



Exercise

Children & young people

Gloucestershire
County Council

2022

Introduction

Physical activity has a huge potential to enhance our wellbeing; regular exercise can strengthen the heart, improve blood circulation, tone muscles, and enhance flexibility. Research also shows that physical activity can also boost self-esteem, mood, sleep quality and energy, as well as reducing risk of stress, and clinical depression.

People who exercise regularly have a lower risk of developing many long-term (chronic) conditions, such as heart disease, type 2 diabetes, stroke, and some cancers¹.

The NHS recommends:

Children and young people need to do 2 types of physical activity each week:

- aerobic exercise
- exercises to strengthen their muscles and bones

Children and young people aged 5 to 18 should:

- aim for an average of at least 60 minutes of moderate intensity physical activity a day across the week
- take part in a variety of types and intensities of physical activity across the week to develop movement skills, muscles and bones
- reduce the time spent sitting or lying down and break up long periods of not moving with some activity. Aim to spread activity throughout the day.

This report will investigate exercise levels amongst children & young people in Gloucestershire and the wider impact on wellbeing exercise can bring.



The Pupil Wellbeing Survey

The Pupil Wellbeing Survey (PWS) and Online Pupil Survey™(OPS) is a biennial survey that has been undertaken with Gloucestershire school children since 2004. Children and young people participate in years 4, 5 and 6 in Primary schools; years 8 and 10 in Secondary schools; and year 12 in Post 16 settings such as Sixth Forms and Colleges. A large proportion of mainstream, special and independent schools, colleges and educational establishments take part – representing 57% of pupils in participating year groups in 2022. The PWS asks a wide variety of questions about children's characteristics, behaviours and lived experience that could have an impact on their overall wellbeing. The 2022 PWS was undertaken between January and April 2022.

¹ NHS <https://www.nhs.uk/live-well/exercise/exercise-health-benefits/>

Limitations and caveats of the survey

Not all children and young people who are resident in Gloucestershire attend educational establishments in the county and similarly not all children and young people attending educational establishments in Gloucestershire are residents in the county. It is therefore important to remember this analysis is based on the pupil population not the resident population.

Gloucestershire is a grammar authority, has a number of notable independent schools and several mainstream schools very close to the county's boundary these all attract young people from out of county. This results in the school population (particularly at secondary phase) having slightly different characteristics, especially ethnicity, to the resident young people's population. 9.5% of Gloucestershire's resident population (2011 Census) aged 5-15 years were estimated to be pupils from minority ethnic groups however 18.2% of Gloucestershire's school population were pupils from minority ethnic groups in January 2022 and 17.9% of the PWS cohort were pupils from minority ethnic groups in the 2022 survey.

Although a large proportion of the county's educational establishments took part in the survey some only had low numbers of students completing the survey in contrast others had high numbers. Although this doesn't impact the overall county analysis as demographics are represented as expected at this geography, analysis by district and education phase might only have certain demographic groups represented due to numbers of pupil take up (for example low numbers completing the survey in Tewkesbury at FE level), where FE provision is situated also impacts the survey as older students travel further to access FE provision.

In 2022 the male/female ratio in two statistical neighbour groups were mis-representative – there was a higher proportion of females responding from selective grammar schools and a higher proportion of males responding from mainstream schools in quintile 1 (IMD). This means some results such as mental wellbeing that are highly influenced by

biological sex may be slightly skewed in these groups.

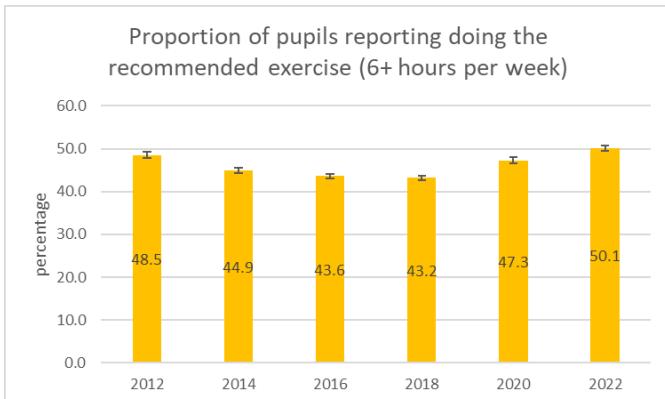
Many other local authorities do a version of a Pupil Survey and where possible comparisons to Gloucestershire have been given. It is important to note that not all published surveys have comparable questions, and of those that are published sometimes only certain information is given which might be difficult to compare with Gloucestershire values. Surveys are often undertaken in different years to Gloucestershire, so they have been grouped to represent pre and post covid years. Survey cohorts vary in size dramatically in each LA, unfortunately base values aren't given so significance testing isn't possible.

Levels of exercise

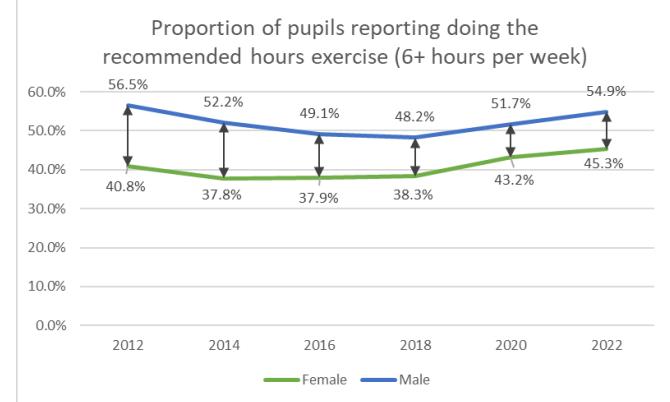


In 2022 50.1% of all pupils completing the PWS reported doing the recommended level of physical activity (6+ hours).

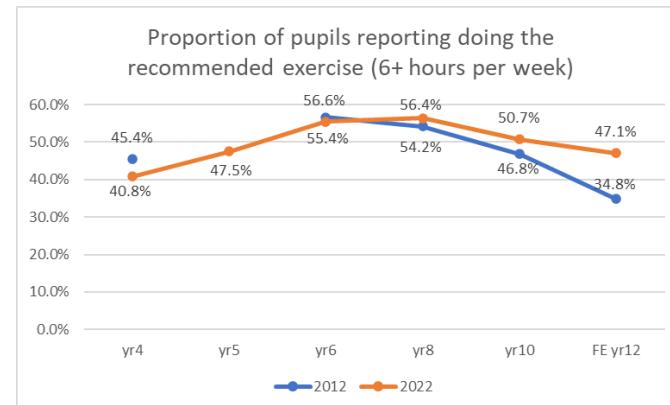
The levels of exercise of pupils in Gloucestershire had been falling between 2012 and 2018; however, this increased significantly between 2018 and 2020, and increased significantly again during the pandemic period.



Girls and young women are less likely to report doing the recommended amount of exercise than boys and young men. Since 2012 the gap between the sexes has been reducing however, from 15.7 percentage points in 2012 to 9.6 percentage points in 2022. During the period levels of exercise in girls and young women has been increasing slowly whereas there was a significant drop in the level of exercise in boys and young men between 2012 and 2018. Since 2020 exercise levels reported by both sexes increased significantly.



Levels of exercise change as a child gets older. In 2022 the peak participation overall occurs in Y8 (56.4%). Increased proportions of pupils reporting doing the recommended exercise appears to be more attributable to an increase in levels in older pupils (Y10 and Y12). Levels of reported exercise rises year on year from Y4 to Y8 but then declines, however, since 2018 this has been improving and in 2022 this decline in older pupils was less severe than in 2012.

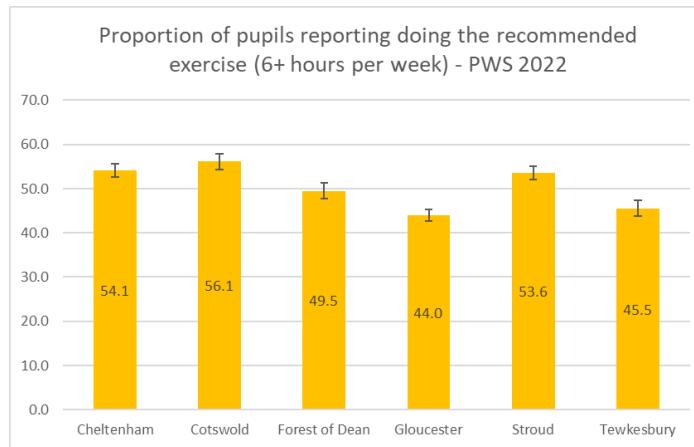


Although similar, the trend is not observed in the same way by males and females.

During primary school exercise levels increase for children of both sexes as they get older at a similar rate. In 2022 the peak female exercise level is observed in Y6 (51.7%) and then declines steadily during secondary school and Y12, although was lowest in Y4 (36.8%).

In contrast male exercise levels continue to increase into the early years at secondary school, and although it starts to reduce after Y8 (62.2%) the decline is much less pronounced in males compared to females; exercise levels in Y12 males are above those reported by Y4 and Y5 males.

Across the districts in Gloucestershire exercise participation varies. Reported levels of children and young people doing the recommended amount of exercise in 2022 was highest in pupils attending schools in Cotswold district (56.1%). A significantly lower proportion of children and young people in Gloucester and Tewkesbury districts reported doing the recommended amount of exercise than the other districts. Exercise participation trends also vary across the districts, notable increases in exercise participation are observed since 2018 in Cheltenham, Cotswold and Stroud districts. However, in Gloucester, Tewkesbury and the Forest of Dean districts there is a more consistent level of exercise participation in the period.

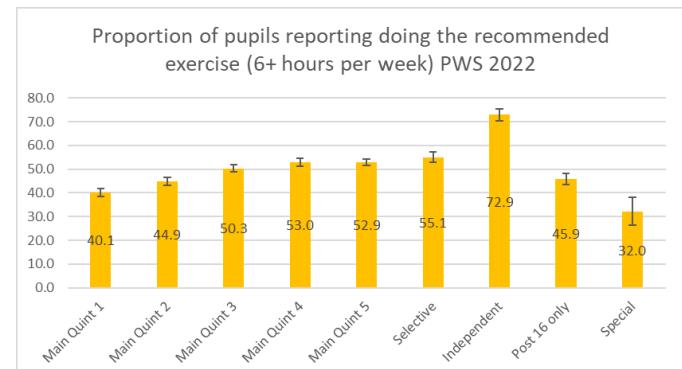


Schools can be separated into Statistical Neighbour groups, these group together schools with pupils with a similar social profile in the same type of school (a similar level of deprivation, affluence or personal/family characteristics).

We use Ministry of Housing, Communities and Local Government (MHCLG) Indices of Multiple Deprivation (IMD) to determine the relative deprivation of pupils at schools. The IMD based on the home postcode of pupils (collected in the School Census) is aggregated to give an overall IMD score for the school, reflecting the deprivation levels experienced by pupils. This is then split into quintiles. Quintile 1 is the most deprived and Quintile 5 is the least deprived in Gloucestershire.

- Grammar/selective schools: are compared to other grammar/selective schools in their phase without reference to the IMD.
- Independent schools: are compared to other independent schools in their phase without reference to the IMD.
- Post 16 only colleges: are compared to all other post 16 only (FE) colleges without reference to the IMD.
- Special and alternative schools: are compared to all other schools of this type in the same phase without reference to the IMD.

There is a link between doing the recommended exercise and deprivation. In 2022 pupils in independent schools reported a significantly higher level of exercise than any other group (72.9% doing the recommended amount). This may be attributed to having better accessibility to active pursuits in terms of time, location and financial accessibility.



Children & young people at Special schools reported the lowest level of exercise (32.0% did the recommended amount). Research suggests children and young people with a disability are less likely to report doing the recommended level of exercise and to find it harder to access appropriate activity and exercise².

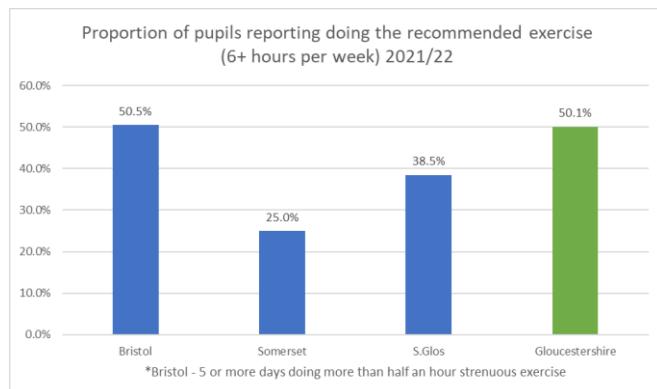
²Public Health England 2020



Schools where the majority of pupils live in IMD quintiles 3, 4 and 5 and selective schools have very similar levels of exercise and activity. In contrast schools where the majority of pupils live in IMD quintiles 1 and 2 report significantly lower levels of exercise. This suggests children and young people experiencing the highest deprivation are the least likely to report doing the recommended level of exercise. This could be attributable to lack of affordability of sports equipment/exercise clothing, subs/fees for classes or sports clubs, cultural social constraints, or schools putting more focus on improving academic achievement in the most deprived areas.

Benchmarking levels of exercise

It appears a higher proportion of pupils in Gloucestershire do the recommended exercise than those in 2 of the comparator authorities, Somerset and South Gloucestershire, but is in line with exercise levels in Bristol.

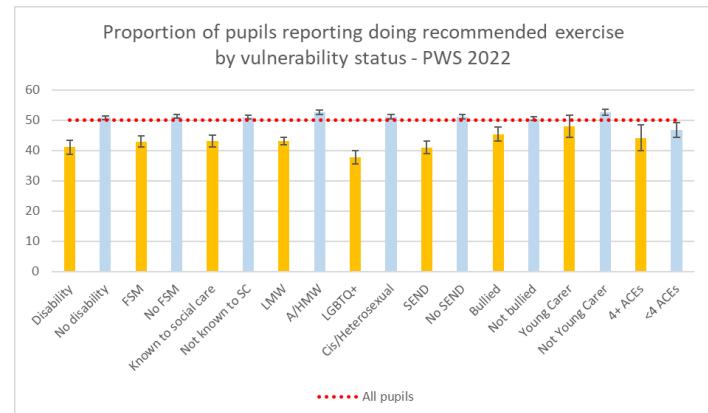


Participation by Characteristics

Some children & young people are less likely to report doing the recommended amount of exercise per week. As shown previously girls and young

women and pupils living in the most deprived areas have a lower proportion reporting doing the recommended amount of exercise. Participation levels in children with vulnerable characteristics is also lower than the overall participation levels; these are significantly lower in children:

- reporting a disability
- known to Social Care
- identifying as LGBTQ+
- experiencing serious bullying
- who are eligible for FSM
- -who have LMW
- reporting SEN/EHCP

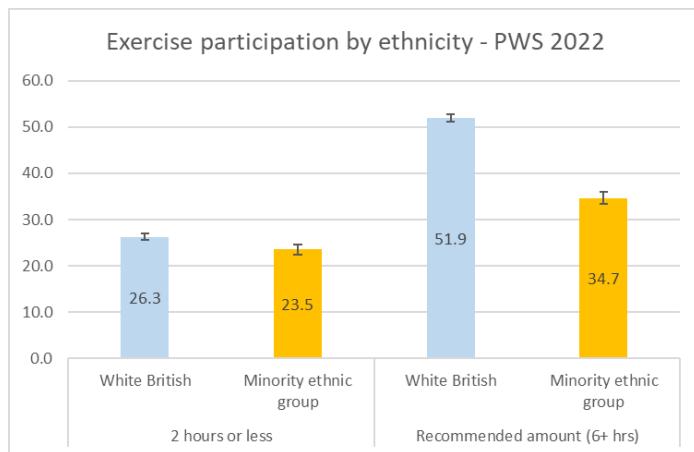


Apart from Young carers and young people reporting 4+ ACEs (only asked to Y12) who report a similar level of exercise as their less vulnerable comparators all other vulnerable groups reported a significantly lower proportion doing the recommended level of exercise. Young people who identified as non-heterosexual or transgender reported the lowest activity levels, significantly lower not just than the average but than all other vulnerable groups.



Exercise levels varies across different ethnic groups, broadly children and young people from Black, Asian, or minority ethnic groups are significantly less likely to report doing the recommended amount of

exercise but statistically less likely to report doing little or no exercise (this is a reversal of the previous trend).



However, both these trends are driven by certain ethnic groups. Children and young people are significantly more likely to report doing little or no exercise if they are:

- Black African
- Other black background
- Other Asian background
- South Asian (Pakistani, Bangladeshi, Indian)

Children and young people significantly less likely to report doing the recommended amount of exercise if they are:

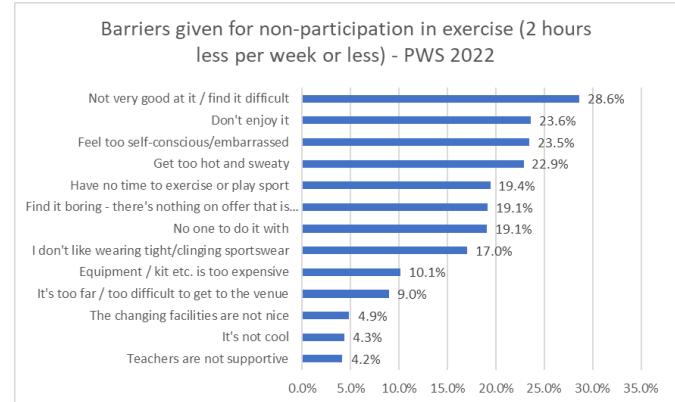
- White Eastern European
- South Asian (Pakistani, Bangladeshi, Indian)
- Other Asian background
- Other black background
- Other ethnic group
- Gypsy/Roma

Barriers to exercise

The reasons children give as to why they don't exercise vary. 29.2% of respondents to the survey reported doing little or no exercise per week, (less than 2 hours). This may be due to:

- Cultural norms
- Accessibility to activity
- Don't enjoy it/poor perception of exercise
- Embarrassed
- Can't afford to
- Don't have time to

The most common reason for not exercising given in 2022 by those who did less than 2 hours exercise per week was that they *weren't good at it* (28.6%), followed by they *don't enjoy exercise* (23.6%), they *Get too hot and sweaty* (22.9%) and *Feel too self-conscious/embarrassed* (22.2%).



This suggests perception of being 'good' or 'bad' at exercise and by proxy how others perceive your ability is a key factor in whether children and young people engage in exercise and physical activity.



Girls and young women were twice as likely to say they didn't exercise because they were embarrassed (29.0%) than boys and young men (13.8%) and two and a half times more likely to say they didn't exercise because *I don't like wearing tight/clinging sportswear* (9.1% vs. 3.7%). The proportion of pupils reporting they didn't exercise because of feeling embarrassed was also significantly higher in those who identified as LGBTQ+ (48.5%) and those with low mental health (38.4%). Embarrassment when exercising increased with age and was highest in Y10 pupils (38.5%) – suggesting changes to the body during puberty may be a key barrier to exercise.

Around a fifth of pupils reported not exercising because they didn't have time, this was highest in pupils who identify as LGBTQ+ where 27.9% said they didn't have time to exercise.

Previously lack of affordability seemed to increase with age – this may have been due to less timetabled sports time in secondary schools leading to older young people needing to access sports through independent clubs and leisure centres. However, in 2022 lack of affordability is spread more evenly across the year groups and was highest in Y8 pupils (13.8%). The proportion of pupils reporting affordability was an issue to accessing activity and exercise was highest in those identifying as LGBTQ+ and young carers.

In contrast those who said they didn't exercise because it made them too hot and sweaty reduced with age. The group reporting the highest proportion not exercising because of being too hot and sweaty was those who reported being seriously bullied – 27.0% said this was a barrier compared to 22.5% in those not bullied.

The main reasons for non-participation do not appear to have changed much over time.

Three quarters of all children and young people said they would like to do more exercise in 2022, this has been similar since 2018. Almost 80% of those who did the recommended amount of exercise said they found it easy to be physically active compared to less than a third of those who did little or no exercise.

41.5% of children say they use active transport choices to travel to school (walking, scooting/skateboarding, cycling). This has changed little over time - 41.6% of pupils reported using active transport to travel to school in 2012. Incorporating activity into travel to school could increase activity levels in children and young people who find it hard to access other forms of exercise and activity.

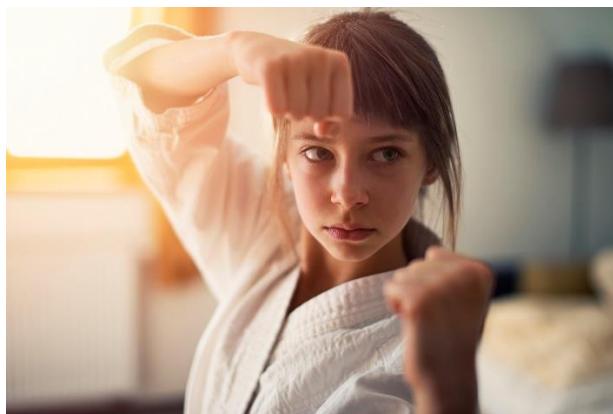


Cultural norms in specific communities such as modest female clothing in some religious communities may create or be perceived to create a barrier to exercise.

Accessibility to appropriate clothing such as sports bras or sanitary products may also create a barrier to exercise. A higher proportion of girls and young women from BAME groups reported not going to school because they didn't have sanitary products available (3.5% vs. 2.6%) than their White British peers.



Wider outcomes of exercise



Exercise has many direct physical benefits, it also indirectly impacts physical health as those who do the recommended amount of exercise also report making other healthy life choices and behaviours; these associations are likely to be bi-directional.

Children and young people who reported doing the recommended amount of exercise were significantly more likely to say they eat 5+ portions of fruit and veg a day than those who do little or no exercise (29% vs. 17%) and were also significantly more likely to report they had healthy food available at home (87.2% vs. 70.8%).

They are also significantly less likely to smoke regularly (1.8% vs. 2.7%).

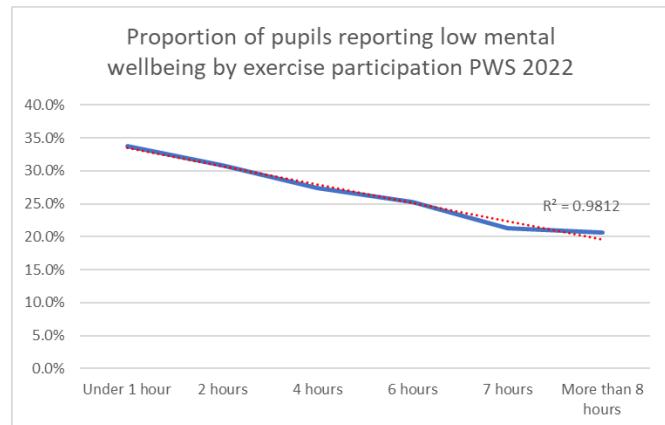
Research³ suggests exercise can stimulate good brain development and increase learning capability. In 2020 children and young people who did the recommended exercise were significantly more likely to report enjoying school (63.4% vs. 56.4%), trying their best at school (82.4% vs. 77.7%) and learning a lot at school (74.4% vs. 70.3%) than those who did little or no exercise.

Those who exercised were also less likely to have been excluded (14.8% vs. 17.5%) and slightly less likely to be a persistent absentee⁴ (35.2% vs. 36.1%) than those who did little or no exercise.

Feeling fitter and in control of your weight is also likely to contribute to body positivity and confidence. In the survey 54.4% of those who did the

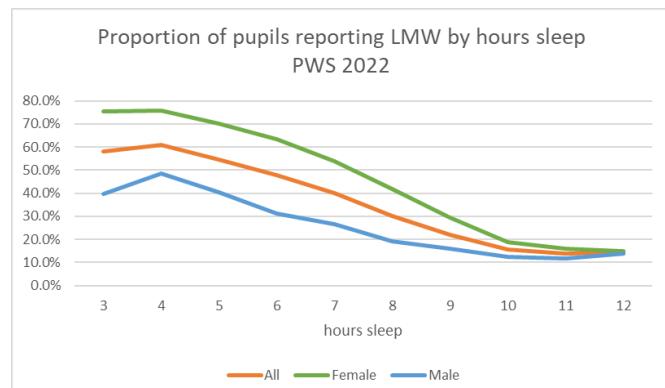
recommended level of exercise also reported feeling confident (vs. 43.2% of those who did little or no exercise) and 54.4% said they'd been feeling good about themselves compared to 47.4% of those who didn't exercise.

Increasingly the importance of exercise on mental wellbeing is being recognised. In 2022 the proportion of children and young people reporting low mental wellbeing reduced as physical activity increased. This trend suggests there is a strong correlation between physical activity and mental wellbeing (R^2 value – 0.9). This trend was also observed in both the 2018 and 2020 survey results.



Getting the right amount of sleep has also been shown to have a big impact on children and young people's mental wellbeing, particularly for girls.

Twice as many children and young people who did not have the recommended hours sleep reported low mental wellbeing (35.8%) compared to those who did get the recommended hours sleep (18.4%).



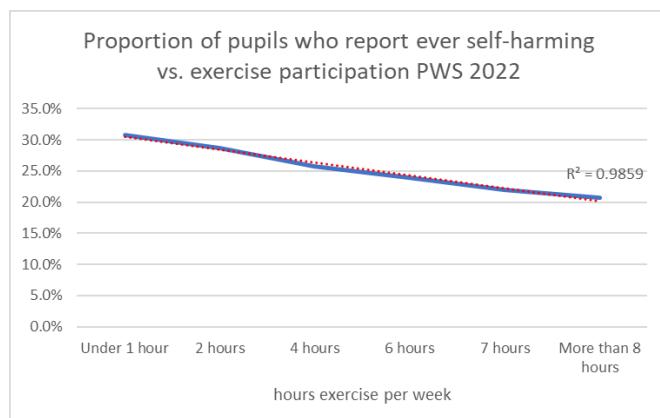
⁴ Persistent absence is when a pupil enrolment's overall absence equates to 10 per cent or more of their possible sessions.

³ 2019 University of Granada
<https://digibug.ugr.es/handle/10481/60810?locale-attribute=en>

Exercise can help with sleep patterns; those who reported doing the recommended amount of exercise were significantly more likely to report getting the recommended amount of sleep than those who did little or no exercise (54.1% vs. 45.2%).

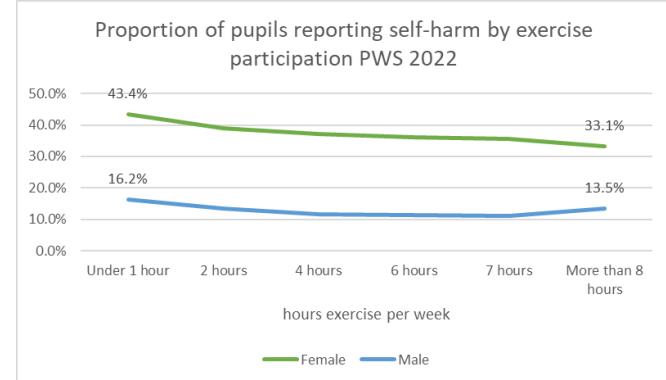


The proportion of young people (Y8-Y12) who said they had ever self-harmed was significantly lower for those who did the recommended hours exercise (22.2%) than those who did little or no exercise (30.9%), indeed the amount of exercise seems to be strongly correlated to likelihood of self-harming.



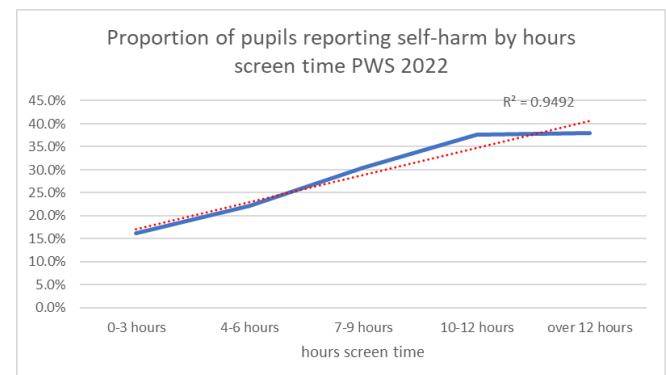
The impact of exercise on likelihood to self-harm seems to be more pronounced in young women where there is a 10.3 percentage point difference between those doing no exercise and those doing 8+ hours per week compared to a 2.7 percentage point difference observed in young men.

This highlights the importance of promoting exercise in teenage women.



Another emerging issue linked to mental wellbeing and self-harm risk is screen time; with research showing greater screen time being correlated to an increase in the likelihood of self-harm.

In 2022 the proportion of children and young people reporting self-harming increased as the amount of screen time did (R value 0.9).

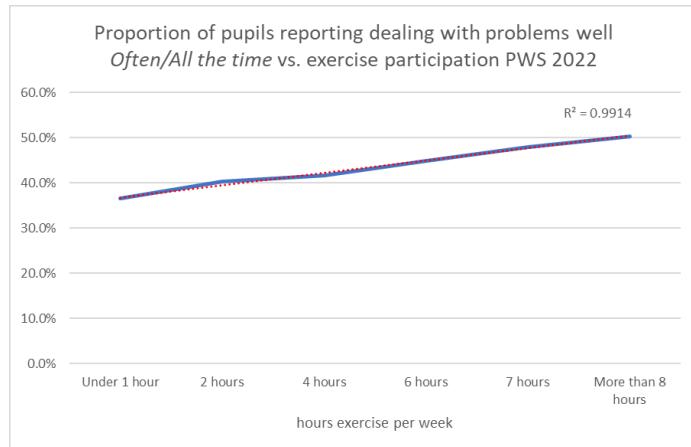


Those who reported doing the recommended level of exercise were more likely to have a 'moderate' screen time use compared to those who did little or no exercise. Over 1 in 3 of those who did little or no exercise (less than 1 hour per week) reported having 7+ hours screen time a day compared to less than 1 in 4 of those who did a lot of exercise (8+ hours exercise per week).

Relationship between exercise and screen time PWS 2022		
	Screen time per day	
Hours exercise per week	0-6 hours	7+ hours
Under 1 hour	57.0%	40.4%
2 hours	64.6%	33.0%
4 hours	69.2%	29.1%
6 hours	72.8%	25.8%
7 hours	76.1%	22.2%
More than 8 hours	74.6%	23.7%

Resilience is a key skill that is more important for our children and young people than ever. The coronavirus pandemic has given all children and young people huge challenges to face and resilience or the ability to cope with adversity positively and move forwards is vital.

Those who exercise were more likely to report feeling able to deal with problems well 'often/all of the time' than those who did little or no exercise.



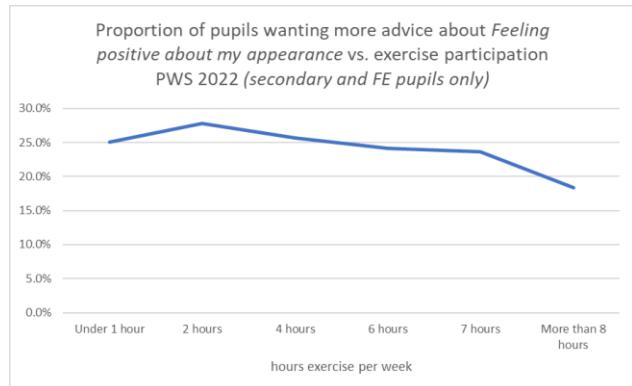
Sport and exercise can also be a key place to make and enjoy friendships or be supported by a trusted adult. 59.2% of those who do the recommended amount of exercise said they were good at making and keeping friends, and 65.4% said they did exercise to be with their friends (vs. 40.1% and 55.5% of those who didn't exercise).

Pupils who did the recommended hours exercise were more likely to say they had someone to turn to if they had a problem than those who did little/no exercise (85.8% vs. 79.6%).

Excessive exercise

Sometimes exercise can become an unhealthy habit. Excessive exercise is sometimes classified as a form of self-harm particularly when coupled with extreme dieting.

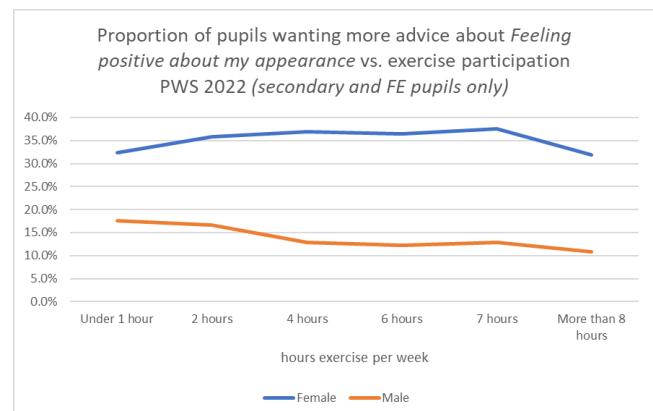
Of those who reported exercising 8+ hours per week 17.3% also said they wanted more information about losing weight. This was the lowest proportion by level of exercise but still may indicate an unhealthy relationship with exercise. 1 in 5 of those who did 8+ hours exercise per week said they wanted more information about 'Feeling positive about my appearance' compared to 1 in 4 overall.



Whilst this indicates a positive association between exercise and body image it hides the difference between the sexes and it is still concerning that a sizable number of those who do a lot of exercise may still be unhappy with their appearance and may indicate a level of body dysmorphia.

Girls and young women were more likely to report they wanted more information about feeling positive about their appearance than boys and young men.

It is clear the correlation between exercise and not wanting information about feeling positive about their appearance is driven by boys and young men who were also more likely to be doing higher hours of exercise.



Whilst the proportion of boys and young men wanting information about feeling positive about

their appearance reduced as exercise levels increased, the proportion of girls and young women who wanted the same advice was more stable regardless of the amount of exercise they did; although, it was lowest in those who did 8+ hours per week.

1 in 5 of those who did 8+ hours of exercise per week reported low mental wellbeing and 20.8% reported ever self-harming.

Covid-19 and the impact on exercise

It is difficult to know the long-term impact of the Coronavirus pandemic on exercise participation in children and young people.

During June of 2020 Oxford University asked children and young people in Gloucestershire to complete a 'Lockdown Survey'; at that point of the pandemic many older children were still not at school and lockdown restrictions were slowly being lifted (meeting outside with one other person was allowed from mid-May). Just under half (49%) of children and young people reported they were doing less exercise than they would have before the pandemic.

The proportion of children and young people reporting they were doing less exercise was highest in Y9 pupils (56%), with proportions of younger children (Y4, 44%) and older young people (Y12 & Y13, 41%) reporting the least reduction in exercise.

National research⁵ shows the impact was greater for some groups than others; in terms of activity levels, girls fared better than boys whilst those from Black and Mixed backgrounds saw most notable drops in activity levels.

The PWS 2022 gives us an indication of post-pandemic exercise participation trends in children and young people at schools and colleges in Gloucestershire. There has been an overall increase in the proportion of pupils doing the recommended

exercise post pandemic, although this is mainly driven by an increase in older pupils.



⁵ Sport England <https://www.sportengland.org/news/childrens-activity-levels-down-many-embrace-new-opportunities>

Summary

- Around half of the children and young people in Gloucestershire report doing the recommended amount of exercise per week
- Boys and young men are more likely to do the recommended amount of exercise than girls and young women
- Although exercise participation had been declining this has reversed since 2018
- Levels of exercise in girls and young women has been increasing since 2012 but decreasing in boys and young men until 2018 – both sexes have seen an increase in participation in recent years
- Significantly fewer children and young people in Gloucester and Tewkesbury districts reported doing the recommended amount of exercise than in the other district
- Children and young people in Independent, Selective and schools where the majority of pupils lived in the least deprived areas were most likely to do the recommended amount of exercise
- Children and young people at special schools and schools where the majority of pupils lived in the most deprived areas were least likely to do the recommended amount of exercise
- Children and young people with vulnerable characteristics were less likely to do the recommended amount of exercise, particularly those who identified as LGBTQ+
- BAME children and young people were less likely to do the recommended amount of exercise than their White British peers
- Perception of not being 'good' at exercise is the biggest barrier to participation
- $\frac{3}{4}$ of children and young people said they wanted to do more exercise
- Exercise appears to have a positive correlation with mental wellbeing
- Exercise and other healthy behaviours such as eating healthily and not smoking are strongly linked
- The coronavirus had an impact on the exercise and activity levels of children and young people in Gloucestershire during 2020, almost half reported doing less exercise. However there has been a good recovery post-pandemic particularly in older pupils

