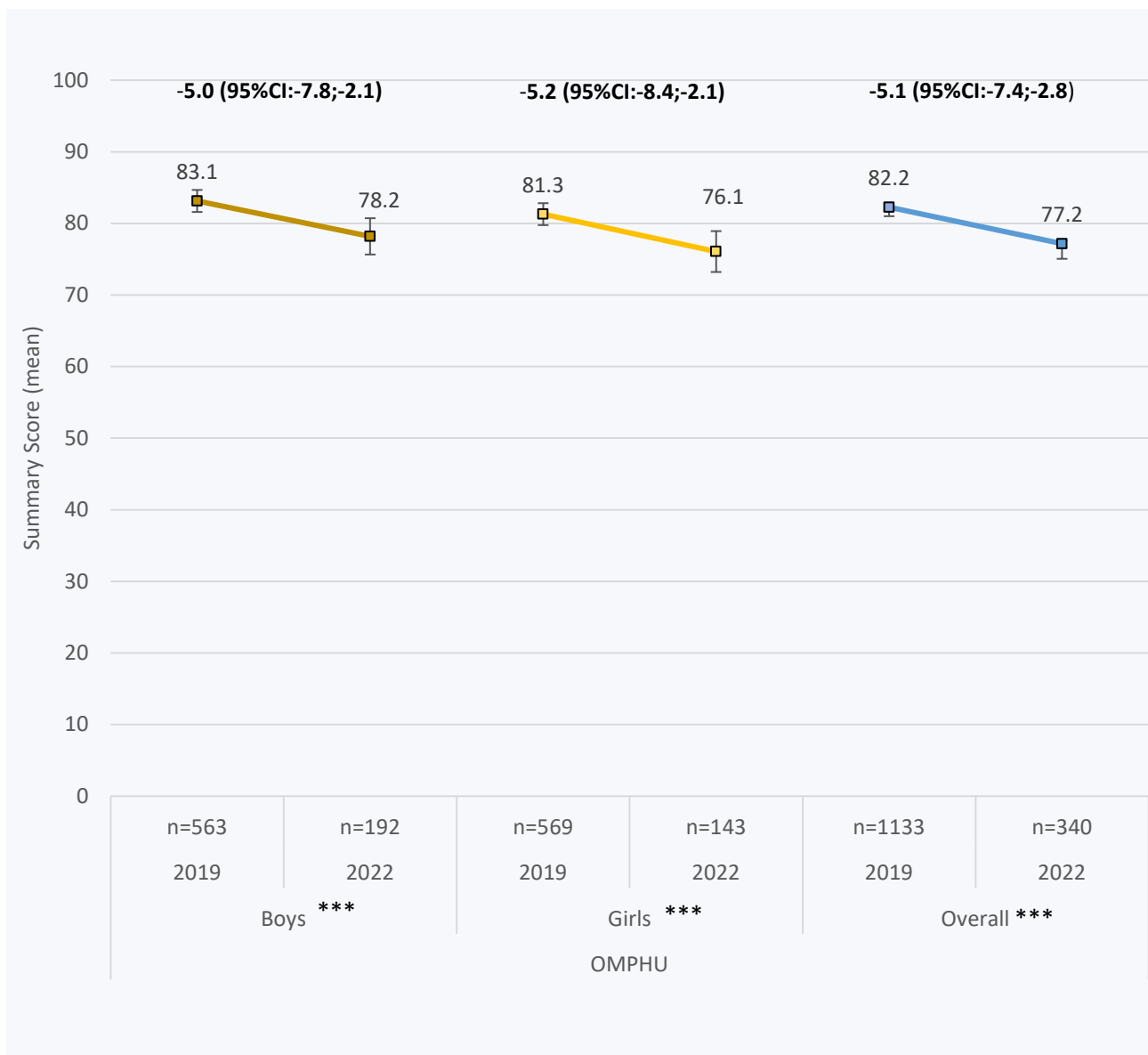
Figure 27 shows the proportion, within OMPHU catchment, of students who meet the sleep time recommendations on a usual school night (more than nine but less than 11 hours per night). The proportion of students meeting sleep duration guidelines remained relatively stable across time points.

Figure 27: Proportion of participating grade 4 and 6 students meeting the sleep duration guidelines (between 9 and 11 hours of sleep per night)



Figures 28 and 29 show, within OMPHU catchment, students’ average health-related quality of life scores on the dimensions of physical wellbeing, and psychosocial wellbeing. These dimensions are scored so that a higher score represents better quality of life, with a maximum possible score of 100. Across both the physical and psychosocial health-related quality of life scores, there were significant decreases in across the two timepoints ($p < 0.001$).

Figure 28: Average physical health-related quality of life score for participating grade 4 and 6 students



*** $p < 0.001$

Figure 29: Average psychosocial health-related quality of life score for participating grade 4 and 6 students



***p<0.001

Figure 30 shows the proportion of students, within OMPHU catchment, who were classified with either overweight or obesity according to World Health Organisation criteria that are adjusted to account for students age and biological sex. There were no significant changes in proportion of overweight and obesity students between time points.

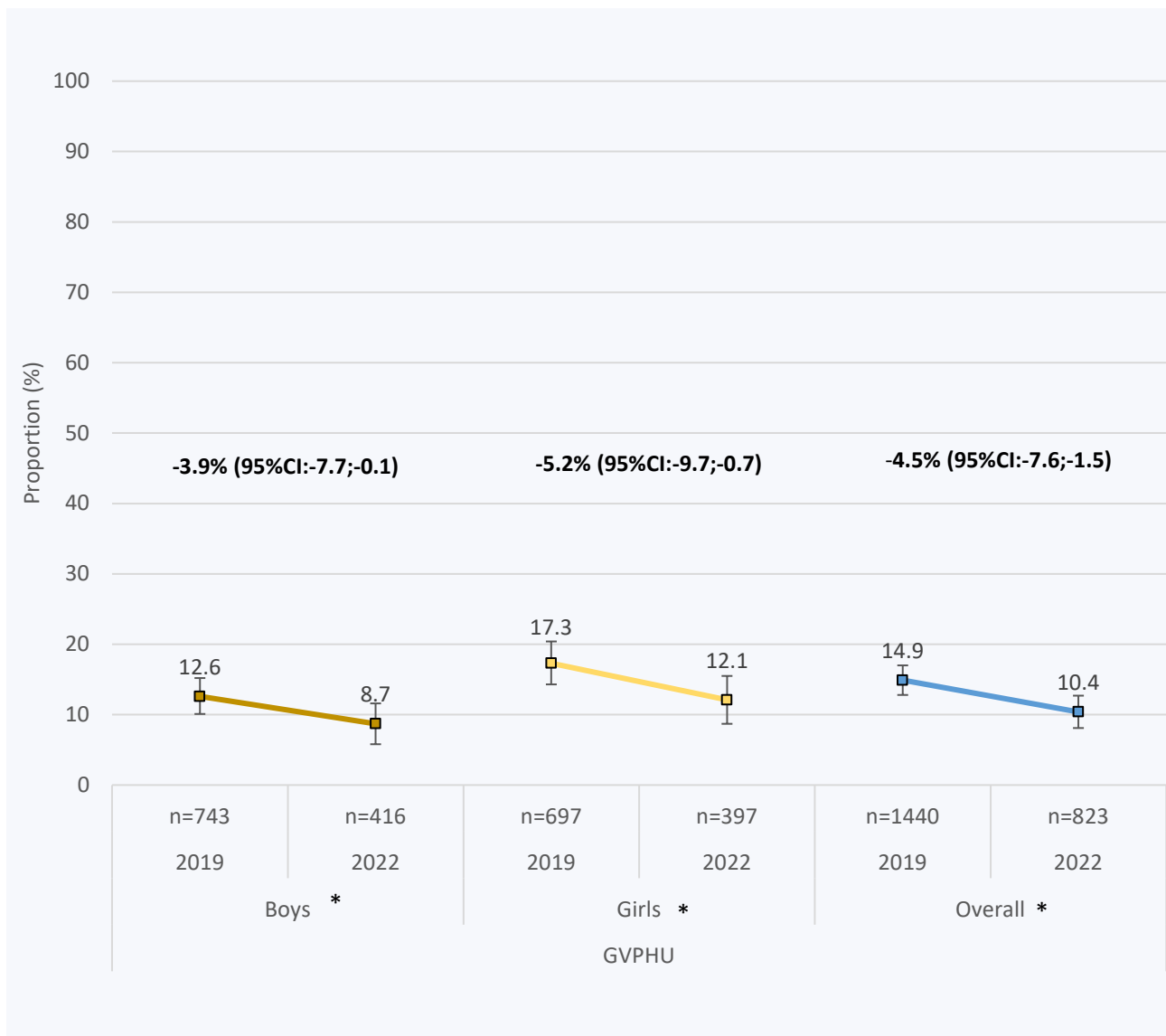
Figure 30: Proportion of participating grade 2, 4, and 6 students with overweight or obesity – using World Health Organisation weight classifications



Goulburn Valley Public Health Unit (GVPHU) Catchment

Figures 31 and 32 show the proportion, within GVPHU catchment, of students consuming the recommended number of serves of vegetables (≥ 5 serves per day, ≥ 5.5 per day for boys 12+) and fruit (≥ 2 serves per day) every day. There were some indication the student vegetable consumption declined between timepoints ($p < 0.05$), while fruit consumption remained stable.

Figure 31: Proportion of participating grade 4 & 6 students meeting the vegetable consumption guidelines every day



* $p < 0.05$

Figure 32: Proportion of participating grade 4 & 6 students meeting the fruit consumption guidelines every day



Figures 33 and 34 show the proportion, within GVPHU catchment, of students eating takeaway as a meal infrequently (once a fortnight or less) and eating unhealthy snacks less than once per day. The frequency of takeaway consumption as a meal, significantly increased between 2019 and 2022 ($p < 0.001$). There were overall indications of an increase in the frequency of consumption of unhealthy snack foods ($p < 0.05$).

Figure 33: Proportion of participating grade 4 and 6 students eating takeaway as a meal once a fortnight or less

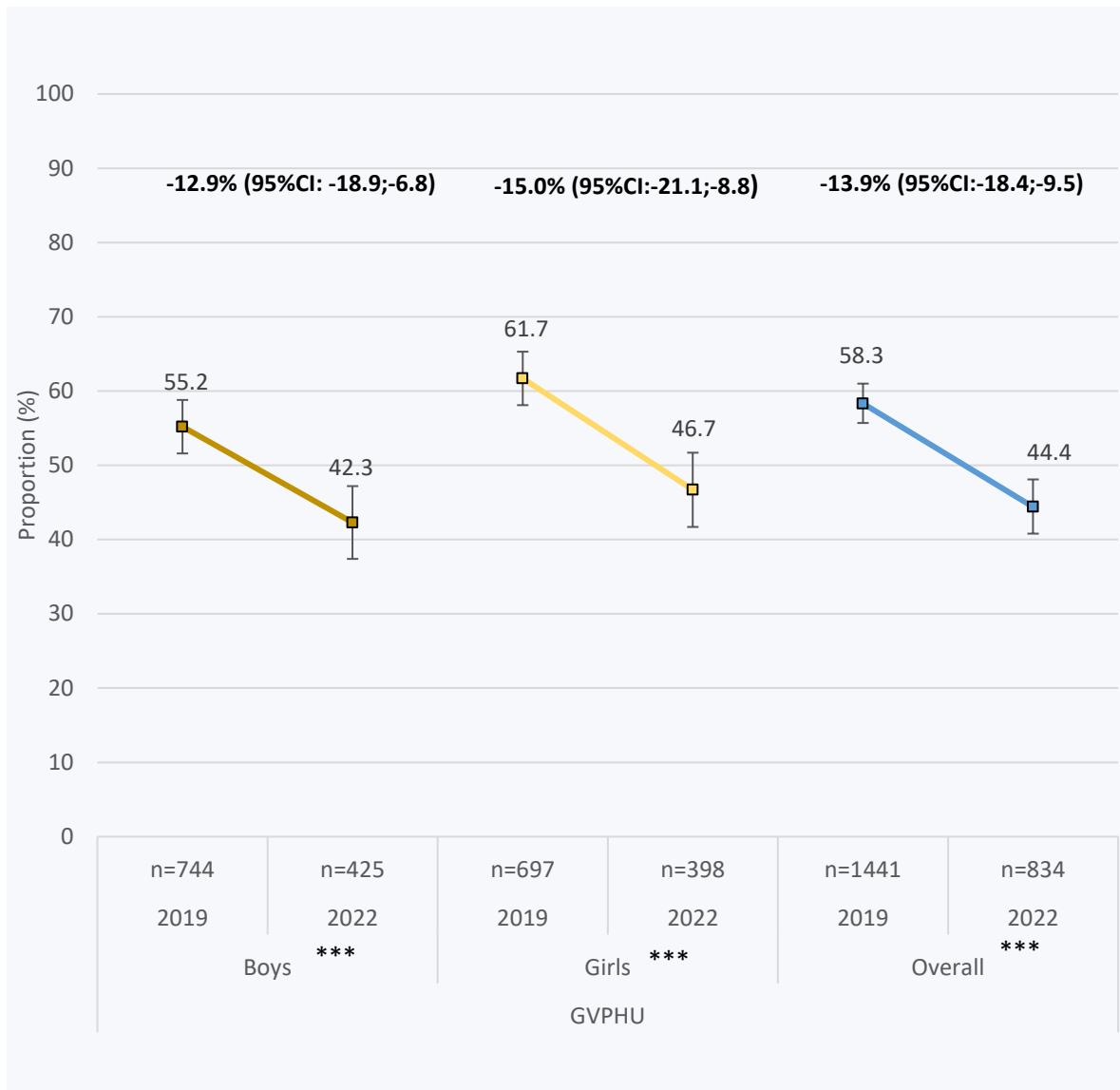
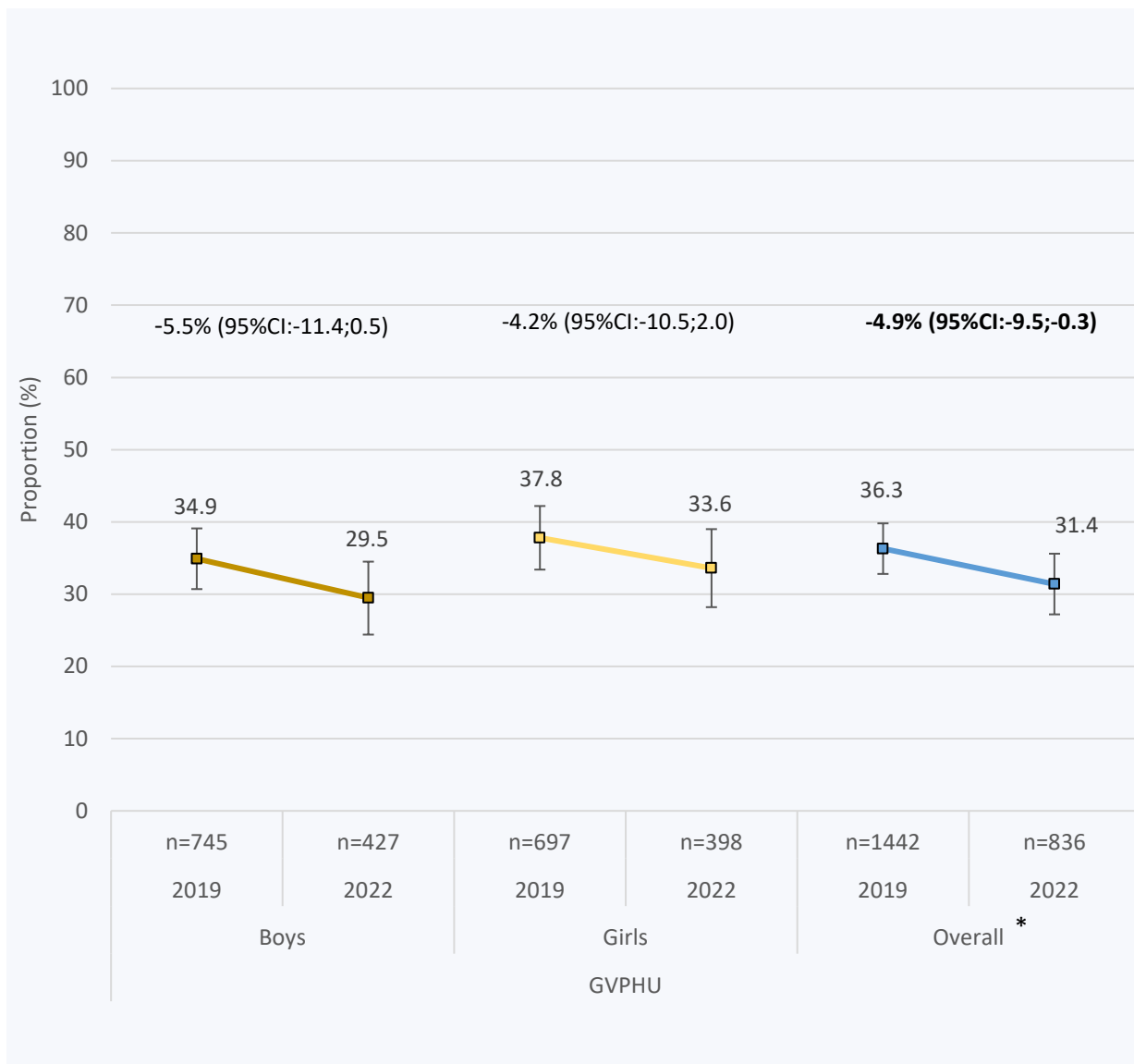


Figure 34: Proportion of participating grade 4 and 6 students eating unhealthy snack foods (including savoury snacks, lollies, cakes, and biscuits) less than once per day



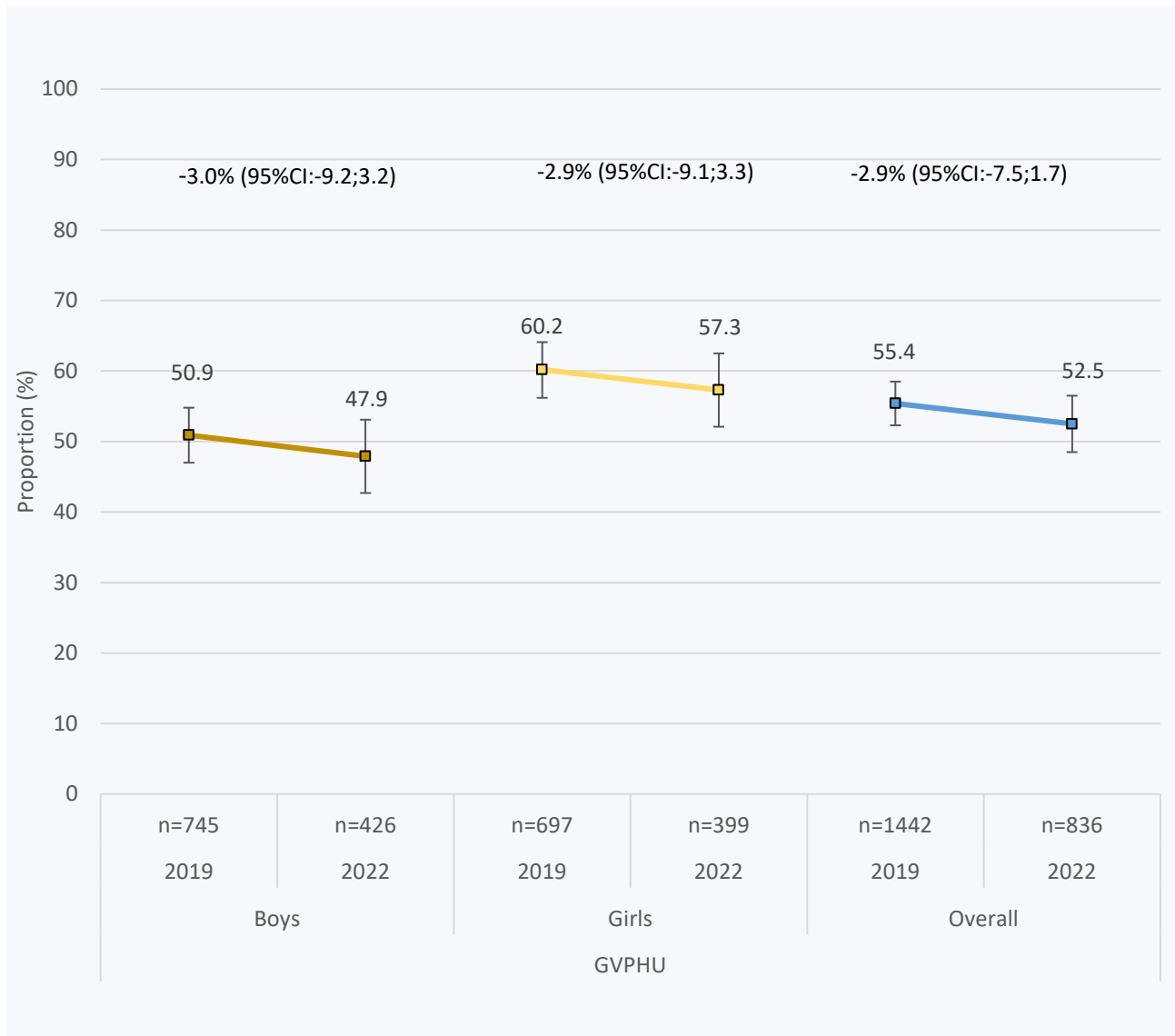
*p<0.05

Figures 35 and 36 show the proportion, within GVPHU catchment, of students drinking ≥ 5 glasses (250ml) of water every day and drinking sugar-sweetened drinks less than once per day. Consumption of water and sugar-sweetened drinks remained relatively stable between 2019 and 2022.

Figure 35: Proportion of participating grade 4 and 6 students drinking at least five 250ml cups of water per day

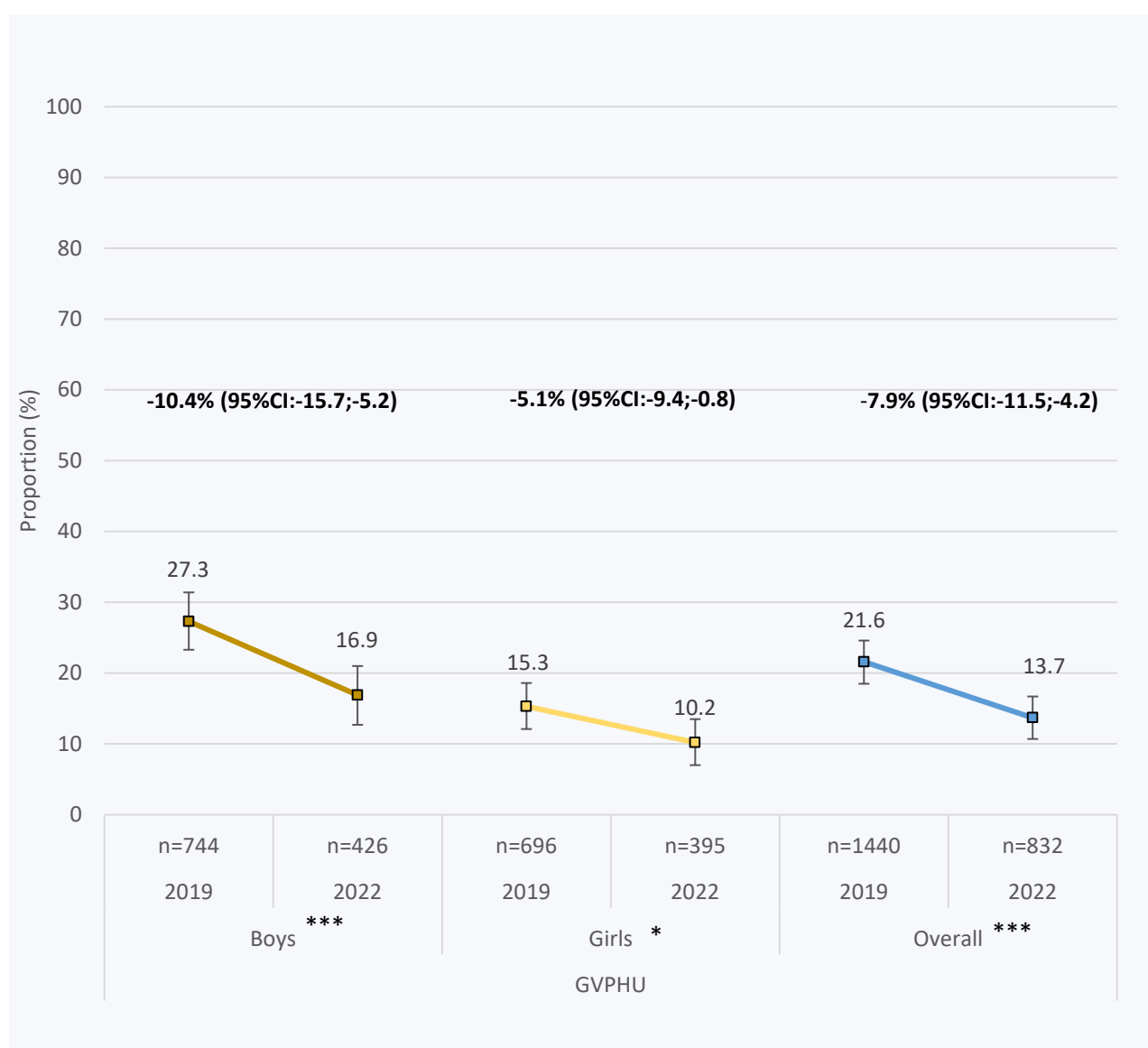


Figure 36: Proportion of participating grade 4 and 6 students drinking sugar-sweetened drinks (including soft drinks, sports drinks, juices, and flavoured milks) less than once per day



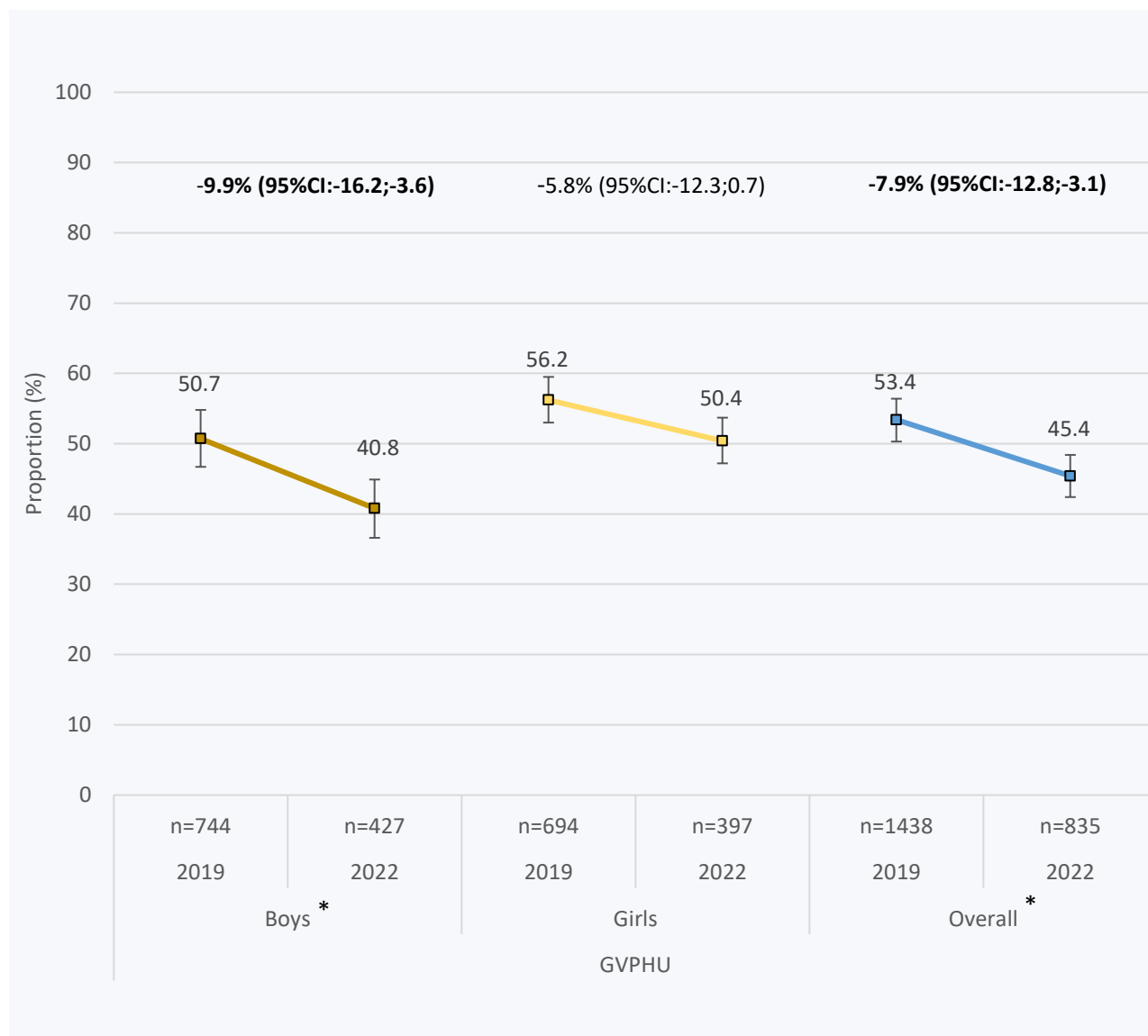
Figures 37 and 38 show the proportion, within GVPHU catchment, of students who met the recommended 60 minutes of moderate to vigorous physical activity every day on the previous 7-days, according to self-reported data, and the proportion of students who stay below the recommended limit of two hours of screen time (outside of school) every day on the previous 7-days. Overall, there was strong evidence of a decline in the proportion of students meeting 7-day physical activity guidelines ($p < 0.001$) between time points. There were also indications of a decline in the proportion of students meeting screen-time guidelines every day ($p < 0.01$) overall and among boys.

Figure 37: Proportion of participating grade 4 and 6 students meeting the physical activity guidelines every day of the last week, according to self-reported physical activity time



* $p < 0.05$ *** $p < 0.001$

Figure 38: Proportion of participating grade 4 and 6 students meeting the screen-time guidelines every day of the last week (two hours per day or less, excluding school activities)



*p<0.05

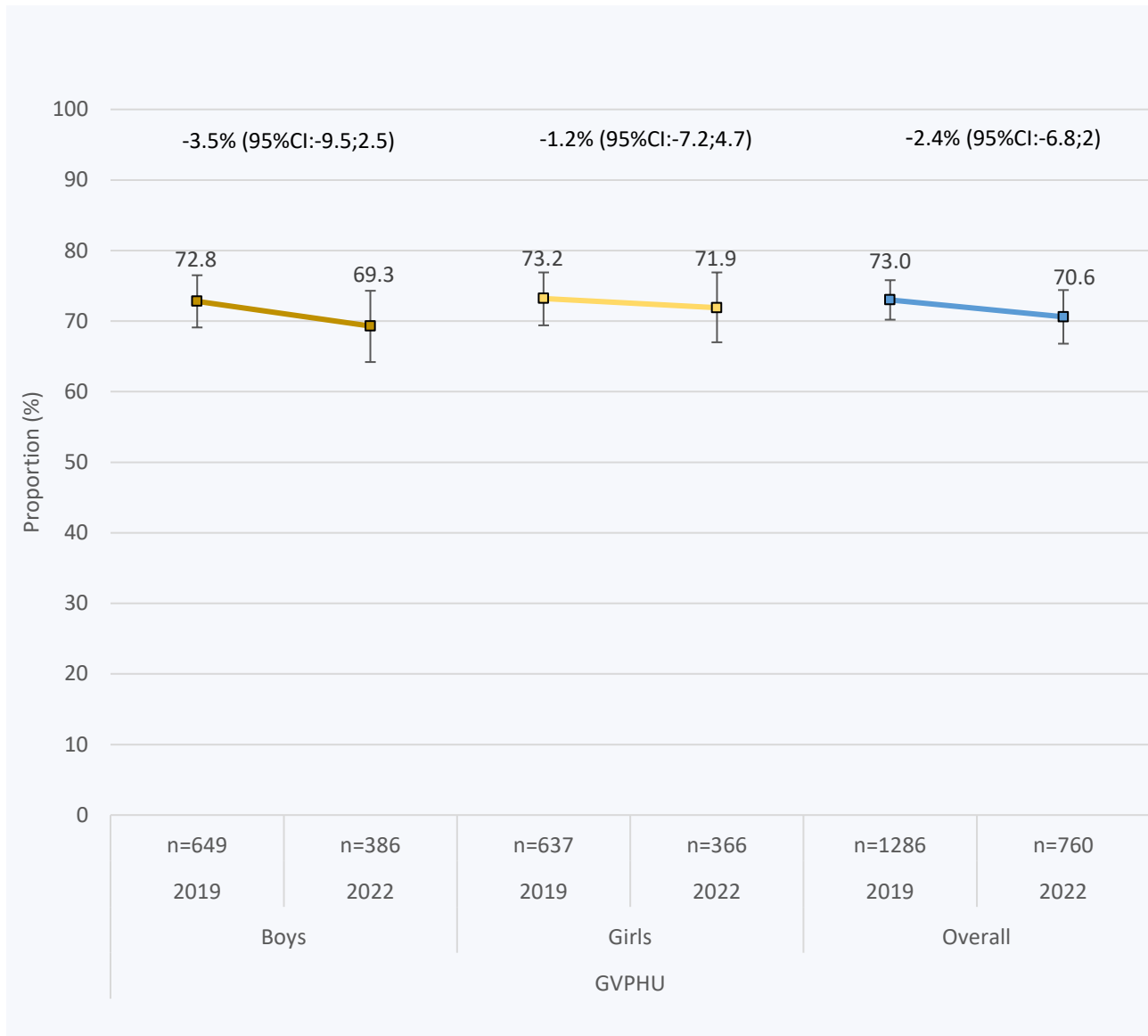
Figure 39 shows, the proportion of students, within GVPHU catchment, who usually use active transport to get to, and/or home again from, school. Use of active transport among students, remained relatively stable across time points.

Figure 39: Proportion of participating grade 4 and 6 students using active transport to get to and/or home again from, school



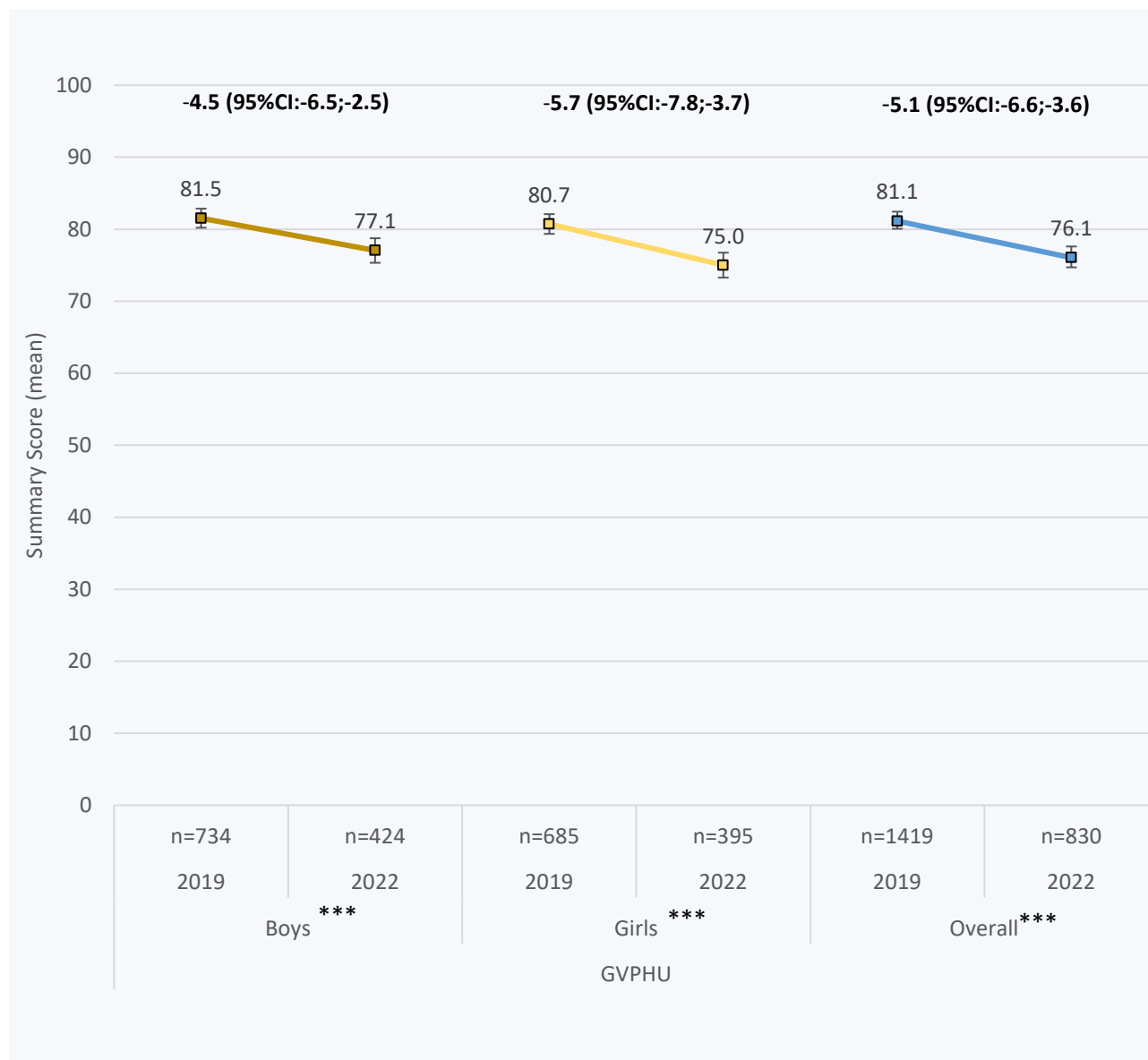
Figure 40 shows the proportion, within GVPHU catchment, of students who meet the sleep time recommendations on a usual school night (more than nine but less than 11 hours per night). The proportion of students meeting sleep duration guidelines remained relatively stable across time points.

Figure 40: Proportion of participating grade 4 and 6 students meeting the sleep duration guidelines (between 9 and 11 hours of sleep per night)



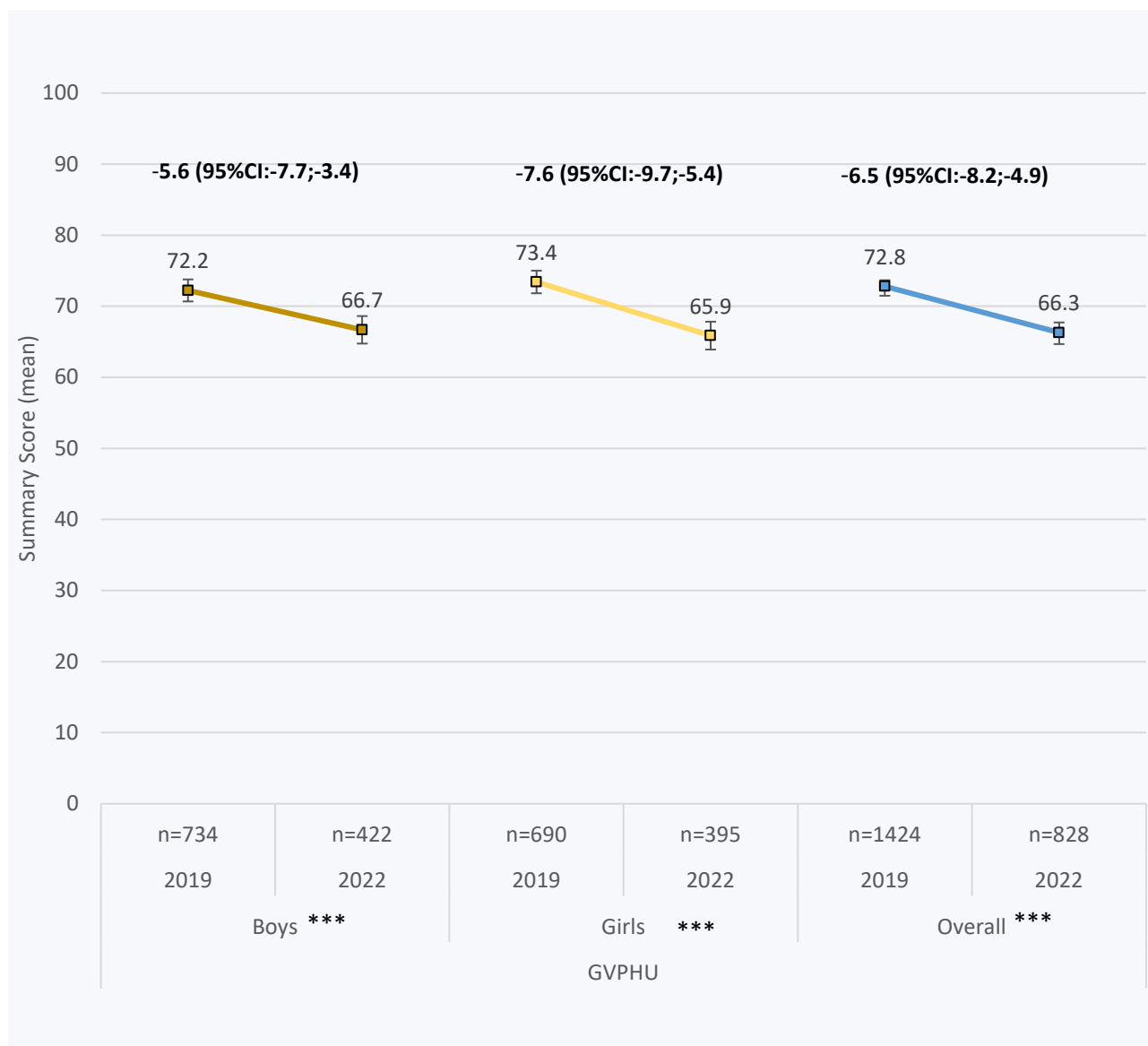
Figures 41 and 42 show, within GVPHU catchment, students’ average health-related quality of life scores on the dimensions of physical wellbeing, and psychosocial wellbeing. These dimensions are scored so that a higher score represents better quality of life, with a maximum possible score of 100. Across both the physical and psychosocial health-related quality of life scores, there were significant decreases in across the two timepoints ($p < 0.001$).

Figure 41: Average physical health-related quality of life score for participating grade 4 and 6 students



***p < 0.001

Figure 42: Average psychosocial health-related quality of life score for participating grade 4 and 6 students



***p<0.001

Figure 43 shows the proportion, within GVPHU catchment, of students who were classified with either overweight or obesity according to World Health Organisation criteria that are adjusted to account for students’ growth across childhood and adolescence. There were significant changes among boys, and overall, in the proportion of overweight and obesity students between time points.

Figure 43: Proportion of participating grade 2, 4, and 6 students with overweight or obesity – using World Health Organisation weight classifications



**p<0.01

6. Additional Data - 5-day vs 7-day Physical Activity and Screen Time Guideline Attainment

This section presents the proportion of students who attained the physical activity and screen time guidelines every day for the preceding week, along with the proportion of students who achieved these guidelines for at least 5 days in the preceding week.

This is intended as an additional indicator for organisations specifically targeting ≥ 5 -day guideline attainment, and for communities interested in the proportion of children who may not meet the guidelines daily but meet them most days of the week. Table 5 presents by LPHU catchment and gender, and Table 6 by LPHU and gender for the entire region.

Table 5: 7-day vs ≥ 5 -day attainment of physical activity and screen time guidelines (by LPHU catchment and gender)

Catchment	Guideline	Criteria	Boys		Girls		
			2019 (n=568)	2022 (n=192)	2019 (n=572)	2022 (n=144)	
Ovens Murray PHU	Physical activity	7 days/week	31.6% (26.7–36.4)	18.2% (12.1–24.3)	22.5% (18.2–26.7)	11.6% (6.1–17.2)	
		≥ 5 days/week	51.3% (45.6–57.0)	40.6% (32.2–49.0)	43.0% (37.4–48.6)	27.5% (19.1–35.8)	
	Screen Time	7 days/week	51.6% (45.6–56.7)	39.1% (31–47.1)	63.4% (58.6–68.3)	50.9% (41.6–60.2)	
		≥ 5 days/week	69.9% (65.1–74.7)	60.7% (52.4–69.0)	82% (78.2–85.8)	71.6% (63.1–80.1)	
				(n=744)	(n=426)	(n=696)	(n=395)
				(n=744)	(n=426)	(n=696)	(n=395)
Goulburn Valley PHU	Physical activity	7 days/week	27.3% (23.3–31.4)	16.9% (12.7–21)	15.3% (12.1–18.6)	10.2% (7–13.5)	
		≥ 5 days/week	47.9% (43.1–52.7)	38.4% (32.5–44.2)	32.0% (27.3–36.6)	22.8% (17.8–27.8)	
	Screen Time	7 days/week	50.7% (46.4–55.0)	40.8% (35.3–46.2)	56.2% (51.8–60.6)	50.4% (44.7–56)	
		≥ 5 days/week	67.6% (63.5–71.7)	61.8% (56.3–67.2)	73.5% (69.7–77.4)	71.6% (66.5–76.6)	

Table 6: 7-day vs 5-day attainment of physical activity and screen time guidelines (Ovens Murray and Goulburn Valley Region) by gender

Guideline	Criteria	Boys		Girls	
		2019 (n=1312)	2022 (n=618)	2019 (n=1268)	2022 (n=539)
<i>Physical activity</i>	<i>7 days/week</i>	29.2% (26-32.4)	17.8% (14.1-21.5)	18.6% (15.9-21.3)	11.0% (8.0-14.0)
	<i>≥5 days/week</i>	49.4% (45.6-53.1)	39.9% (34.8-45.0)	37% (33.3-40.6)	24.9% (20.3-29.4)
<i>Screen Time</i>	<i>7 days/week</i>	51.0% (47.7-54.3)	40.6% (35.9-45.2)	59.3% (56-62.6)	50.9% (46-55.8)
	<i>≥5 days/week</i>	68.4% (65.3-71.5)	62% (57.4-66.6)	77.2% (74.4-79.9)	72.1% (67.7-76.4)

7. Comparisons to other studies, guidelines and data

This section briefly addresses comparisons between this report and other published data on the prevalence of health behaviours, overweight, and obesity in the Victorian population, beyond the RESPOND Health Behaviours monitoring.

As mentioned in the executive summary – there is no existing monitoring system that provides data for Ovens Murray and Goulburn Valley region on the behaviours and outcomes presented in this report, at this level of participation and scale.

Some regular surveys such as the Australian Bureau of Statistics' National Health Survey (12) report overweight and obesity prevalence and select health behaviours for Victorian children - but do so by collecting small, targeted samples, and weighting the data to estimate the expected average for all children. In the 2017-18 National Health Survey, the ABS produced an estimated overweight and obesity prevalence for the approximately 1.4 million Victorians aged 0-17 based on data from 808 individuals, with a participation rate of about 56% for height and weight measures (13, 14).

This makes the National Health Survey data difficult to compare against the RESPOND monitoring data. National Health Survey data is heavily extrapolated and is designed to produce an estimate for the average Victorian child, which will bias the data toward city-dwelling Victorian children, rather than regional and rural Victorian children who would be more comparable to children living in the Ovens Murray and Goulburn Valley areas.

According to data from the International Obesity Task Force (IOTF) (15) the prevalence of overweight and obesity in Australia in 2017/18 was 27.5% among 5–7-year-olds, 25.2% among 8–11-year-olds, and 20.8% among 12–15-year-olds (13). In Victoria, the combined prevalence of overweight and obesity among 5–17-year-olds was 21.6% (14). Employing IOTF (15) criteria, monitoring in the RESPOND region in 2022 observed the prevalence of measured overweight and obesity among grade 2, 4 and 6 students to be 30.3%

The Australian Dietary Guidelines recommend that children should consume 5 serves of vegetables and 2 serves of fruit per day (10). Boys aged >12 years should consume 5.5 serves of vegetables per day. Victorian data from 2017/18 found approximately 6.3% of children aged 2-17 years meet the recommended vegetable intake, while 73% of children meet the recommended fruit intake (13). In 2022, monitoring from the RESPOND region estimated that 73% of children in grades 4 and 6 met the fruit consumption guidelines and 11.9% met the vegetable consumption guidelines.

The Australian 24-Hour Movement Guidelines for Children (5-17 years) recommends 60 minutes or more of moderate-to-vigorous physical activity (MVPA) every day (16). In Victoria, data from 2021 estimated that 47.3% of children aged 5-12 years met the physical activity guidelines everyday (17). In 2022, monitoring from the RESPOND region estimated that 32.6% of students reported meeting the physical activity guidelines on at least 5 days in the last week and 14.5% reported meeting guidelines on 7 days per/week.

The Australian 24-Hour Movement Guidelines for Children (5-17 years) recommends no more than two hours of screen time every day (16). In Victoria, data from 2021 estimated that 67.5% met the screen-time recommendation (17). In 2022, monitoring from the RESPOND region estimated that 66.9% of students reported meeting the screen-time guidelines on at least 5 days in the last week and 45.6% reported meeting guidelines on 7 days per/week.

Overall – there are some notable differences between the findings presented in this report, and data from previous monitoring studies, including the 2019 RESPOND monitoring, and recommended guidelines. It should also be noted that between 2019 and 2022, disruptions occurred among schools and communities in the RESPOND region, including the 2019/20 bushfires and the COVID-19 pandemic.

These difference and changes from 2019 RESPOND data highlight the widespread nature of challenges to child health across rural and regional Victoria as we currently understand them, and reinforces the need for collaborative, community-owned approaches to improve the health of children.

8. Conclusions

The sample of students who participated in this study were fairly evenly distributed by grade and gender, with the sample being very close to a 50/50 split by gender, and reasonably near to an even split between grade 2, grade 4, and grade 6 participants. Numbers were more varied when considering the two LPHU catchments – with the Ovens Murray representing 29% of the sample and Goulburn Valley, 71% of the sample, which was reasonable based on population estimates. Just over 13% of grade 4 and 6 students reported speaking a language other than English at home, 11% of participating grade 4 and 6 students identified as being from a First Nation or Torres Strait Islander background and the majority attended government schools (88.5%).

The number of students consuming the recommended amount of vegetables was low (11.9%), while fruit consumption was higher (73%). The proportion of students meeting vegetable consumption guidelines significantly decreased among boys between 2019 and 2022. No significant changes were noted in fruit consumption for boys or girls.

The frequency of consumption of take-away food as a meal increased between 2019 and 2022 among both boys and girls. Similarly, the frequency of consumption of unhealthy packaged snacks also increased, along with the consumption of sugar-sweetened drinks (among boys and total students).

Self-report physical activity declined between 2019 and 2022 – with 14.5% of students meeting the recommended 60 minutes of moderate to vigorous physical activity every day of the week in 2022. Similarly, there was a decrease in the proportion of students meeting the 7-day screen time guidelines, shifting to 45.6% of students from 55% in 2019.

Active transport remained relatively consistent for boys across the timepoints, with approximately 32% of boys using active travel either on their way to or home from school in 2022 – however, active transport use declined among girls from 30.7% in 2019 to 25.8% in 2022.

Wellbeing measures declined between timepoint measures. Significantly lower health related quality of life scores – both physical and psychosocial – were observed among the students measured in 2019 compared to 2022.

Combined rates of overweight and obesity increased by almost 7 percentage points for boys between 2019 and 2022 (from 34.5% to 41.5%), with a smaller increase (from 35% to 36.8%) among girls.

Overall – these data represent a robust understanding of these aspects of the health and wellbeing of children in primary schools across the Ovens Murray and Goulburn Valley regions in 2022 and how these measures have moved since foundational measures were presented in 2019. The notable changes in several domains (i.e., healthy weight, physical activity, takeaway consumption and wellbeing) highlight the opportunities for improvement in the health of children across the Ovens Murray and Goulburn Valley region. In addition, the measures in this report illustrate health behaviour changes across the regions from immediately before COVID19 pandemic through to the post-COVID19 recovery, and reinforces the need for collaborative, whole-of-community efforts to improve children's health across the region.

9. Translating insights into action: RESPOND

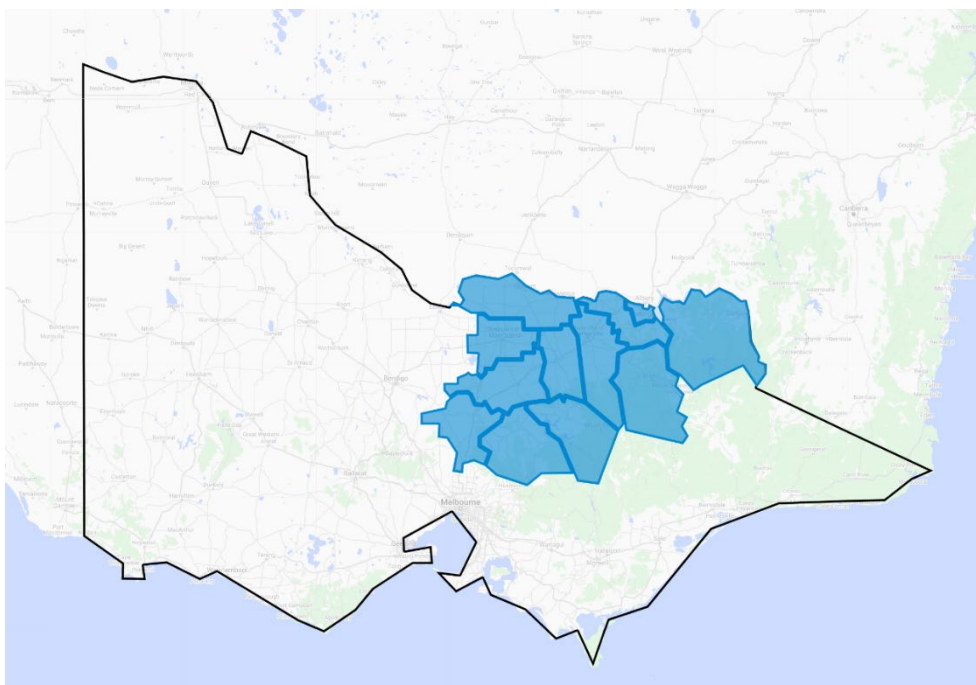
The information included in this report supports large, whole-of-community initiatives to improve the health of children across the Ovens Murray & Goulburn Valley regions of Victoria.

In 2019, RESPOND supported five local government areas to undertake community consultation (note: two of the local government areas below were involved in the pilot phase in 2016). This used systems thinking methods and principles to deliver a series of three workshops, with the objective of creating collaborative and sustainable action to improve the health of children in their communities.

From 2022, a further five local government areas were engaged to undertake the workshops. This process along with the 2022 data collection captured in this report, was delayed by a year due to the disruptions that occurred for schools and communities from the 2019/20 bushfires and COVID-19 pandemic. RESPOND continues to be supported by Deakin University until November 2024.

RESPOND communities use these data in concert local understanding and lived experience, to understand how best to form a locally owned and community-driven response to child health and wellbeing.

Figure 44: Overview view of the RESPOND region by LGA boundary within Victoria



APPENDIX: About Our Measurements, Tools and Surveys

This appendix section presents further information about the survey tools and measures (and guidelines where applicable) used to collect and summarise the data presented above.

Food & Drinks Section

Vegetable & Fruit Guideline Attainment

Attainment of the fruit and vegetable guidelines was assessed using two items (one specifically for fruit, the other for vegetables) that asked students how many serves they usually consumed in a day. Students were given some general guidance on what constitutes “one serve of fruit” or “one serve of vegetables.” Students’ possible answers ranged from “none” to “7 or more serves per day” in half-serve increments for vegetables – and from “none” to “5 or more serves per day” in half-serve increments for fruit. Students’ responses were assessed against the relevant guidelines to establish attainment of the fruit and vegetable recommendations.

The Australian Dietary Guidelines recommend that children consume 5 serves of vegetables per day and 2 serves of fruit per day, while boys aged 12+ years should consume 5.5 serves of vegetables per day (10).

Takeaway Meal Consumption

Students were asked how often they usually consumed takeaway foods as a main meal. Students were instructed that this specifically meant eating takeaway as breakfast, lunch, or dinner, as opposed to having a takeaway item as a snack (i.e., one dim-sim, or one potato cake outside of a main meal). Students chose from 8 possible responses, including “every meal,” “almost every day,” “once a week” and “rarely or never.” This report shows the proportion of students who reported only having takeaway “once a fortnight” or “rarely or never”.

Unhealthy Snack & Sugar-Sweetened Drink Consumption

Consumption of unhealthy snacks and sugar-sweetened drinks were calculated using a set of six questions that asked students how frequently they consumed different types of sugar-sweetened drinks and unhealthy snacks. Of the six items, three were focused on sugar-sweetened drinks, and three on unhealthy snacks. Each item asked the student how often they usually ate or drank the category of food or drink, with 8 possible responses, including “3 or more times a day,” “almost every day,” “once a week” and “rarely or never.”

The unhealthy snack items asked about students’ consumption of “packet potato chips and savoury snacks,” “snacks such as chocolates or lollies,” and “snacks such as cakes, sweet biscuits,

pastries and donuts.” The sugar-sweetened drinks items asked about “soft drinks, sports drinks and energy drinks,” “fruit juice, fruit drink, and cordial,” and “flavoured milk”.

For both the snack foods, and sugary drink items, the three sub-questions were analysed together to establish how often students consumed either a snack food, or a sugar-sweetened drink within any of the categories. The sugar-sweetened drink consumption statistic presented in this report can be interpreted as the proportion of students who do not usually consume either a soft drink, sports drink, energy drink, fruit juice or drink, cordial or flavoured milk every day. The unhealthy snack consumption statistic can be interpreted as the proportion of students who do not usually consume either packet potato chips, or savoury snacks, chocolates, lollies, cakes, sweet biscuits, pastries or donuts every day.

Water Consumption

Water consumption was assessed using a question that asked students how many glasses of water they usually drink each day. Researchers explained that one glass was equal to 250ml, or just under half a standard bottle of water. Students could respond that they consumed no water, or choose from “1-2 glasses” “3-4 glasses” “5-6 glasses” “7-8 glasses” or “more than 8 glasses” per day. The proportion of students consuming at least five 250ml glasses of water per day (~1250ml water consumed per day) were presented in this report.

Activity & Screen Time Section

Physical Activity & Screen Time Guideline Attainment

Attainment of the physical activity and screen time guidelines were assessed using two questions that separately measured students time spent in each type of activity. The physical activity question asked students to recall how much time they spent in moderate to vigorous exercise that made them “sweat, breathe harder or be out of breath” for each of the last seven days, choosing from six possible answers including “none,” “1 to 14 minutes,” “1 to 2 hours” and “more than 2 hours.” Similarly, the screen time item asked how long students had spent “sitting or lying down looking at a screen” outside of the school context for each of the last 7 days. For each day, students chose from five options including “none,” “less than 1 hour,” “more than 2 but less than 5 hours” and “5 or more hours.” Student’s responses for the last 7 days were analysed to determine how many students reported meeting the relevant guideline on each of the last 7 days.

The Australian Movement Guidelines for Children (5-17 years) recommends at least one hour of moderate-to-vigorous physical activity every day (16). The Australian Movement Guidelines for Children (5-17 years) recommends no more than two hours of screen time every day (16).

Active Transport Use

Two questions about students' active transport asked for students' usual method of travel to school, and home after school separately. Students were instructed that if they use two methods (i.e., drive part way, walk part way) to choose the type of travel that makes up most of the trip. Students could choose from car, school bus, public bus train or tram, walking, cycling, other (active), or other (inactive). The active transport statistics presented in this report show the proportion of students who usually use an active transport method (walking, cycling, or other active method) to get either to or from school.

Sleep & Wellbeing Section

Sleep Guideline Attainment

Two questions asked students to identify what time they usually went to bed, and usually got up in the morning on a school night. This was used to calculate the number of hours sleep students get on a normal school night, which was compared against the relevant sleep guidelines. The Sleep Guidelines for Children (5-12 years) recommend no less than nine, and no more than 11 hours of sleep every night (16).

Physical & Psychosocial Wellbeing

Physical and psycho-social Wellbeing were measured using a child-specific, health-related quality of life index, called the Paediatric Quality of Life Index (PedsQL). The PedsQL asks students to respond to a series of statements about different dimensions of wellbeing – indicating how often the statement has been a problem for them. Statements cover physical, emotional, social, and school-related well-being, and include things like “It is difficult for me to walk more than 100m” “I worry about what will happen to me” and “I have trouble keeping up with my schoolwork”.

PedsQL is regularly used to measure wellbeing in child health studies (18,19) and can be summarised into two top-level outcomes describing physical wellbeing and psycho-social wellbeing. Higher scores on this measure indicate better wellbeing, with a maximum of 100 for both scales.

Healthy Weight Section

Combined Overweight & Obesity

Overweight and obesity were assessed using an age- and sex-adjusted BMI score, calculated using students' height and weight. Height and weight were measured by trained data collectors, using an ethical and respectful process that takes between 2 and 3 minutes per student. Students were

measured without shoes, or bulky jumpers (so long as students were comfortable removing them). Both height and weight were measured at least twice, and occasionally a third time to ensure consistency.

Students BMI was adjusted according to their age and sex, as BMI in children requires adjustment to account for the way children's bodies change as they grow.

While BMI is a limited tool for assessing overweight and obesity among individuals, BMI is an accurate tool for measuring the proportion of people with overweight or obesity in large samples.

Summary of specific surveys employed

In the measurements described above, some specific tools from the research literature were employed. The table below summarises the items used in the RESPOND Monitoring Study, and corresponding surveys from the literature that they were drawn from. In most cases, the full measurement instruments contain many questions – and key items of interest were selected for use in this study.

Table 7: Summary of measurement instruments used in the RESPOND Monitoring Study

Section:	Items:	Instrument/s:
<i>Food & Drinks</i>	<ul style="list-style-type: none"> • Typical/usual serves of fruit and vegetable daily • Typical/usual consumption of takeaway food • Typical/usual serves and size of several non-core foods • Typical/usual serves and size of sugar-sweetened drinks • Typical/usual consumption of water 	<ul style="list-style-type: none"> • Child Nutrition Questionnaire (20) • Food, Health, and Choices Questionnaire (21)
<i>Activity & Screen Time</i>	<ul style="list-style-type: none"> • Minutes per day spent in moderate-to-vigorous physical activity • Minutes per day spent in sedentary time 	<ul style="list-style-type: none"> • Core Indicators and Measures of Youth Health Survey (22) and • SHAPES Survey (23) • Accelerometry (subsample)
<i>Sleep & Wellbeing</i>	<ul style="list-style-type: none"> • Typical/usual bedtime and wake time • Psychosocial wellbeing summary score • Physical wellbeing summary score 	<ul style="list-style-type: none"> • None applicable for sleep item • Paediatric Quality of Life Inventory (PedsQL) (24)
<i>Healthy Weight</i>	<ul style="list-style-type: none"> • Overweight and obesity prevalence • BMI-for-age z-score 	<ul style="list-style-type: none"> • Direct-measure height and weight

APPENDIX: Further Results by Local Government Area

This section of the report presents the results of the 2019 Health Behaviours and Anthropometry study, by Local Government Area.

These data are at a much lower level of granularity than the whole-of-region, or LPHU level reporting given above, and are therefore presented either by year level only.

These data are raw, unadjusted figures, and it is therefore not intended that direct LGA-to-LGA comparisons be drawn from these tables.

Figure 45: Zoomed view of the RESPOND region by LGA boundary

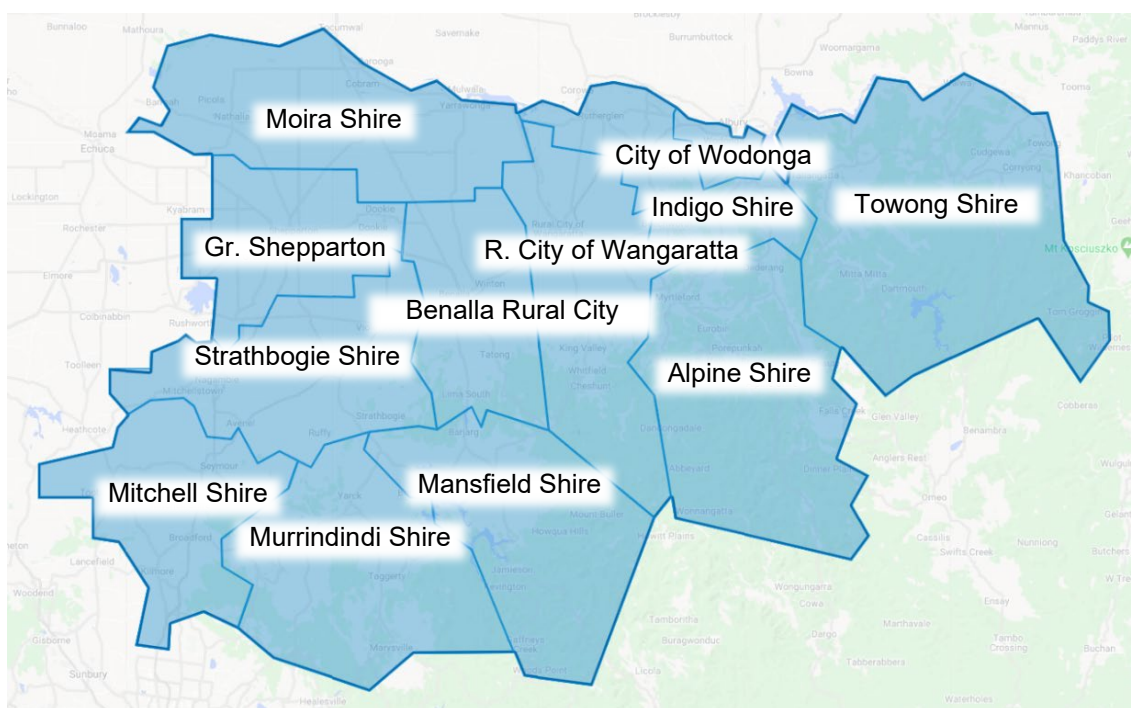


Table 8: Alpine Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	85.8	79.6
		n	106	54
	Met Vegetable Consumption Guidelines	%	27.4	13.5
		n	106	52
	Met Water Consumption Guidelines	%	56.6	38.9
		n	106	54
	Sugar-Sweetened Drink consumption (<once/day)	%	84.9	61.1
		n	106	54
	Takeaway Consumption (once/fortnight or less)	%	70.8	66.7
		n	106	54
	Unhealthy snack consumption (<once/day)	%	64.2	44.4
		n	106	54
	Met PA Guidelines (self-report, 7/7 days)	%	35.8	25.9
		n	106	54
	Met PA Guidelines (self-report, 5/7 days)	%	55.7	46.3
		n	106	54
	Met Screen Time Guidelines (self-report, 7/7 days)	%	64.2	51.9
		n	106	54
	Met Screen Time Guidelines (self-report, 5/7 days)	%	82.1	74.1
		n	106	54
	Use Active Transport to or from school	%	57.5	44.4
		n	106	54
	Met Sleep Duration Guidelines	%	73.5	76.9
		n	98	52
<i>Outcomes</i>	Physical wellbeing	mean	83.4	79.9
		n	106	54
	Psychosocial wellbeing	mean	74.8	66.8
		n	106	54
	Overweight/ Obesity	%	20.8	19.5
		n	144	82
	BMI z-score	mean	0.12	0.26
		n	144	82

Table 9: Benalla Rural City Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	64.4	72.9
		n	132	96
	Met Vegetable Consumption Guidelines	%	14.3	18.1
		n	133	94
	Met Water Consumption Guidelines	%	57.9	61.5
		n	133	96
	Sugar-Sweetened Drink consumption (<once/day)	%	51.9	48.4
		n	133	95
	Takeaway Consumption (once/fortnight or less)	%	60.2	47.9
		n	133	96
	Unhealthy snack consumption (<once/day)	%	32.3	25.0
		n	133	96
	Met PA Guidelines (self-report, 7/7 days)	%	22.6	20.0
		n	133	95
	Met PA Guidelines (self-report, 5/7 days)	%	43.6	31.6
		n	133	95
	Met Screen Time Guidelines (self-report,7/7 days)	%	46.2	41.7
		n	132	96
	Met Screen Time Guidelines Guidelines (self-report,5/7 days)	%	67.4	61.5
		n	132	96
	Use Active Transport to or from school	%	44.4	47.9
		n	133	96
	Met Sleep Duration Guidelines	%	75.4	61.9
		n	118	84
<i>Outcomes</i>	Physical wellbeing	mean	82.0	79.7
		n	133	93
	Psychosocial wellbeing	mean	73.5	67.4
		n	133	93
	Overweight/ Obesity	%	37.2	44.3
		n	180	140
	BMI z-score	mean	0.67	0.84
		n	180	140

Table 10: Indigo Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	75.4	76.2
		n	224	101
	Met Vegetable Consumption Guidelines	%	13.4	18.9
		n	224	95
	Met Water Consumption Guidelines	%	57.6	54.5
		n	224	101
	Sugar-Sweetened Drink consumption (<once/day)	%	61.2	63.4
		n	224	101
	Takeaway Consumption (once/fortnight or less)	%	67.0	65.3
		n	224	101
	Unhealthy snack consumption (<once/day)	%	41.5	40.6
		n	224	101
	Met PA Guidelines (self-report, 7/7 days)	%	25.0	18.8
		n	224	101
	Met PA Guidelines (self-report, 5/7 days)	%	50.4	39.6
		n	224	101
	Met Screen Time Guidelines (self-report,7/7 days)	%	60.3	51.5
		n	224	101
	Met Screen Time Guidelines (self-report,5/7 days)	%	76.3	71.3
		n	224	101
	Use Active Transport to or from school	%	42.9	39.6
		n	224	101
	Met Sleep Duration Guidelines	%	72.3	74.7
		n	206	95
<i>Outcomes</i>	Physical wellbeing	mean	84.0	81.4
		n	221	101
	Psychosocial wellbeing	mean	71.6	70.7
		n	223	101
	Overweight/ Obesity	%	33.5	22.2
		n	319	135
	BMI z-score	mean	0.58	0.36
		n	319	135

Table 11: Mansfield Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	81.4	78.2
		n	129	110
	Met Vegetable Consumption Guidelines	%	11.6	9.2
		n	129	109
	Met Water Consumption Guidelines	%	43.4	50.9
		n	129	110
	Sugar-Sweetened Drink consumption (<once/day)	%	57.4	73.6
		n	129	110
	Takeaway Consumption (once/fortnight or less)	%	72.9	67.0
		n	129	109
	Unhealthy snack consumption (<once/day)	%	43.4	47.3
		n	129	110
	Met PA Guidelines (self-report, 7/7 days)	%	26.4	26.4
		n	129	110
	Met PA Guidelines (self-report, 5/7 days)	%	44.2	44.5
		n	129	110
	Met Screen Time Guidelines (self-report, 7/7 days)	%	61.7	50.0
		n	128	110
	Met Screen Time Guidelines (self-report, 5/7 days)	%	76.6	71.8
		n	128	110
	Use Active Transport to or from school	%	24.8	23.6
		n	129	110
	Met Sleep Duration Guidelines	%	72.9	76.8
		n	118	99
<i>Outcomes</i>	Physical wellbeing	mean	83.5	80.9
		n	128	110
	Psychosocial wellbeing	mean	73.0	71.0
		n	128	109
	Overweight/ Obesity	%	22.5	21.1
		n	191	152
	BMI z-score	mean	0.31	0.35
		n	191	152

Table 12: Mitchell Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	66.3	74.1
		n	243	81
	Met Vegetable Consumption Guidelines	%	11.2	7.5
		n	242	80
	Met Water Consumption Guidelines	%	48.6	54.3
		n	243	81
	Sugar-Sweetened Drink consumption (<once/day)	%	46.1	49.4
		n	243	81
	Takeaway Consumption (once/fortnight or less)	%	47.3	45.7
		n	243	81
	Unhealthy snack consumption (<once/day)	%	25.1	23.5
		n	243	81
	Met PA Guidelines (self-report, 7/7 days)	%	22.7	17.3
		n	242	81
	Met PA Guidelines (self-report, 5/7 days)	%	32.6	29.6
		n	242	81
	Met Screen Time Guidelines (self-report, 7/7 days)	%	49.4	33.3
		n	243	81
	Met Screen Time Guidelines (self-report, 5/7 days)	%	63.0	51.9
		n	243	81
	Use Active Transport to or from school	%	44.0	22.2
		n	243	81
	Met Sleep Duration Guidelines	%	75.2	64.5
		n	210	76
<i>Outcomes</i>	Physical wellbeing	mean	79.3	74.3
		n	232	81
	Psychosocial wellbeing	mean	69.1	63.1
		n	237	81
	Overweight/ Obesity	%	35.8	39.0
		n	371	118
	BMI z-score	mean	0.63	0.66
		n	371	118

Table 13: Moira Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	68.2	71.9
		n	264	167
	Met Vegetable Consumption Guidelines	%	16.3	4.9
		n	263	164
	Met Water Consumption Guidelines	%	50.0	51.5
		n	262	167
	Sugar-Sweetened Drink consumption (<once/day)	%	51.7	50.3
		n	263	167
	Takeaway Consumption (once/fortnight or less)	%	57.4	42.5
		n	263	167
	Unhealthy snack consumption (<once/day)	%	32.3	26.3
		n	263	167
	Met PA Guidelines (self-report, 7/7 days)	%	16.3	6.0
		n	264	167
	Met PA Guidelines (self-report, 5/7 days)	%	35.6	23.4
		n	264	167
	Met Screen Time Guidelines (self-report, 7/7 days)	%	51.5	44.9
		n	264	167
	Met Screen Time Guidelines (self-report, 5/7 days)	%	72.3	72.5
		n	264	167
	Use Active Transport to or from school	%	34.8	28.7
		n	264	167
	Met Sleep Duration Guidelines	%	75.4	72.9
		n	236	155
<i>Outcomes</i>	Physical wellbeing	mean	80.4	74.9
		n	262	166
	Psychosocial wellbeing	mean	72.3	65.3
		n	261	166
	Overweight/ Obesity	%	40.3	40.2
		n	375	239
	BMI z-score	mean	0.74	0.73
		n	375	239

Table 14: Murrindindi Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	71.5	*
		n	186	
	Met Vegetable Consumption Guidelines	%	12.9	*
		n	186	
	Met Water Consumption Guidelines	%	53.8	*
		n	186	
	Sugar-Sweetened Drink consumption (<once/day)	%	66.7	*
		n	186	
	Takeaway Consumption (once/fortnight or less)	%	57.0	*
		n	186	
	Unhealthy snack consumption (<once/day)	%	32.3	*
		n	186	
	Met PA Guidelines (self-report, 7/7 days)	%	26.9	*
		n	186	
	Met PA Guidelines (self-report, 5/7 days)	%	46.2	*
		n	186	
	Met Screen Time Guidelines (self-report, 7/7 days)	%	51.4	*
		n	185	
	Met Screen Time Guidelines (self-report, 5/7 days)	%	68.1	*
		n	185	
	Use Active Transport to or from school	%	32.8	*
		n	186	
	Met Sleep Duration Guidelines	%	73.0	*
		n	174	
<i>Outcomes</i>	Physical wellbeing	mean	81.1	*
		n	186	
	Psychosocial wellbeing	mean	71.9	*
		n	186	
	Overweight/ Obesity	%	39.6	*
		n	245	
	BMI z-score	mean	0.72	*
		n	245	

*due to low sample sizes, figures cannot be reported for 2022

Table 15: City of Greater Shepparton Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	72.4	66.2
		n	402	314
	Met Vegetable Consumption Guidelines	%	15.0	9.4
		n	401	309
	Met Water Consumption Guidelines	%	59.2	56.1
		n	402	314
	Sugar-Sweetened Drink consumption (<once/day)	%	48.8	43.8
		n	402	315
	Takeaway Consumption (once/fortnight or less)	%	53.9	38.0
		n	401	313
	Unhealthy snack consumption (<once/day)	%	36.3	28.0
		n	402	314
	Met PA Guidelines (self-report, 7/7 days)	%	16.0	10.9
		n	401	311
	Met PA Guidelines (self-report, 5/7 days)	%	30.9	25.7
		n	401	311
	Met Screen Time Guidelines (self-report, 7/7 days)	%	48.0	39.0
		n	402	313
	Met Screen Time Guidelines (self-report, 5/7 days)	%	66.4	61.0
		n	402	313
	Use Active Transport to or from school	%	28.6	33.1
		n	402	314
	Met Sleep Duration Guidelines	%	72.2	73.6
		n	352	280
<i>Outcomes</i>	Physical wellbeing	mean	81.1	75.1
		n	394	313
	Psychosocial wellbeing	mean	73.1	66.2
		n	395	312
	Overweight/ Obesity	%	39.0	45.4
		n	566	463
	BMI z-score	mean	0.74	0.88
		n	566	463

Table 16: Strathbogie Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	72.9	78.1
		n	85	32
	Met Vegetable Consumption Guidelines	%	20.9	15.6
		n	86	32
	Met Water Consumption Guidelines	%	62.8	71.9
		n	86	32
	Sugar-Sweetened Drink consumption (<once/day)	%	53.5	65.6
		n	86	32
	Takeaway Consumption (once/fortnight or less)	%	55.8	68.8
		n	86	32
	Unhealthy snack consumption (<once/day)	%	39.5	56.3
		n	86	32
	Met PA Guidelines (self-report, 7/7 days)	%	20.0	15.6
		n	85	32
	Met PA Guidelines (self-report, 5/7 days)	%	43.5	37.5
		n	85	32
	Met Screen Time Guidelines (self-report, 7/7 days)	%	52.4	65.6
		n	84	32
	Met Screen Time Guidelines (self-report, 5/7 days)	%	72.6	78.1
		n	84	32
	Use Active Transport to or from school	%	36.0	31.3
		n	86	32
	Met Sleep Duration Guidelines	%	64.1	80.0
		n	78	30
<i>Outcomes</i>	Physical wellbeing	mean	79.9	81.6
		n	84	32
	Psychosocial wellbeing	mean	71.9	76.9
		n	84	32
	Overweight/ Obesity	%	33.1	38.1
		n	136	42
	BMI z-score	mean	0.59	0.79
		n	136	42

Table 17: Towong Shire Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	84.4	*
		n	77	
	Met Vegetable Consumption Guidelines	%	14.3	*
		n	77	
	Met Water Consumption Guidelines	%	66.2	*
		n	77	
	Sugar-Sweetened Drink consumption (<once/day)	%	62.3	*
		n	77	
	Takeaway Consumption (once/fortnight or less)	%	75.3	*
		n	77	
	Unhealthy snack consumption (<once/day)	%	46.8	*
		n	77	
	Met PA Guidelines (self-report, 7/7 days)	%	55.8	*
		n	77	
	Met PA Guidelines (self-report, 5/7 days)	%	79.2	*
		n	77	
	Met Screen Time Guidelines (self-report, 7/7 days)	%	71.4	*
		n	77	
	Met Screen Time Guidelines (self-report, 5/7 days)	%	83.1	*
		n	77	
	Use Active Transport to or from school	%	28.6	*
		n	77	
	Met Sleep Duration Guidelines	%	69.4	*
		n	72	
<i>Outcomes</i>	Physical wellbeing	mean	86.9	*
		n	75	
	Psychosocial wellbeing	mean	78.0	*
		n	75	
	Overweight/ Obesity	%	36.9	*
		n	111	
	BMI z-score	mean	0.77	*
		n	111	*

*due to low sample sizes, figures cannot be reported for 2022

Table 18: Rural City of Wangaratta Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	75.7	75.9
		n	379	108
	Met Vegetable Consumption Guidelines	%	17.4	14.4
		n	379	104
	Met Water Consumption Guidelines	%	56.5	50.0
		n	379	108
	Sugar-Sweetened Drink consumption (<once/day)	%	60.3	48.1
		n	378	108
	Takeaway Consumption (once/fortnight or less)	%	61.5	38.0
		n	379	108
	Unhealthy snack consumption (<once/day)	%	36.2	30.6
		n	378	108
	Met PA Guidelines (self-report, 7/7 days)	%	26.1	13.9
		n	379	108
	Met PA Guidelines (self-report, 5/7 days)	%	43.0	34.3
		n	379	108
	Met Screen Time Guidelines (self-report, 7/7 days)	%	61.4	39.8
		n	378	108
	Met Screen Time Guidelines (self-report, 5/7 days)	%	79.1	59.3
		n	378	108
	Use Active Transport to or from school	%	30.6	35.2
		n	379	108
	Met Sleep Duration Guidelines	%	76.5	72.8
		n	353	103
<i>Outcomes</i>	Physical wellbeing	mean	82.1	75.8
		n	377	108
	Psychosocial wellbeing	mean	72.8	66.4
		n	376	108
	Overweight/ Obesity	%	34.0	38.2
		n	536	157
	BMI z-score	mean	0.61	0.66
		n	536	157

Table 19: City of Wodonga Summary Table

			2019	2022
<i>Health Behaviours</i>	Met Fruit Consumption Guidelines	%	71.0	77.0
		n	355	61
	Met Vegetable Consumption Guidelines	%	20.8	15.0
		n	355	60
	Met Water Consumption Guidelines	%	53.8	67.2
		n	355	61
	Sugar-Sweetened Drink consumption (<once/day)	%	52.1	49.2
		n	355	61
	Takeaway Consumption (once/fortnight or less)	%	57.7	57.4
		n	355	61
	Unhealthy snack consumption (<once/day)	%	34.5	26.2
		n	354	61
	Met PA Guidelines (self-report, 7/7 days)	%	18.6	6.6
		n	355	61
	Met PA Guidelines (self-report, 5/7 days)	%	35.2	21.3
		n	355	61
	Met Screen Time Guidelines (self-report, 7/7 days)	%	44.2	39.3
		n	355	61
	Met Screen Time Guidelines (self-report, 5/7 days)	%	67.3	62.3
		n	355	61
	Use Active Transport to or from school	%	27.0	31.1
		n	355	61
	Met Sleep Duration Guidelines	%	72.1	70.7
		n	326	58
<i>Outcomes</i>	Physical wellbeing	mean	79.2	76.1
		n	354	60
	Psychosocial wellbeing	mean	68.1	67.0
		n	355	60
	Overweight/ Obesity	%	35.8	41.0
		n	528	100
	BMI z-score	mean	0.63	0.80
		n	528	100

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