Healthy Weight (Children)

Summary points

In 2023/24, 18.9% (around 1 in 5) of Reception (age 4–5) and 33.5% (1 in 3) of Year 6 (age 10–11) pupils in Bristol had excess weight (overweight or very overweight). Both rates are significantly lower than the national averages of 22.1% and 35.8%, respectively.

Underweight prevalence was 1.1% in Reception and 1.6% in Year 6—both statistically similar to national figures (1.2% and 1.7%).

Overview

Reducing childhood obesity is a national[1] and local[2] priority. The World Health Organization (2015) highlights that childhood obesity is linked to serious health risks, including early onset of diabetes and heart disease.

The UK Government's Childhood Obesity: A Plan for Action (2016)[3] reported that nearly one-third of children are overweight or obese, with younger generations becoming obese earlier and for longer. The burden is greatest among children from low-income families.

The National Child Measurement Programme (NCMP) records the height and weight of most Reception (age 4–5) and Year 6 (age 10–11) pupils. Based on age, gender, height, and weight, children are classified as underweight, healthy weight, overweight, or very overweight (obese). The data informs service planning and generates feedback for parents and carers.

To note, NCMP delivery was disrupted by the Covid-19 pandemic. See footnote 4 for an explanation on how this impacted data collection in Bristol from 2019 - 2022[4].

[1] Childhood obesity: a plan for action - GOV.UK (www.gov.uk)
[2] Health and wellbeing strategy (bristol.gov.uk)
[3] Childhood obesity: a plan for action - GOV.UK (www.gov.uk)
[4] **Impact of the Covid-19 pandemic on local measurement of childhood weight:** The 2019/20 NCMP in Bristol was cut short in March 2020 due to Covid-19. By then, 91.5% of Year 6 pupils had been measured, but only 36.2% of Reception pupils. As a result, full Year 6 statistics are available, but only citywide averages are reported for Reception, which should be interpreted with caution due to low coverage—especially for smaller areas or sub-groups. Where needed, 2018/19 data has been used for Reception.

In 2020/21, the NCMP was scaled down nationally, with only 10% of pupils measured to produce representative national estimates. This data is not suitable for local analysis. 2021/22 marked the first full year of NCMP measurements in Bristol since the pandemic began.

To support more robust analysis for smaller groups and areas (e.g. city wards), we typically use three-year pooled data. Pandemic-related disruption created gaps in these trend analyses, but with the addition of 2023/24 data, we've resumed pooled reporting for 2021/22–2023/24 for both Reception and Year 6.

Excess weight in 4-5 year olds (Year Reception, 2023/24)

In 2023/24, 18.9% of Reception (age 4–5) pupils in Bristol had excess weight—significantly lower than in 2022/23 (21.5%) and the lowest rate since records began in 2006/07. Despite year-to-year fluctuations, Figure 1 shows a general downward trend over the past 17 years.

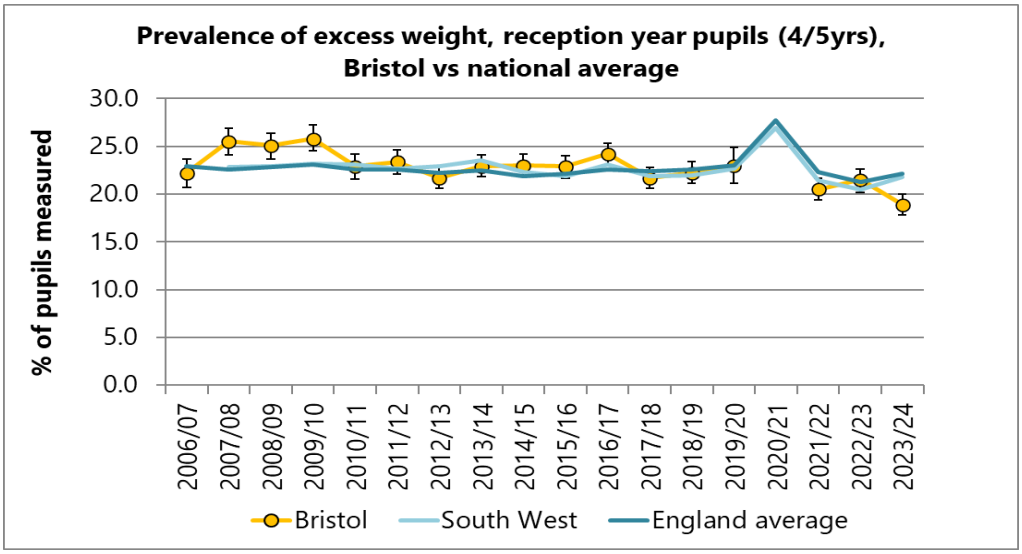

Figure 1: Prevalence of excess weight, reception year pupils (4/5yrs), Bristol vs regional & national averages, 2006/07 to 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

The prevalence of children measured as very overweight in Reception was 8.0% in 2023/24, statistically similar to 2022/23 (8.9%) but significantly below the national average (9.6%).

Among the eight Core Cities, Bristol had the lowest prevalence of excess weight (overweight or very overweight) in Reception, significantly lower than all others. Its prevalence of very overweight Reception aged pupils was also the lowest, significantly below all but one comparator.

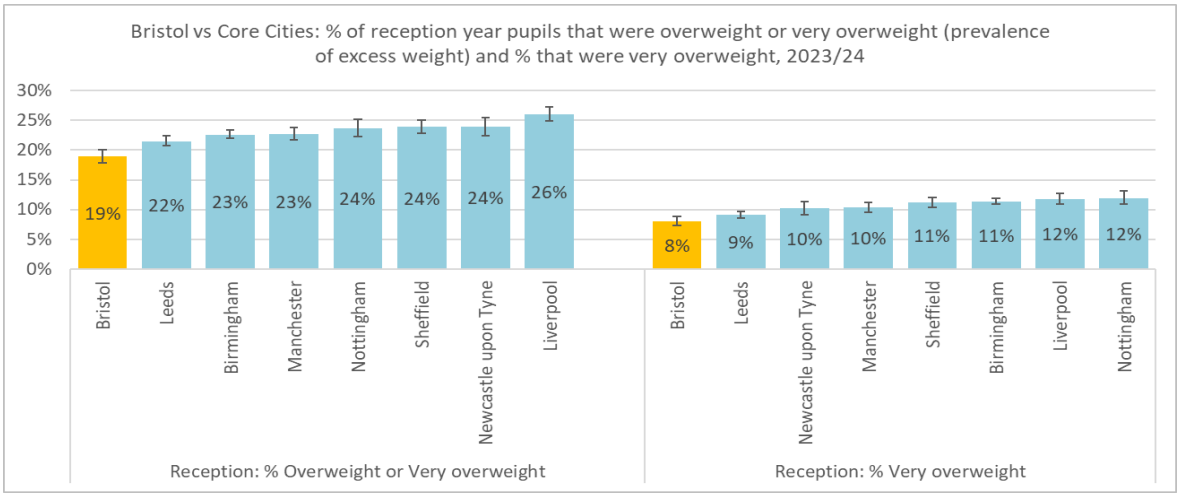

Figure 2: % of reception year pupils that were overweight or very overweight (prevalence of excess weight) and % that were very overweight (4/5yrs), Bristol vs Core City local authorities, 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

Equalities data – Gender and Excess Weight (Year Reception, 2023/24):
In 2023/24, 18.4% of Reception-age girls in Bristol had excess weight, compared to 21.9% nationally. For boys, the rate was 19.5% in Bristol versus 22.2% nationally. While there is no significant **difference** between boys and girls within Bristol, both groups had significantly lower rates than the national averages.

ICS Sub-localities and Excess Weight (Year Reception, 2023/24):
Among Bristol Reception pupils, excess weight prevalence was lowest in North & West (inner) at 12%, and highest in North & West (outer) at 22% (see Figure 3). The rate in North & West (inner) was significantly lower than in the Inner City, South, and North & West (outer) areas.

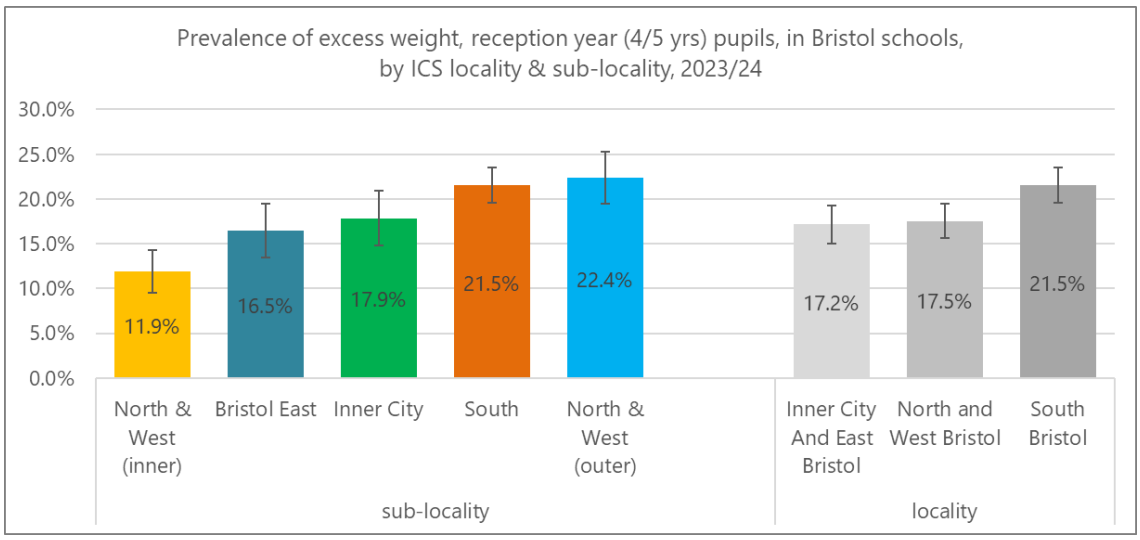

Figure 3: Local collation of NCMP data, Bristol City Council (Public Health)

Equalities data – Deprivation and Excess Weight (Year Reception, 2023/24):
Figure 4 highlights a strong link between area-level deprivation and excess weight among Reception pupils in Bristol. In 2023/24, prevalence was around 12% in the least deprived 20% of areas, compared to 24% in the most deprived 20%. This deprivation gradient helps explain much of the variation seen across ICS sub-localities and wards.

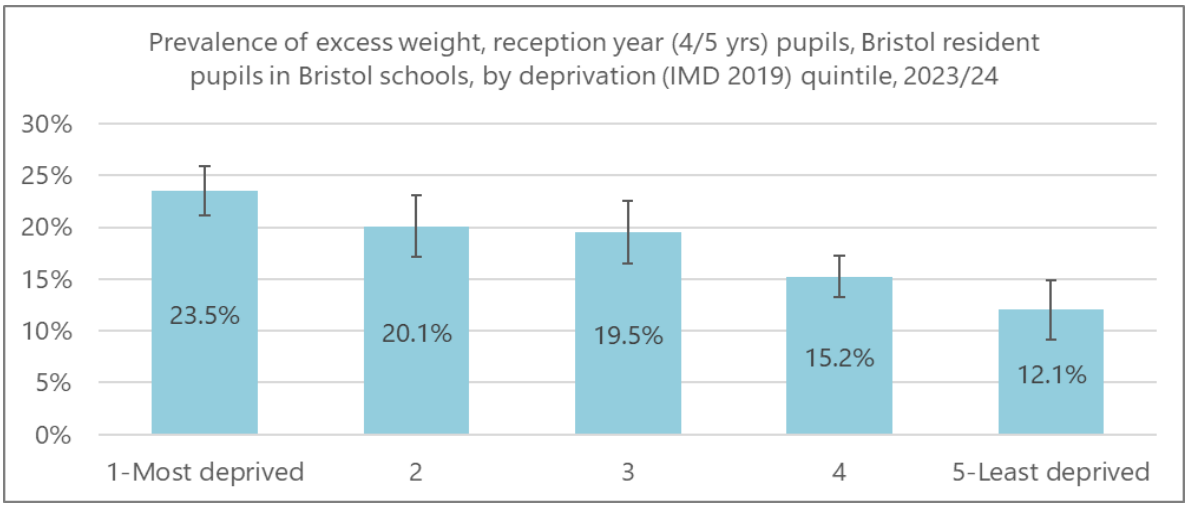

Figure 4: Local collation of NCMP data, Bristol City Council (Public Health)

Ward-Level data - Excess Weight (Year Reception, 2021/22 - 2023/24):
Based on 3-year pooled data from 2021/22 to 2023/24, excess weight prevalence among Reception pupils varies widely across Bristol's 34 wards—from 10.7% in Clifton Down to 29.6% in Hartcliffe & Withywood. Rates are generally highest in the south-west and northern edges of the city, and lowest near the city centre—except in Lawrence Hill and Hillfields, which show higher rates than surrounding central wards (see Figure 5 below).

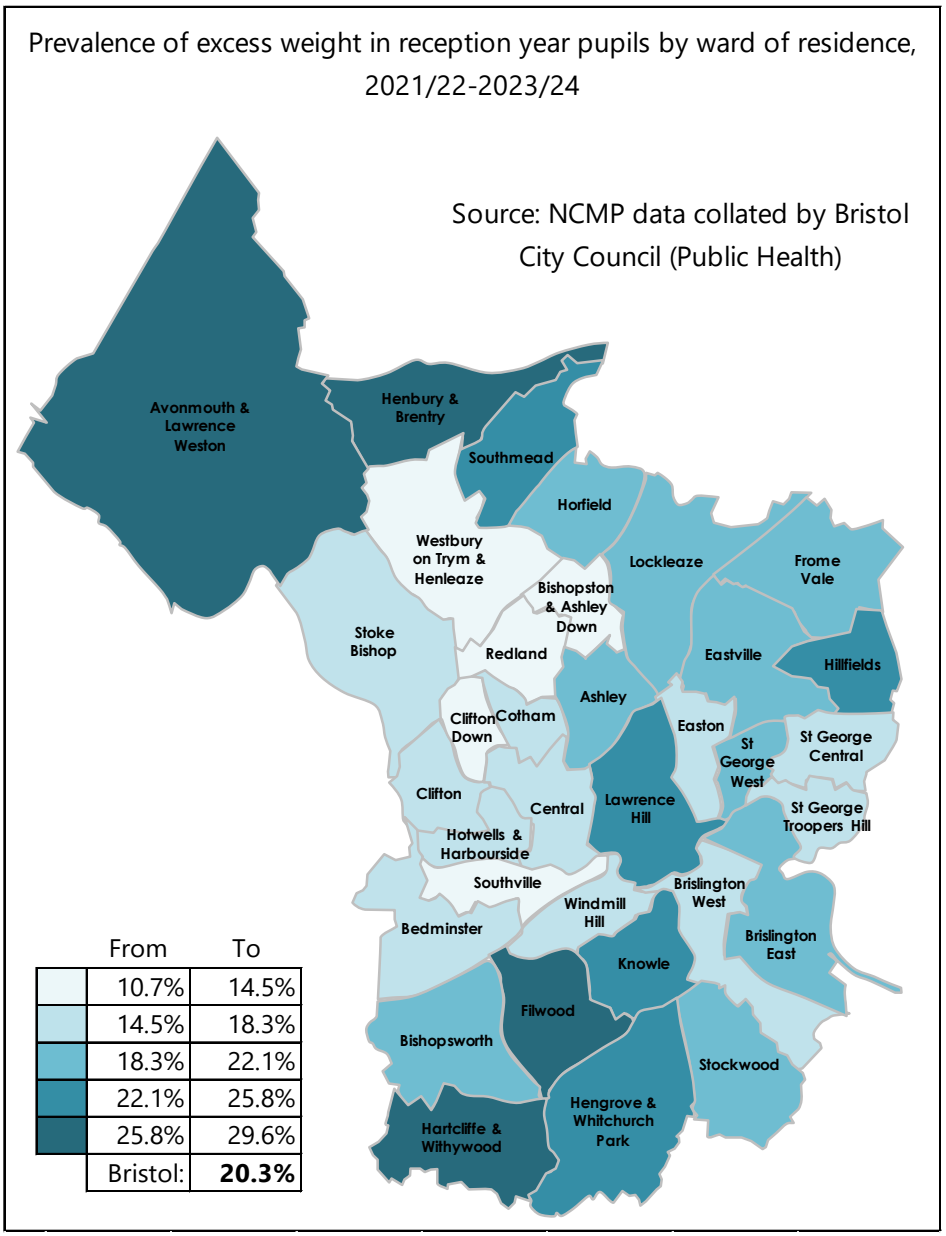

Figure 5: Prevalence of excess weight in reception year pupils by ward of residence, 2021/22-2023/24
Source: NCMP data collated by Bristol City Council (Public Health).

Equalities data – Ethnicity and Excess Weight (Year Reception, 2023/24):
Ethnicity data for Reception pupils in 2023/24 was incomplete, limiting meaningful analysis. This is due to delays in updating pupil records after school entry, which affects the quality of data shared with the local authority.

Underweight in 4-5 year olds (Year Reception, 2023/24):
In 2023/24, 1.1% of Reception pupils in Bristol were identified as underweight—statistically similar to both 2022/23 (1.2%) and the national average (1.2%). As shown in Figure 6, underweight prevalence in Bristol typically ranged from 0.5% to 1.0% between 2006/07 and 2019/20, except in the first year of measurement.

Since the pandemic-related break in 2020/21, rates have consistently exceeded 1.0%. While single-year estimates have wide confidence intervals, the sustained increase suggests a possible meaningful rise in underweight prevalence in this age group.

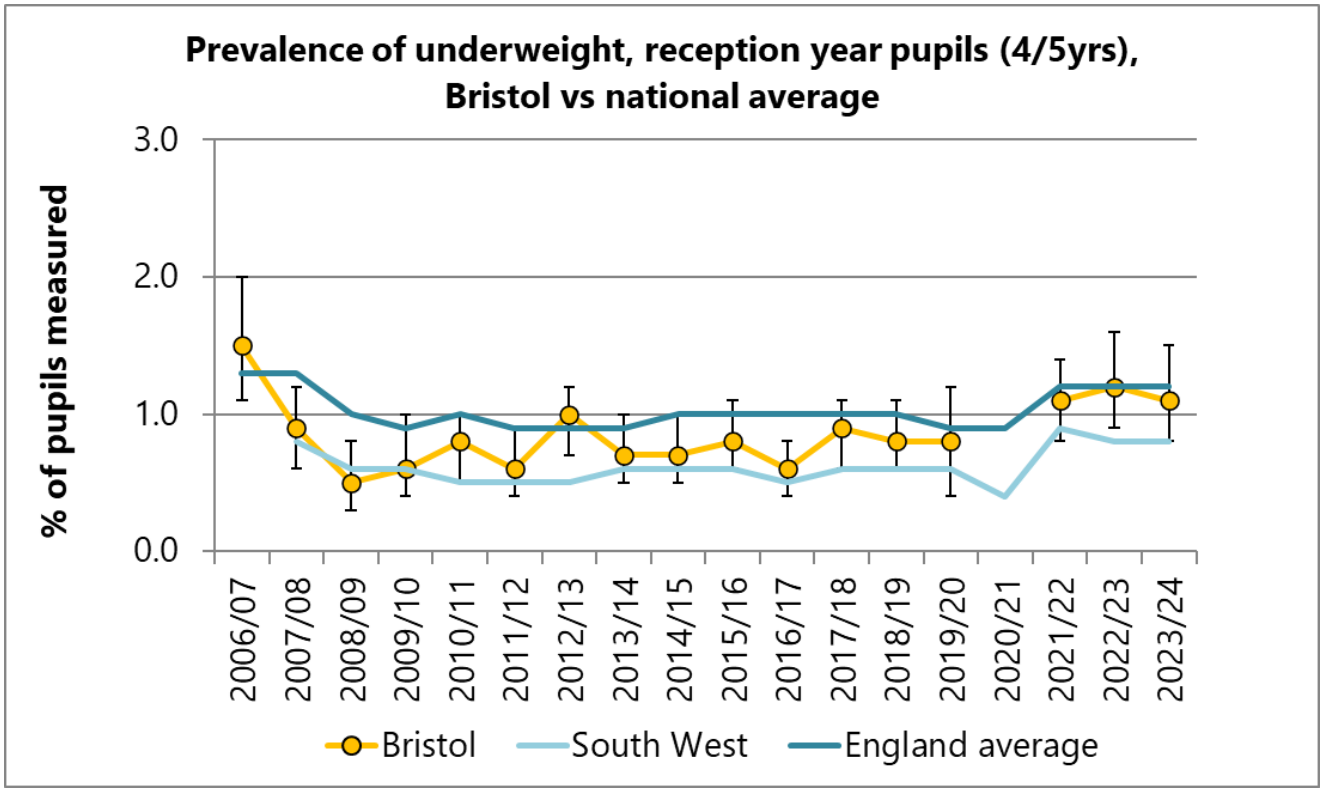

Figure 6: Prevalence of underweight, reception year pupils (4/5yrs), Bristol vs regional & national averages, 2006/07 to 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

In 2023/24, 1.1% of Reception pupils in Bristol were identified as underweight—typical for the Core Cities group and at the lower end of the range (0.9% in Liverpool to 1.8% in Birmingham and Manchester). Bristol's rate was statistically similar to all Core Cities except Birmingham, where prevalence was significantly higher.

Equalities data – Gender and Underweight (Year Reception, 2023/24):
In 2023/24, 0.5% of Reception-age girls in Bristol were measured as underweight, compared to 0.8% nationally. For boys, the rate was 1.7% in Bristol versus 1.6% nationally. The difference

between boys and girls in Bristol was not statistically significant, and wide confidence intervals for single-year estimates make it unlikely that small differences will be detected.

ICS Sub-localities and Underweight (Year Reception, 2021/22 – 2023/24)[5]:
Based on pooled data from 2021/22 to 2023/24, underweight prevalence among Reception pupils was lowest in North & West (inner) at 0.6%, and highest in the Inner City at 2.2%. The Inner City rate was significantly higher than all other sub-localities except Bristol East, which had a statistically similar rate of 1.6% (Figure 7).

Combined, the Inner City and East locality had a prevalence of 1.9%—significantly higher and more than double that of North & West (0.8%) and South Bristol (0.9%).

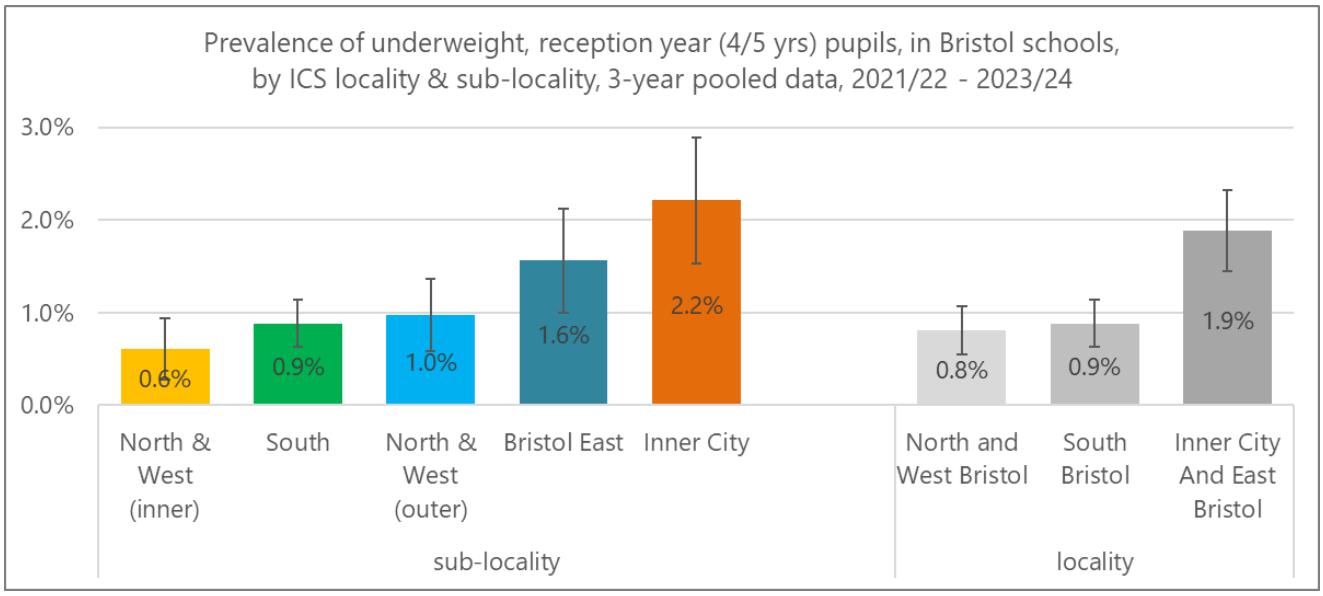

Figure 7: Local collation of NCMP data, Bristol City Council (Public Health)

Equalities data – Deprivation and Underweight (Year Reception, 2021/22 - 2023/24):

Figure 8 overleaf shows a link between area-level deprivation and underweight prevalence among Reception pupils in Bristol (2021/22–2023/24). Pupils in the most deprived 40% of areas (quintiles 1 and 2) were significantly more likely to be underweight than those in the least deprived 20%. However, unlike excess weight (see Figure 4), there is no clear social gradient across all deprivation levels.

The narrower range of underweight prevalence across deprivation quintiles—compared to sub-localities—suggests that other place-based factors may be equally or more influential in predicting underweight risk.

[5] To enable more meaningful comparisons across smaller areas or communities, underweight data is pooled over 3 years. The analyses by locality/ sub-locality/ deprivation quintile are based on pooled data from the latest 3 years. Even with pooling, ward-level figures remain too small for reliable comparison, making sub-localities the most detailed level for geographic analysis.

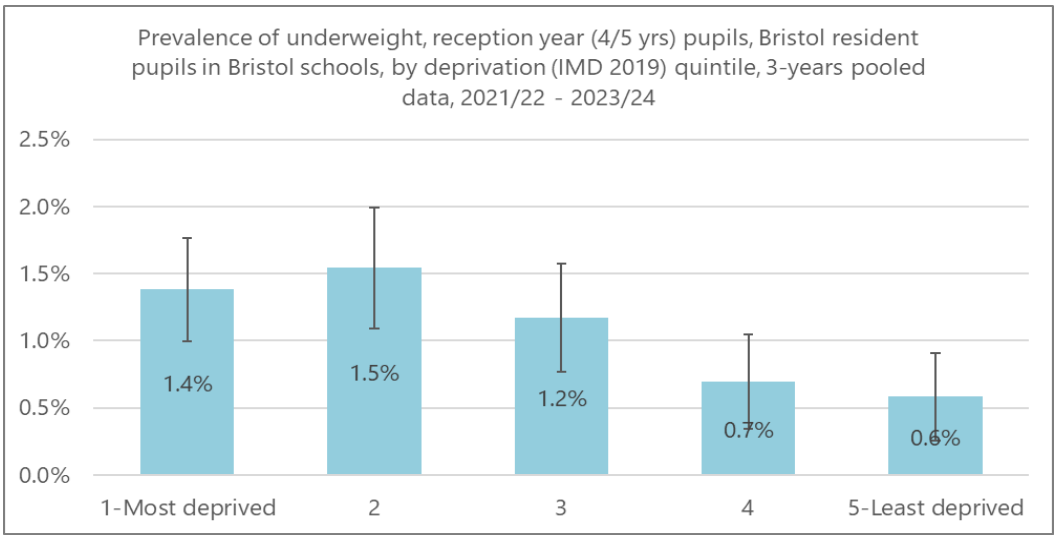

Figure 8: Local collation of NCMP data, Bristol City Council (Public Health)

Excess weight in 10–11-year-olds (Year 6, 2023/24):

In 2023/24, 33.5% of Year 6 pupils in Bristol had excess weight (overweight or very overweight), significantly below the national average of 35.8%. Of these, 19.9% were classified as very overweight, also significantly lower than the national figure of 22.1%.

As shown in Figure 9, excess weight prevalence in Bristol rose until 2015/16, then fluctuated but generally declined until 2019/20. The Covid-19 pandemic led to a sharp national and regional increase in 2020/21, though local data was limited. In 2021/22, the first full post-pandemic NCMP results showed a slight decline, but Bristol's rate remained the highest since NCMP began in 2006/07. Since then, prevalence has steadily decreased, returning to pre-pandemic levels.

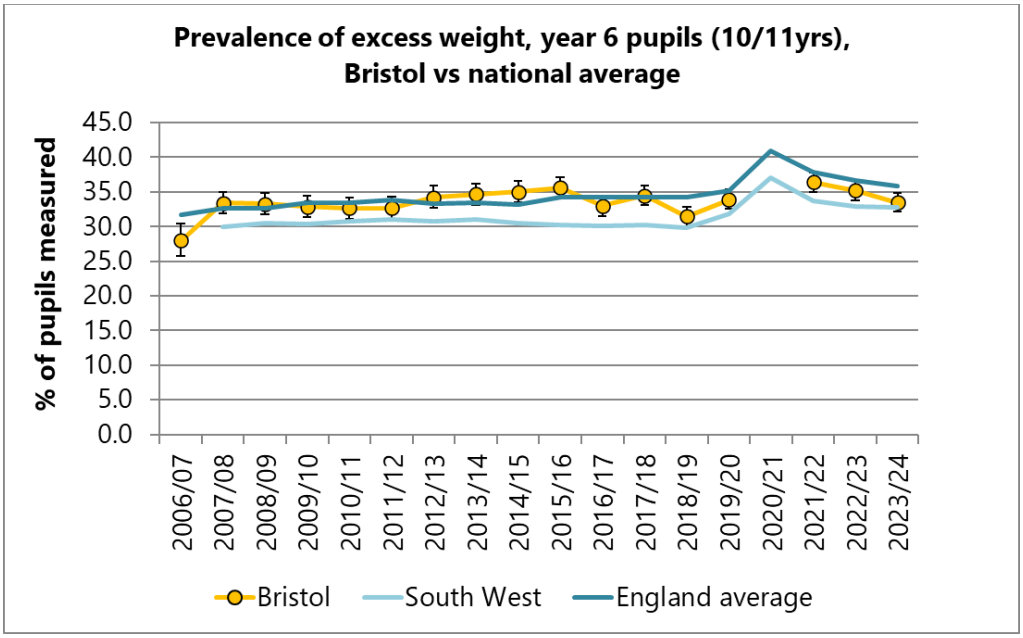

Figure 9: Prevalence of excess weight, year 6 pupils (10/11yrs), Bristol vs regional & national averages, 2006/07 to 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

In 2023/24, Bristol had the lowest Year 6 prevalence of excess weight (overweight and very overweight) or very overweight than of any of the eight Core Cities comparator group, by a statistically significant margin. See figure 10 below.

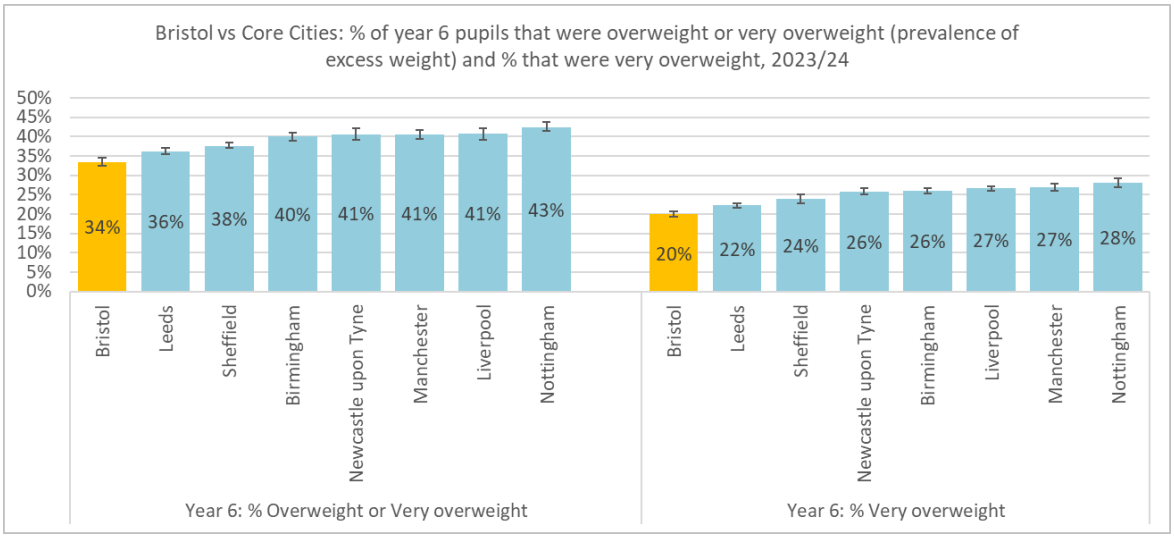

Figure 10: % of year 6 pupils that were overweight or very overweight (prevalence of excess weight) and % that were very overweight (10/11yrs), Bristol vs Core City local authorities, 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

Equalities Data – Gender and Excess Weight (Year 6, 2023/24):

In Bristol, 31.4% of Year 6 girls and 35.2% of boys had excess weight in 2023/24, compared to national averages of 33.5% and 38.1%, respectively. Boys in Bristol were significantly less likely to have excess weight than boys nationally. However, the difference between girls in Bristol and the national average was not statistically significant. Within Bristol, the difference in prevalence between boys and girls was also not statistically significant.

ICS Sub-localities and Excess Weight (Year 6, 2023/24):

In 2023/24, excess weight prevalence among Year 6 pupils ranged from 34% to 39% across all ICS sub-localities in Bristol—except North & West (inner), which had a significantly lower rate of 21% (Figure 11).

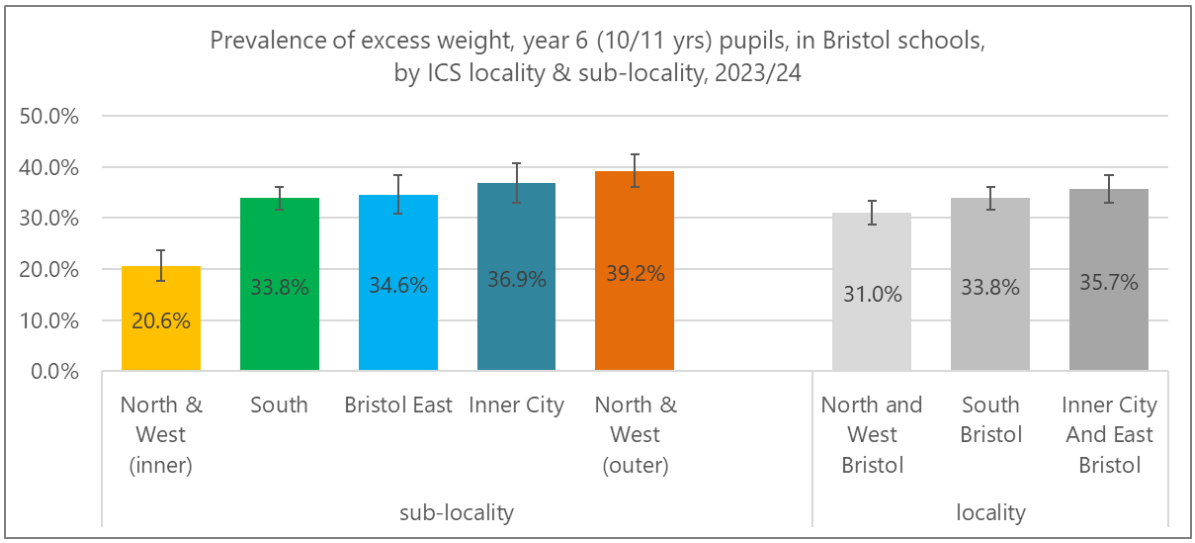

Figure 11: Local collation of NCMP data, Bristol City Council (Public Health)

Ward-Level Data – Excess Weight (Year 6, 2021/22–2023/24):
Based on three-year pooled data, excess weight prevalence among Year 6 pupils in Bristol ranged from 16.1% in Redland to 43.9% in Lawrence Hill.

As in previous years, the highest rates are concentrated in some of the most deprived wards—particularly in the north, southwest, central, and eastern parts of the city. In contrast, the more affluent wards northwest of the city centre tend to have the lowest prevalence (see Figure 12).

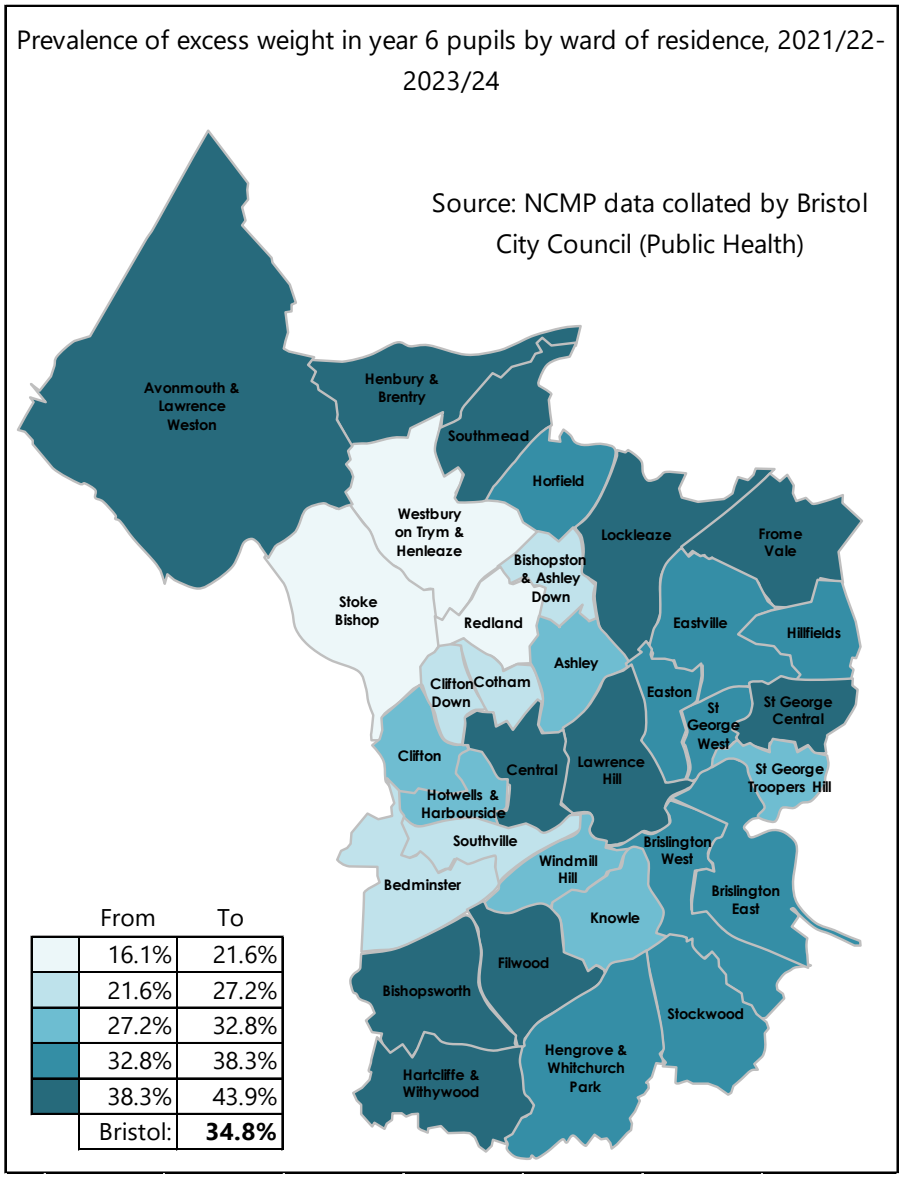

Figure 12: Prevalence of excess weight in year 6 pupils by ward of residence, 2021/22-2023/24
Source: NCMP data collated by Bristol City Council (Public Health)

Equalities Data – Deprivation and Excess Weight (Year 6, 2023/24):
As with Reception pupils, there is a strong and consistent link between area-level deprivation and excess weight in Year 6 pupils. In 2023/24, prevalence was around 20% in the least deprived 20% of areas, compared to more than double that in the most deprived 20%.

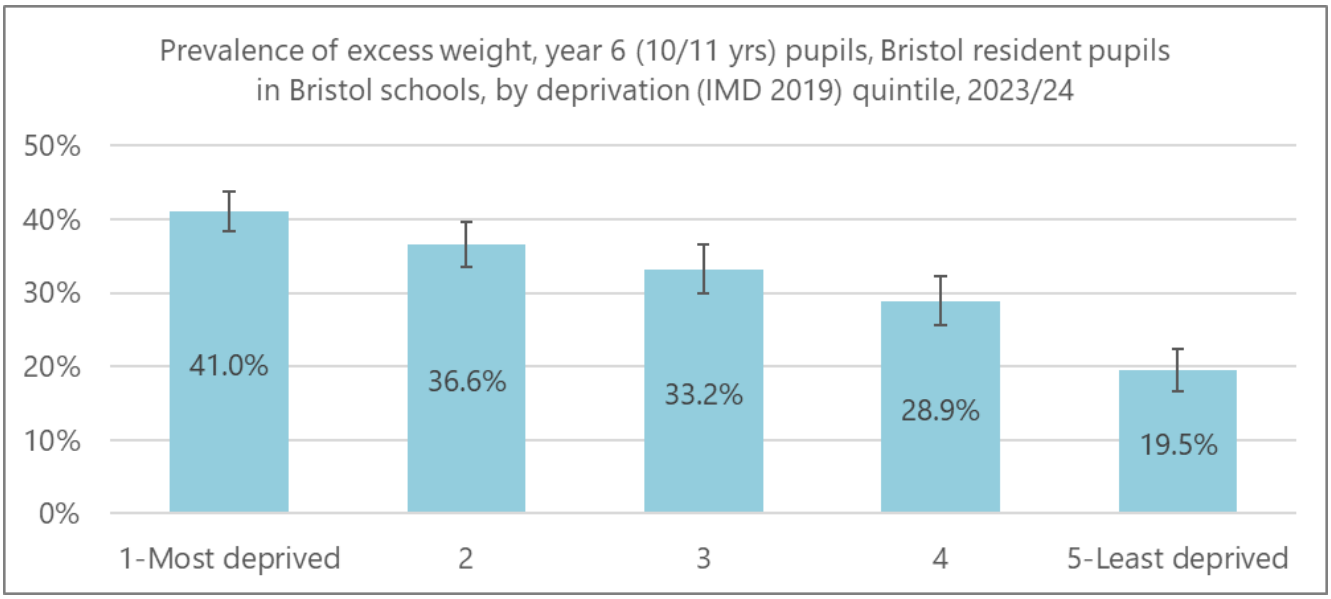

Figure 13: Local collation of NCMP data, Bristol City Council (Public Health)

Equalities Data – Ethnicity and Excess Weight (Year 6, 2021/22–2023/24):
Ethnicity data for Year 6 pupils is more complete than for Reception, allowing for robust analysis when data is pooled across multiple years. Using data from 2021/22 to 2023/24, Figure 14 presents excess weight prevalence by gender and ethnicity for all broad ethnic groups and selected detailed categories.

Key Findings:

- **Gender Differences by Ethnicity:**
  Across all ethnic groups, boys had higher rates of excess weight than girls. This difference was statistically significant for:
  - Asian/Asian British (overall)
  - Indian
  - White (overall)
  - White British

- **Girls with Higher-than-Average Prevalence:**
  Among girls, only the following groups had significantly higher excess weight prevalence than the Bristol average for Year 6 girls:
  - Black/Black British (broad category)
  - Black African
  - Mixed White and Black Caribbean

- **Boys with Higher-than-Average Prevalence:**
  More variation was observed among boys. Compared to the Bristol average for Year 6 boys:
  - **Lower prevalence** was found in:
    - White (overall)
    - White British

- **Higher prevalence** was found in:
  - Asian/Asian British (overall)
  - Indian
  - Pakistani
  - Black/Black British (overall)
  - Black African
  - Mixed White and Black Caribbean

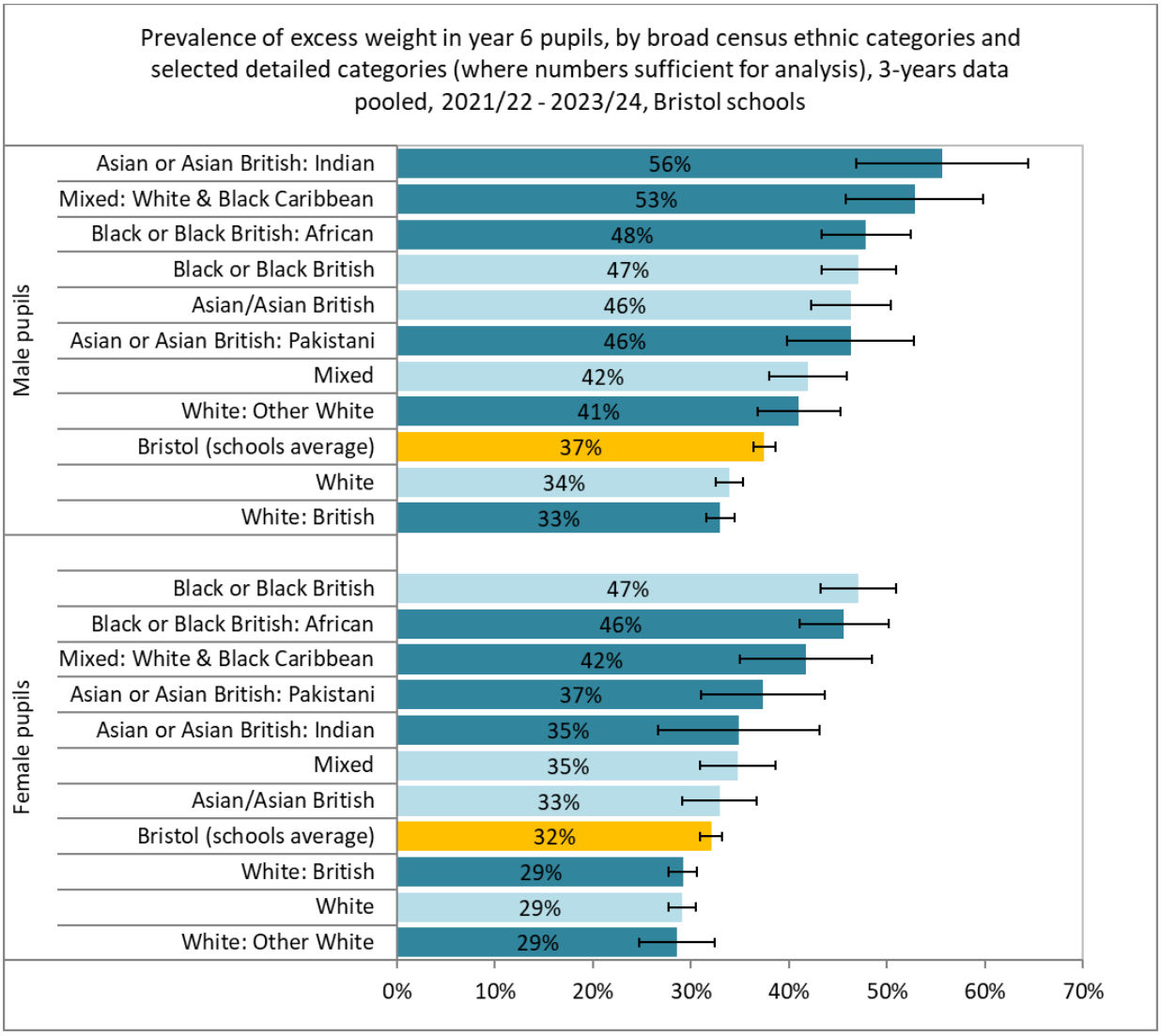

Figure 14: Local collation of NCMP data, Bristol City Council (Public Health)

Underweight in 10–11 Year Olds (Year 6, 2023-24):

In 2023/24, 1.6% of Bristol's Year 6 pupils were underweight—statistically similar to both the previous year (1.5%) and the national average (1.7%).

From 2006/07 to 2017/18, underweight prevalence in Bristol remained around 1%, except in the first year of measurement. Since 2018/19, rates have risen to between 1.3% and 1.6%, with a

further increase following the Covid-19 pandemic. Despite wide confidence intervals, the consistent rise suggests a genuine upward trend. A similar post-pandemic increase nationally indicates that Bristol's trend may reflect broader societal factors.

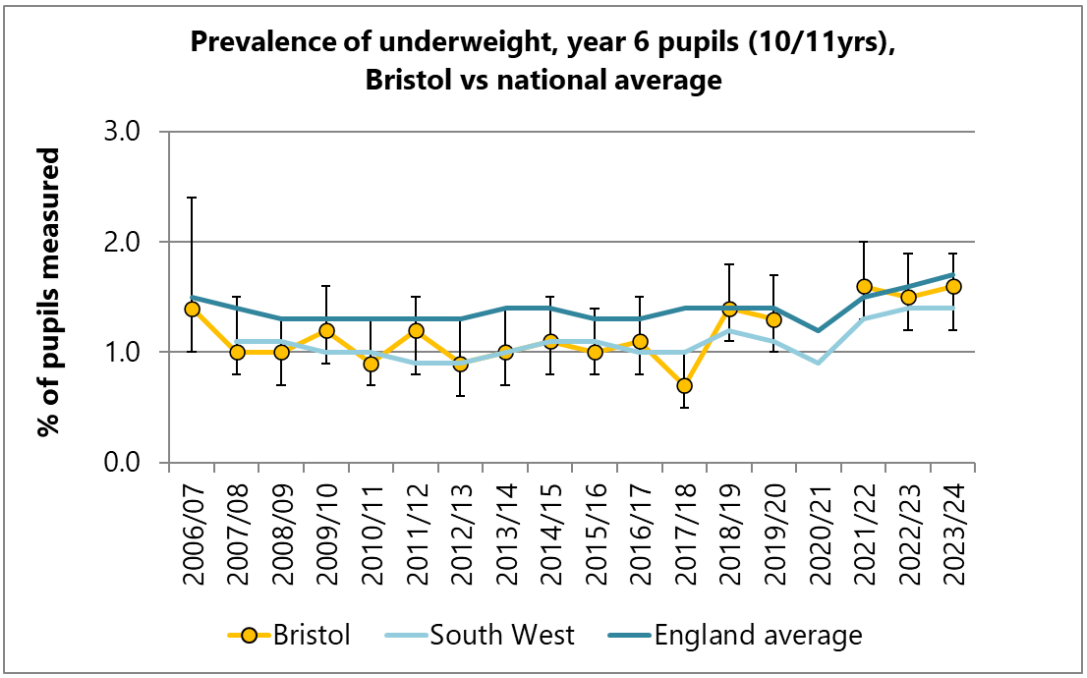

Figure 15: Prevalence of underweight, reception year pupils (10/11yrs), Bristol vs regional & national averages, 2006/07 to 2023/24. Source – Office for Health Improvement & Disparities, collated by Public Health, Bristol City Council.

Core Cities Comparison - Underweight (Year 6, 2023/24):

In 2023/24, 1.6% of Year 6 pupils in Bristol were underweight—typical of the Core Cities group, where rates ranged from 1.1% in Liverpool to 2.3% in Birmingham. Bristol's rate was statistically similar to all Core Cities except Birmingham, which had a significantly higher prevalence. The same pattern was observed for Reception pupils.

Equalities Data – Gender and Underweight (Year 6, 2023/24):

In 2023/24, 1.7% of Year 6 girls in Bristol were underweight, statistically similar to the national average of 1.8%. For boys, the rate was 1.5%, also matching the national figure. The difference between boys and girls in Bristol was not statistically significant. However, wide confidence intervals for single-year estimates make it difficult to detect small differences.

ICS Sub-localities and Underweight (Year 6, 2021/22–2023/24):

Based on NCMP data for Bristol resident pupils attending Bristol schools, the proportion of 10 to 11-year-olds classified as underweight over the three-year period from 2021/22 to 2023/24 varies across sub-localities:

- South locality recorded the lowest prevalence at 1.2%.
- Inner City sub-locality had the highest prevalence at 2.4%.

The difference between these two areas is statistically significant, indicating a meaningful disparity in underweight prevalence at this geographic scale.

Additionally, the Inner City and East locality reported a 2.2% prevalence, which is also significantly higher than the rate in South Bristol (1.2%).

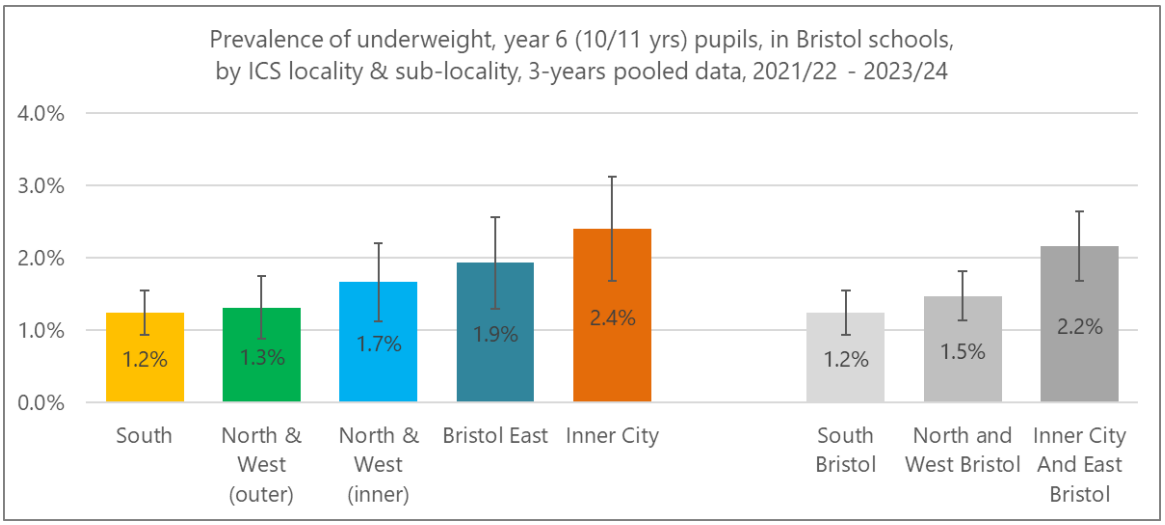

Figure 16: Local collation of NCMP data, Bristol City Council (Public Health)

Equalities Data – Deprivation and Underweight (Year 6, 2021/22 – 2023/24):

Figure 17 shows no clear link between area-level deprivation and the likelihood of Year 6 pupils being underweight. This contrasts with patterns seen in excess weight and underweight prevalence in Reception year (Figure 8), where higher deprivation typically correlates with higher prevalence.

In Year 6, underweight prevalence varies little across deprivation quintiles, with no statistically significant differences or consistent trend. This suggests deprivation may not be a strong predictor of underweight status at this age.

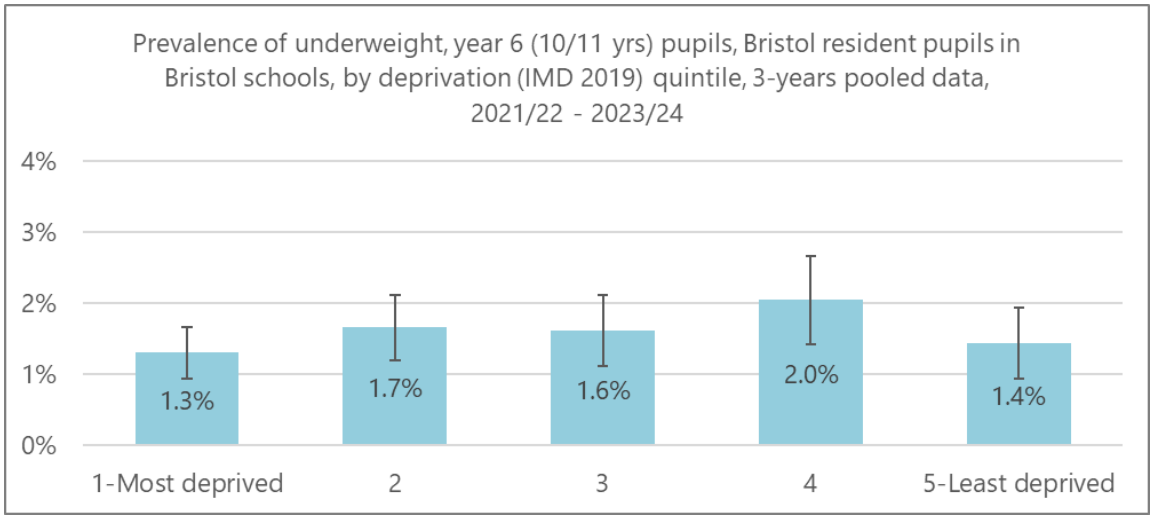

Figure 17: Local collation of NCMP data, Bristol City Council (Public Health)

More variation is observed by geography and ethnicity (see Figure 18 and following sections), indicating that, particularly in Year 6, other factors may play a greater role than deprivation.

However, due to small numbers of underweight pupils—even across three years of data—estimates lack precision, and findings should be interpreted with caution. Nonetheless, the relationship between deprivation and underweight in Year 6 appears to differ notably from that seen with excess weight.

Equalities data – Ethnicity and Underweight (Year 6, 2021/22-2023/24):
Due to small sample sizes, even across three years, this analysis is indicative rather than definitive. Figure 18 presents underweight prevalence by gender and ethnicity, with exact percentages omitted to support approximate comparisons.

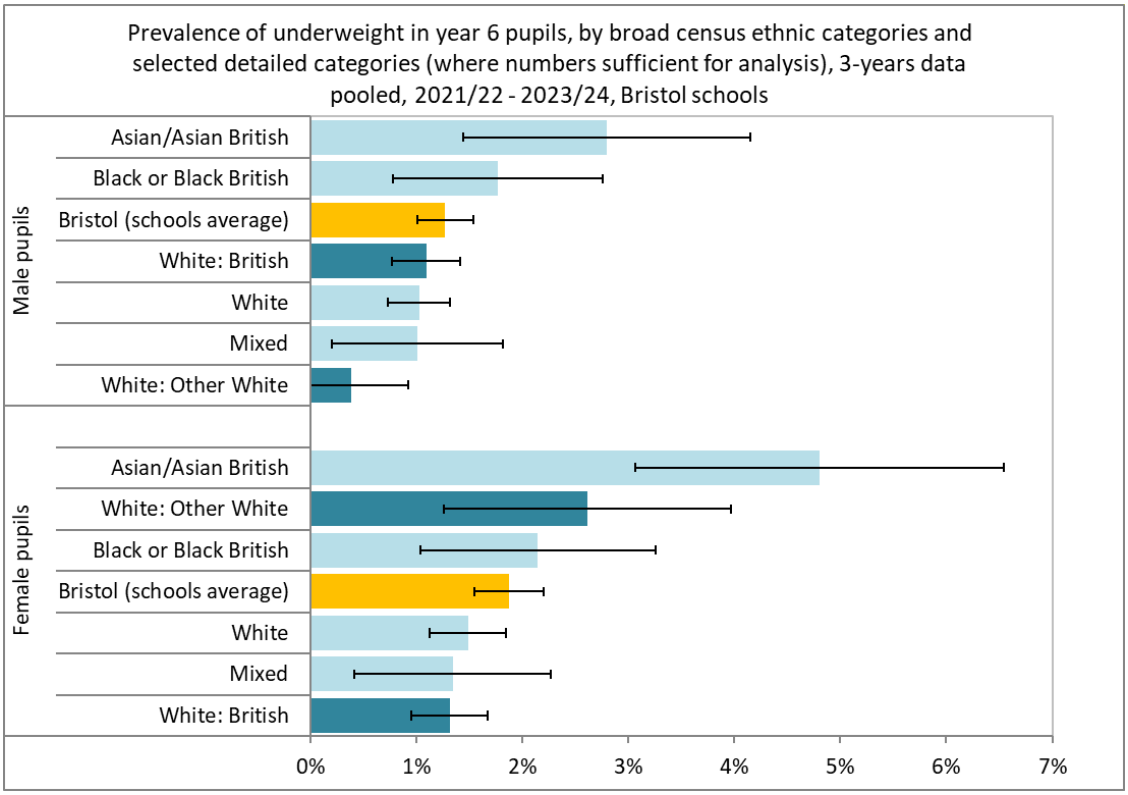

Figure 18: Local collation of NCMP data, Bristol City Council (Public Health)

Key Findings:

- **Ethnic Groups with Higher or Lower Prevalence:**
  - **Asian/Asian British** pupils (both girls and boys) had the highest average underweight prevalence.
  - Among **girls,** prevalence was significantly higher than both the **Bristol average** and the rate for **White and White British** pupils.
  - Among **boys,** those of **White 'Other' ethnicity** (typically Eastern European) were significantly less likely to be underweight than the Bristol average.

- **Gender Differences by Ethnicity:**
  - Gender variation was observed across ethnic groups, though most differences were **not statistically significant.**
  - These patterns mirror those seen in excess weight data (Figure 14), suggesting ethnicity may influence how gender affects weight outcomes.
  - **Black/Black British** pupils showed **minimal gender difference** in both underweight and excess weight prevalence.
  - Greater gender variation was seen among **Asian/Asian British** and **White 'Other'** pupils.
  - For **White 'Other'** pupils, the gender difference in underweight prevalence was **statistically significant,** despite small sample sizes.

Further data / links:

1) Bristol Joint Local Health and Wellbeing Strategy 2020 – 2025. Available here: Health and wellbeing strategy (bristol.gov.uk)
2) Childhood obesity: a plan for action. Department of Health and Social Care, Prime Minister's Office, 10 Downing Street, HM Treasury, and Cabinet Office. Available here: https://www.gov.uk/government/publications/childhood-obesity-a-plan-for-action
3) National Child Measurement Programme (NHS England); England, 2023/24 school year. Data tables available here: https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2023-24-school-year
4) Obesity Profile (Office for Health Improvement & Disparities – Fingertips tool). Available here: Obesity Profile - OHID (phe.org.uk)

Date updated: October 2025 **Next update due:** January 2026