



Diet & healthy eating in children & young people

Introduction

Healthy eating can help prevent many chronic diseases. These include obesity, heart disease, high blood pressure, and type 2 diabetes. Healthy eating habits are more likely to stay with you if you learn them as a child.

The NHS recommends:

That to have a healthy, balanced diet, people should try to:

- eat at least 5 portions of a variety of fruit and vegetables every day
- base meals on higher fibre starchy foods like potatoes, bread, rice or pasta
- have some dairy or dairy alternatives (such as soya drinks)
- eat some beans, pulses, fish, eggs, meat and other protein
- choose unsaturated oils and spreads, and eat them in small amounts
- drink plenty of fluids (at least 6 to 8 glasses a day)

This report will investigate diet and healthy eating amongst children & young people in Gloucestershire and the wider impact on wellbeing healthy eating 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.

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.

Eating 5 portions of fruit and vegetables

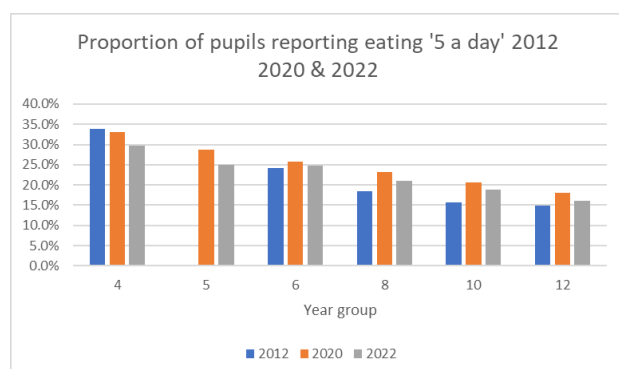
The NHS recommends that all persons eat at least 5 portions of fruit and vegetables a day¹ (5 a day).



Trend

In 2012 21% of pupils said they ate 5 or more portions of fruit and vegetables per day. The proportion reporting eating '5 a day' was highest in younger age groups; 34% of Y4 pupils compared to 15% of Y12 pupils.

In 2022 the proportion of pupils reporting eating '5 a day' had increased significantly to 23.2%. Although the general trend of the proportion reducing as pupils age was the same, the increase was predominantly driven by an increase in older young people saying they ate '5 a day'.



Healthy eating and biological sex

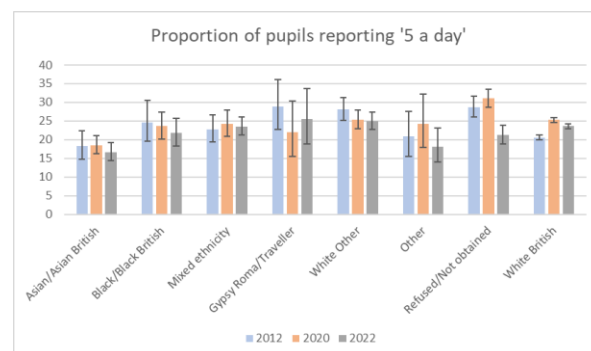
There was little difference between the proportion of females reporting eating '5 a day' than males (21.9%

vs. 20.8% in 2012 and 23.4% vs. 23.1% in 2022) suggesting the increase was not specific to one sex.

Healthy eating and ethnicity

In 2012 pupils of Gypsy/Roma/Traveller and White Other backgrounds were significantly more likely to report eating '5 a day' than their White British peers (all other ethnic groups were in line). In 2022 Asian/Asian British pupils and pupils from 'Other' ethnic groups were significantly less likely to report eating '5 a day' compared to their White British peers, all other ethnic groups were in line.

In the 10 year period between 2012 and 2022 it is clear only pupils with a White British background have seen a significant increase in the proportion reporting eating '5 a day'.



However, white British pupils were the only group to report a significant reduction in the proportion eating '5 a day' during the pandemic period.

Healthy eating and sexuality/gender

Questions about sexuality and gender were not asked in 2012 and are now only asked to older young people. In 2022 there was a significant difference between bisexual, lesbian or gay, and 'Other' sexuality pupils and heterosexual pupils reporting eating '5 a day'.

Healthy eating and religion

Questions about religion were asked in 2012 but not 2020. In 2012 pupils reporting being *Christian* (24.25%) or *Jewish* (34.48%) were significantly more likely to report eating '5 a day' than the cohort overall (21.41%) and those reporting *No Religion*

¹ <https://www.nhs.uk/live-well/eat-well/>

(17.95%) were significantly less likely to report eating '5 a day' than the cohort over all.

Healthy eating and vulnerable groups

Pupils from the following vulnerable groups were in line with their counterparts when reporting eating '5 a day':

- Disability
- Known to Social Care
- SEN/EHCP
- Young Carer (Y8, Y10, Y12)
- 4+ ACEs (Y12 only)

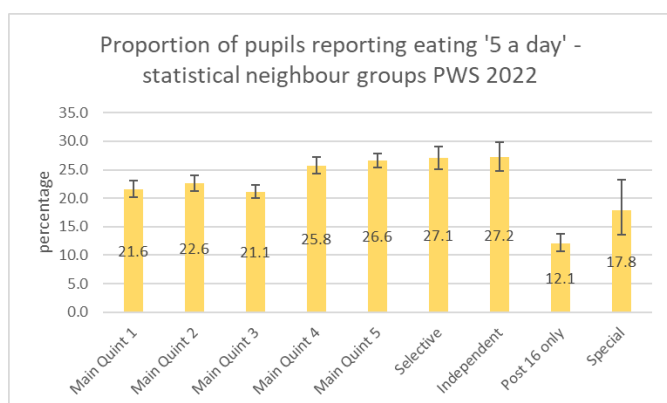
Pupils from the following vulnerable groups were significantly less likely to report eating '5 a day' than their counterparts:

- Eligible for FSM (21.1%)
- Low Mental Wellbeing (18.6%)
- Non-Heterosexual/Trans (17.6%)

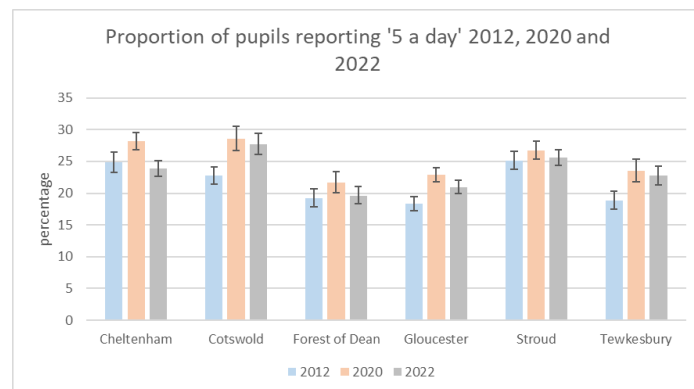
Pupils who reported being seriously bullied were significantly more likely to report eating '5 a day'.

Living situation and healthy eating

Affluence appears to be linked to likelihood of eating '5 a day'. Pupils from; mainstream schools with pupils living in the least deprived areas; Independent schools and Selective schools were significantly more likely to report eating '5 a day' than pupils at mainstream schools with pupils living in more deprived areas.



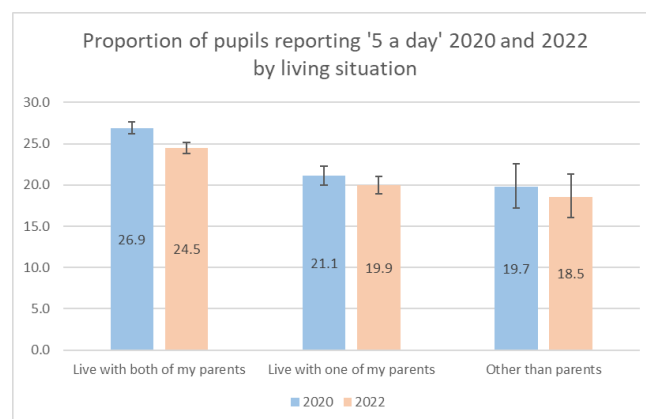
Pupils attending schools in Cheltenham, Cotswold and Stroud districts were more likely to report '5 a day' in all years than pupils attending schools in Forest of Dean, Gloucester and Tewkesbury districts.



Every district in the county saw an increase in the proportion of pupils reporting eating '5 a day' between 2012 and 2020, this was a significant increase in Cotswold, Gloucester, and Tewkesbury districts. In the pandemic period all districts saw a reduction in the proportion of pupils reporting eating '5 a day', although the reduction was only significant in Cheltenham.



Living with both parents appears to be linked to likelihood of eating '5 a day', pupils who said they lived with both parents were significantly more likely to report eating '5 a day' than those living with only one parent and those living with someone other than a parent. This may be linked to economic factors associated with different living situations.



During the pandemic pupils living with both parents were the only group to see a significant reduction in the proportion eating '5 a day'.

Sleep and healthy eating

Research by the Sleep Foundation² suggests there is

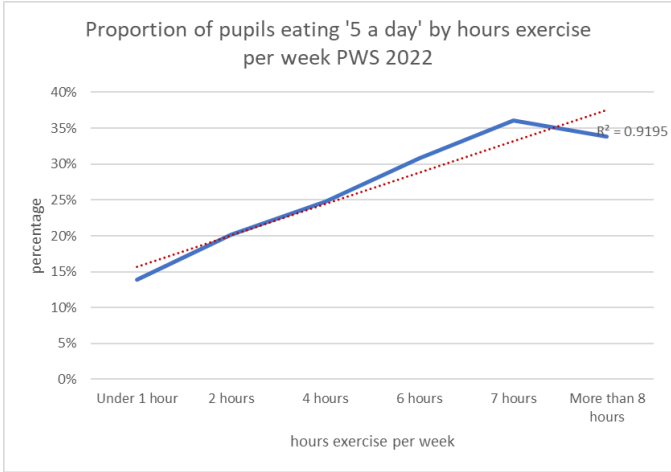
"...growing evidence indicates that sufficient nutrient consumption is important for sleep. One large study found a lack of key nutrients, such as calcium, magnesium, and vitamins A, C, D, E, and K to be associated with sleep problems. While this research does not prove cause-and-effect, it supports the likelihood that diet affects hormonal pathways involved in sleep."

Pupils who got the recommended hours sleep were significantly more likely to report eating '5 a day' (24.9%) than those who didn't get the recommended hours sleep (21.1%).

Healthy eating and exercise

In 2022 the proportion of pupils who reported eating '5 a day' was significantly higher if they also did the recommended amount of exercise (35%), compared to those who didn't do the recommended exercise per week (23%).

There appears to be a strong correlation between healthy eating and exercise.



It is likely that healthy behaviours are bi-directional and that access to healthy food and exercise are linked to socio-economic status.

² <https://www.sleepfoundation.org/nutrition>



Academic attainment and healthy eating

Research published in 2021³ found;

"...a low educational level is connected to diets high in carbohydrates and low in fibres. ... it is also associated with higher consumption of sweets and red meats, while high educational level is linked to a greater consumption of fruits, vegetables, and fish."

Pupils who reported eating '5 a day' were more likely to say they enjoyed school, tried their best and learnt a lot at school than those who did not eat '5 a day'. Pupils *agreeing/strongly agreeing* that they enjoyed school, tried their best and learnt a lot at school increased in a linear fashion as the number of fruit and vegetable portions increased.

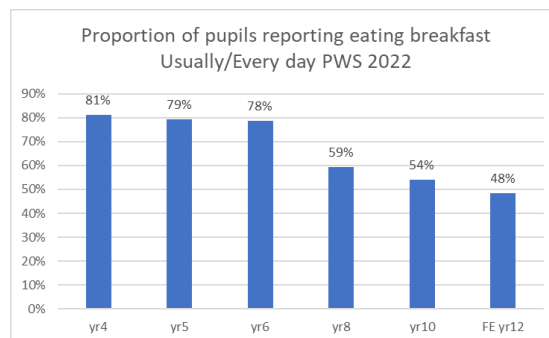
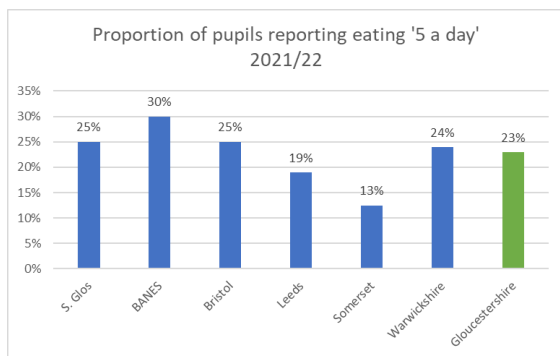
Proportion	Portions of fruit and veg a day		
	None	<5	5+
<i>I enjoy my school</i>	42.0%	60.9%	67.6%
<i>I try my best at school</i>	63.5%	80.6%	85.5%
<i>I learn a lot at school</i>	54.7%	73.2%	77.2%

50.3% of pupils who ate '5 a day' reported achieving top grades at school compared to 27.3% of those who ate no portions of fruit and veg a day.

Benchmarking healthy eating

It appears Gloucestershire is in line with local comparator authorities.

³<https://epjdatascience.springeropen.com/articles/10.1140/epjds/s13688-021-00273-y>



Additional indicators – 2022



Eating Breakfast

Family Action published a review of evidence report in 2019⁴ that concluded:

"Breakfast consumption in children has been found to:

- *Improve cognitive function, particularly memory, attention, and executive function*
- *Improve academic performance, including school grades and achievement test scores*
- *Increase on-task behaviour in the class"*

The proportion of pupils saying they ate breakfast regularly has reduced slightly between 2012 and 2022 (73.2% vs. 68.4%). The proportion of pupils reporting eating breakfast regularly reduces as children and young people age, from 81% in Y4 to 48% in Y12.

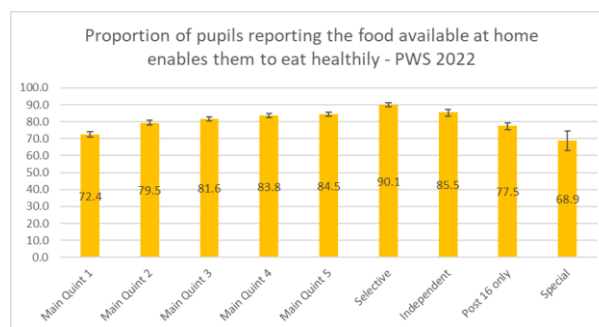
Generally, girls eat breakfast less frequently than boys. Overall, 12.6% of boys reported that they never, or did not often, eat breakfast, compared to 20.6% of girls.

Pupils eligible for Free School Meals were significantly less likely to report eating breakfast regularly, than those not eligible. Pupils eligible for FSM in 2022 were significantly less likely to report eating breakfast than those eligible for FSM pre-pandemic in 2020.

73.7% of pupils who reported eating breakfast *Usually/Most days* also said they ate '5 a day', compared to only 11.5% of those who said they *Never/Not often* ate breakfast.

Healthy food at home

8 out of 10 pupils said the food available at home or the place where they lived allowed them to eat healthily *Usually/Most days*, this has remained the same since 2012. In contrast to the likelihood of eating '5 a day' there was little variation by age of pupil; however, the link between deprivation and healthy eating was observed. Pupils at Independent and Selective schools were significantly more likely to have healthy food at home than all other groups.



⁴ <https://www.family-action.org.uk/our-voices/2019/10/04/the-impact-of-breakfast-on-learning-in-children/>

Pupils attending schools in Cotswold and Stroud Districts were most likely to report having healthy food at home (85.8% and 84.1% respectively), pupils attending schools in Forest of Dean and Gloucester were the least likely to report having healthy food at home (78.4% and 78.5% respectively).

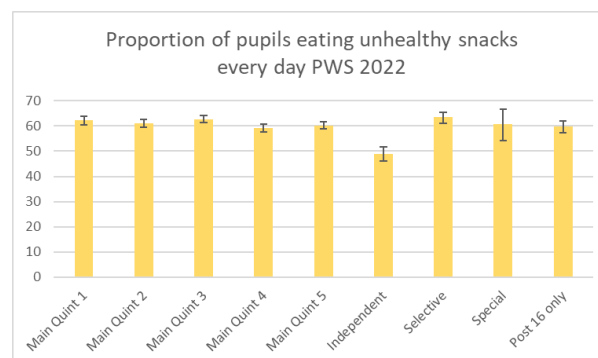
Obesity levels in Reception children living in Cotswold and Stroud were consistently below the county and national average between 2015/16 and 2019/20, in contrast obesity levels in Reception children living in Forest of Dean and Gloucester were consistently higher⁵. This was also observed in obesity levels in Year 6 children in Cotswold, Stroud and Gloucester districts, but children living in Forest of Dean district were in line with the national average obesity levels.

Eating unhealthy snacks

60.5% of pupils reported eating snacks such as sweets, chocolate, biscuits and crisps every day. This was significantly lower than in 2014 (70.3%) but a slight rise from pre-pandemic. Pupils in Cotswold and Stroud districts were the least likely to report eating unhealthy snacks every day (57.4% and 59.5% respectively).

Generally, more pupils report eating unhealthy snacks every day as children and young people age, peaking in Y10 where 64.2% of pupils reported eating unhealthy snacks every day.

Pupils at Independent schools were significantly less likely to report eating unhealthy snacks every day, there was less variation in other statistical neighbour groups, however the proportion of pupils at Selective schools reporting eating unhealthy snacks every day was significantly higher than most other groups.



Drinking high sugar drinks

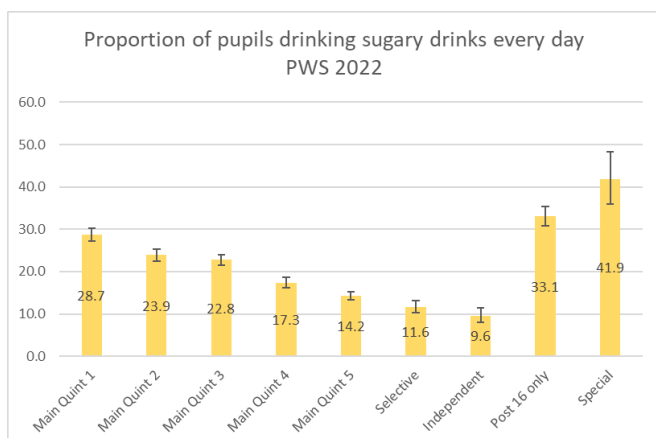
1 in 5 pupils (20.7%) reported drinking sugary drinks e.g. full sugar fizzy drinks, milkshakes, hot chocolate every day (*Once or twice a day/3 or more times a day*). This is a significant reduction since 2014 when over a third (35.4%) of pupils reported drinking sugary drinks.

Pupils in Y12 were again most likely to report drinking sugary drinks every day (1 in 4).



Likelihood of drinking sugary drinks appears to be strongly linked to deprivation. In mainstream schools the highest proportion of pupils drinking sugary drinks every day was reported in schools where the majority of pupils lived in Quintile 1 and reduced as deprivation decreased. The proportion of pupils in Independent and Selective schools (who are less likely to live in deprived areas) reporting drinking sugary drinks every day was significantly lower than in all mainstream schools. Pupils from Special schools and Post 16 colleges were significantly more likely to report drinking sugary drinks every day than every other statistical neighbour group.

⁵https://www.gloucestershire.gov.uk/media/2117393/inequalities-in-ncmp-obesity-report_v3_2022.pdf



Energy drinks

The UK Government confirmed that it will ban the sale of energy drinks to children under 16 years old in 2019⁶, however the legislation is not yet in place instead there is an industry understanding that they will not promote energy drinks to anyone under 16.



The Association of UK Dietitians (BDA) found⁷,

"The mounting body of evidence demonstrates that the consumption of energy drinks is detrimental to both the physical and mental wellbeing of young people, as well as encouraging other risky behaviours such as alcohol use"

They also concluded that males are more likely to consume higher amounts of energy drinks than females, while females who skip breakfast are more likely to then rely on energy drinks later in the day.

In Gloucestershire just over 1 in 5 pupils reported ever drinking energy drinks and 3.9% of pupils reported drinking energy drinks every day. Both have been reducing since 2014 when recording

began although there has been a slight increase during the pandemic.

Daily consumption of energy drinks was highest in pupils in Y12 (7.7%) and lowest in pupils in Y6 (2.2%).

In Gloucestershire as with nationally males were significantly more likely to report ever drinking energy drinks than females and more likely to report drinking energy drinks every day (4.5% vs. 3.1%).

Pupils who reported *Never/Not often* eating breakfast were more than twice as likely to report ever drinking energy drinks than those who regularly ate breakfast (42.8% vs. 16.5%). In females this was even higher, with almost 4 times as many females who didn't eat breakfast reporting drinking energy drinks than those who ate breakfast regularly (40.2% vs. 11.7%).

Males who didn't eat breakfast were three times as likely to say they drank energy drinks every day than those who ate breakfast (10.5% vs. 2.9%). In females this was higher again with 4 times more females reporting drinking energy drinks every day who didn't eat breakfast compared to those who did eat breakfast regularly (7.4% vs. 1.7%).

Likelihood of drinking energy drinks also appears to be linked to deprivation. Pupils from Independent and Selective schools were the least likely to report drinking energy drinks every. Pupils attending schools where the majority of pupils lived in more deprived areas had the highest recorded level of pupils drinking energy drinks every day (quintiles 1 -3 were significantly higher than quintiles 4 and 5). High daily consumption of energy drinks was also reported in Special schools although this was not significantly higher than those in more deprived schools.

Wanting more advice in areas linked to healthy eating

In 2022 17.6% of pupils said they wanted more advice about *Healthy eating*. Females were

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<https://www.gov.uk/government/consultations/advancing-our-health-prevention-in-the-2020s>

⁷ <https://www.bda.uk.com/resource/energy-drinks-and-young-people>

significantly more likely to say they wanted advice about *Healthy eating* than males (18.8% vs. 16.8%). The proportion of pupils reporting wanting more advice about *Healthy eating* reduced as pupils aged, the highest proportion was observed in Y5 (21.8%) and the lowest in Y12 (13.5%). Pupils attending schools where the majority of pupils lived in more deprived areas were more likely to want advice about *Healthy eating* and this reduced as deprivation levels reduced (21.6% in quintile 1 schools vs. 12.6% in independent schools).

1 in 5 pupils wanted more advice about *Losing weight*. Females were significantly more likely to want advice about *Losing weight* than males (24.6% vs. 16.5%). Generally, pupils are more likely to want advice about *Losing weight* as they age, peaking in Y10 when 25.4% of pupils wanted advice on *Losing weight*. Pupils at Independent schools and the least deprived schools were significantly less likely to want advice about *Losing weight* than any other statistical neighbour group. Pupils at Selective schools were significantly more likely to want advice about *Losing weight* than other groups.

Pupils in Y8, Y10 and Y12 were asked if they would like advice about *Feeling positive about my appearance*. 1 in 4 (23.7%) of pupils reported they would like advice about *Feeling positive about my appearance*, although this was more than twice as high in females (35.3%) than males (13.0%).

The proportion of pupils wanting more advice about *Feeling positive about my appearance* has been increasing since recording began in 2016, particularly in females.

Pupils in Y10 were the most likely to report wanting advice about *Feeling positive about my appearance*. There appears to be little correlation between socio-economic status and wanting advice about *Feeling positive about my appearance* although pupils in Special schools were the least likely to want this advice (8.9%).



In 2022 around a third of pupils wanted more help with *Cooking skills* (31.4%), this has been consistent since 2014. Wanting help with *Cooking skills* reduces as pupils age and is lowest in Y12 (21.9%). Pupils from the most deprived quintile were significantly more likely to want to learn *Cooking skills* than those at selective and independent schools.