

Supplementary file 10. Associations between the percentage of obesity/dental health- and dietary variety-related SFS met by schools, and pupil nutrient and food intakes on a school day: at lunch, during the school day, and during 24-hours – full models

Table 1. Outcome: Free sugar intake

Coefficient	Free sugar (g) Lunch	Free sugar (g) School day	Free sugar (g) 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.06 (-0.03-0.14) p = 0.176	0.11 (-0.02-0.25) p = 0.108	0.29 (0.03-0.56) p = 0.028
SFS Standards: Variety	0.04 (-0.05-0.14) p = 0.393	0.04 (-0.11-0.20) p = 0.580	0.14 (-0.17-0.44) p = 0.374
Sex: Male	-0.34 (-2.14-1.46) p = 0.712	0.41 (-2.36-3.17) p = 0.773	4.26 (-1.13-9.65) p = 0.121
Sex: Other	0.27 (-4.73-5.28) p = 0.915	-0.38 (-8.04-7.29) p = 0.923	-12.50 (-27.09-2.10) p = 0.093
Age	-1.40 (-3.95-1.15) p = 0.282	0.47 (-3.44-4.38) p = 0.814	0.93 (-6.64-8.50) p = 0.811
Ethnicity: Asian/Asian British	-1.52 (-3.98-0.93) p = 0.224	-4.20 (-8.02- -0.38) p = 0.031	-12.26 (-19.71- -4.81) p = 0.001
Ethnicity: Black/African/Caribbean/Black British	1.88 (-2.16-5.91) p = 0.362	6.95 (0.73-13.18) p = 0.029	3.72 (-8.26-15.70) p = 0.542
Ethnicity: Mixed/Multiple	-3.01 (-6.78-0.76) p = 0.118	-4.26 (-10.05-1.53) p = 0.149	-11.67 (-23.01- -0.33) p = 0.044
Ethnicity: Other	2.74 (-2.19-7.68) p = 0.276	5.19 (-2.24-12.63) p = 0.171	3.61 (-10.61-17.84) p = 0.619
IMD Quintile: 2	2.20 (-0.63-5.02) p = 0.128	2.63 (-1.71-6.97) p = 0.234	3.64 (-4.77-12.04) p = 0.396
IMD Quintile: 3	1.62 (-1.29-4.53) p = 0.274	1.94 (-2.56-6.44) p = 0.399	2.18 (-6.54-10.89) p = 0.624
IMD Quintile: 4	1.56 (-1.53-4.65) p = 0.322	0.21 (-4.56-4.99) p = 0.930	2.75 (-6.53-12.03) p = 0.561
IMD Quintile: 5	1.24 (-1.86-4.33) p = 0.434	1.46 (-3.35-6.27) p = 0.551	2.99 (-6.39-12.36) p = 0.532
Source of Lunch: 100% School Provided	-3.63 (-5.27- -1.99) p < .001	-2.09 (-4.59-0.42) p = 0.103	3.72 (-1.00-8.44) p = 0.122
Percent FSM	0.08 (-0.03-0.19) p = 0.165	0.009 (-0.17-0.19) p = 0.921	0.20 (-0.14-0.54) p = 0.258
School Level IDACI	0.10 (-0.008-0.21) p = 0.070	0.23 (0.05-0.41) p = 0.012	0.25 (-0.09-0.60) p = 0.153
Sixth Form: Yes	-2.58 (-4.67- -0.49) p = 0.016	-0.83 (-4.30-2.65) p = 0.641	0.20 (-6.54-6.94) p = 0.953
Provision: External	1.34 (-0.57-3.26) p = 0.168	2.49 (-0.68-5.65) p = 0.123	6.44 (0.34-12.55) p = 0.039
Religious: Secular	4.83 (1.59-8.07) p = 0.003	5.41 (-0.03-10.84) p = 0.051	2.00 (-8.57-12.56) p = 0.711
Year collected: 2020/2021	-3.01 (-6.42-0.40) p = 0.083	-1.46 (-7.12-4.19) p = 0.612	-3.83 (-14.70-7.04) p = 0.490
Year collected: 2021/2022	0.15 (-1.93-2.22) p = 0.890	0.68 (-2.74-4.10) p = 0.698	-1.63 (-8.20-4.95) p = 0.628
Year: 9	1.44 (-4.05-6.94) p = 0.607	-3.90 (-12.31-4.51) p = 0.364	-3.21 (-19.55-13.13) p = 0.700
Year: 10	1.80 (-6.13-9.73) p = 0.656	-6.19 (-18.36-5.99) p = 0.319	-5.88 (-29.41-17.65) p = 0.625

Table 2. Outcome: Percentage Total Energy Intake (TEI) from free sugar

Coefficient	%TEI from free sugar Lunch	%TEI from free sugar School day	%TEI from free sugar 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.02 (-0.05-0.09) p = 0.515	0.03 (-0.03-0.10) p = 0.317	0.03 (-0.03-0.09) p = 0.302
SFS Standards: Variety	0.14 (0.07-0.22) p < .001	0.12 (0.05-0.20) p = 0.001	0.05 (-0.01-0.12) p = 0.105
Sex: Male	-1.73 (-3.02- -0.44) p = 0.009	-1.34 (-2.54- -0.15) p = 0.028	-0.62 (-1.46-0.22) p = 0.150
Sex: Other	0.12 (-3.42-3.66) p = 0.947	0.009 (-3.27-3.29) p = 0.996	-1.41 (-3.65-0.84) p = 0.219
Age	-1.24 (-3.08-0.60) p = 0.186	-0.56 (-2.27-1.14) p = 0.516	-0.13 (-1.34-1.08) p = 0.831
Ethnicity: Asian/Asian British	0.21 (-1.56-1.98) p = 0.814	-0.09 (-1.74-1.56) p = 0.915	-1.66 (-2.84- -0.47) p = 0.006
Ethnicity: Black/African/Caribbean/Black British	0.49 (-2.39-3.36) p = 0.739	3.96 (1.27-6.64) p = 0.004	0.14 (-1.72-2.01) p = 0.882
Ethnicity: Mixed/Multiple	-0.93 (-3.60-1.73) p = 0.492	1.27 (-1.20-3.75) p = 0.314	-1.23 (-2.97-0.52) p = 0.169
Ethnicity: Other	-1.78 (-5.29-1.72) p = 0.319	-1.76 (-4.96-1.44) p = 0.280	-0.83 (-3.03-1.37) p = 0.461
IMD Quintile: 2	-0.89 (-2.91-1.13) p = 0.387	0.07 (-1.80-1.94) p = 0.941	-0.28 (-1.60-1.03) p = 0.672
IMD Quintile: 3	-0.15 (-2.24-1.94) p = 0.885	0.76 (-1.19-2.72) p = 0.442	0.04 (-1.34-1.41) p = 0.957
IMD Quintile: 4	-0.38 (-2.60-1.84) p = 0.736	0.29 (-1.78-2.36) p = 0.784	0.39 (-1.07-1.85) p = 0.603
IMD Quintile: 5	-1.08 (-3.31-1.15) p = 0.343	0.09 (-1.99-2.18) p = 0.931	-0.82 (-2.30-0.66) p = 0.279
Source of Lunch: 100% School Provided	0.80 (-0.40-1.99) p = 0.190	0.04 (-1.07-1.14) p = 0.950	0.26 (-0.49-1.01) p = 0.495
Percent FSM	0.03 (-0.06-0.12) p = 0.492	0.04 (-0.05-0.12) p = 0.367	0.04 (-0.03-0.11) p = 0.301
School Level IDACI	0.07 (-0.02-0.17) p = 0.115	0.10 (0.02-0.19) p = 0.021	0.05 (-0.03-0.12) p = 0.217
Sixth Form: Yes	-1.43 (-3.20-0.34) p = 0.113	-1.13 (-2.81-0.56) p = 0.191	0.009 (-1.43-1.45) p = 0.990
Provision: External	0.91 (-0.69-2.52) p = 0.266	0.67 (-0.87-2.20) p = 0.394	0.52 (-0.78-1.82) p = 0.431
Religious: Secular	2.13 (-0.67-4.93) p = 0.135	1.71 (-0.96-4.39) p = 0.209	0.20 (-2.11-2.51) p = 0.868
Year collected: 2020/2021	0.57 (-2.31-3.44) p = 0.700	1.34 (-1.40-4.07) p = 0.339	1.06 (-1.26-3.38) p = 0.370
Year collected: 2021/2022	1.73 (0.001-3.46) p = 0.050	1.06 (-0.58-2.71) p = 0.206	0.68 (-0.69-2.06) p = 0.330
Year: 9	2.18 (-1.78-6.13) p = 0.281	1.09 (-2.56-4.74) p = 0.557	0.03 (-2.56-2.62) p = 0.980
Year: 10	2.47 (-3.24-8.19) p = 0.396	0.14 (-5.15-5.42) p = 0.960	-0.82 (-4.57-2.92) p = 0.666

Table 3. Outcome: Total Energy Intake (TEI)

Coefficient	TEI (kcal Lunch)	TEI (kcal) School day	TEI (kcal) 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.18 (-1.33-1.68) p = 0.818	1.26 (-0.62-3.14) p = 0.188	3.59 (-0.49-7.68) p = 0.085
SFS Standards: Variety	-2.14 (-3.88- -0.41) p = 0.015	-1.10 (-3.28-1.07) p = 0.321	-1.07 (-5.78-3.64) p = 0.655
Sex: Male	42.29 (12.21-72.37) p = 0.006	61.30 (20.16-102.44) p = 0.003	206.94 (128.58-285.30) p < .001
Sex: Other	16.42 (-66.68-99.53) p = 0.699	-9.67 (-124.54-105.20) p = 0.869	-179.94 (-391.20-31.32) p = 0.095
Age	21.36 (-21.46-64.18) p = 0.328	46.02 (-11.97-104.00) p = 0.120	63.90 (-46.72-174.52) p = 0.258
Ethnicity: Asian/Asian British	0.18 (-41.07-41.44) p = 0.993	-23.76 (-80.45-32.93) p = 0.411	-11.59 (-120.26-97.07) p = 0.834
Ethnicity: Black/African/Caribbean/Black British	50.89 (-16.31-118.09) p = 0.138	55.23 (-37.76-148.22) p = 0.244	101.35 (-72.66-275.36) p = 0.254
Ethnicity: Mixed/Multiple	-47.74 (-110.38-14.90) p = 0.135	-105.04 (-191.75- -18.34) p = 0.018	-77.44 (-241.62-86.75) p = 0.355
Ethnicity: Other	180.92 (98.82-263.02) p < .001	220.27 (109.00-331.54) p < .001	140.76 (-65.59-347.11) p = 0.181
IMD Quintile: 2	52.21 (5.03-99.38) p = 0.030	42.84 (-21.92-107.59) p = 0.195	55.64 (-66.53-177.81) p = 0.372
IMD Quintile: 3	44.72 (-3.99-93.43) p = 0.072	27.15 (-39.83-94.13) p = 0.427	17.34 (-109.67-144.35) p = 0.789
IMD Quintile: 4	51.67 (-0.07-103.41) p = 0.050	63.81 (-7.25-134.88) p = 0.078	87.06 (-48.15-222.28) p = 0.207
IMD Quintile: 5	60.78 (8.81-112.74) p = 0.022	59.56 (-11.90-131.02) p = 0.102	112.54 (-24.23-249.30) p = 0.107
Source of Lunch: 100% School Provided	-135.71 (-163.32- -108.10) p < .001	-72.51 (-109.82- -35.20) p < .001	7.17 (-62.21-76.55) p = 0.839
Percent FSM	-0.74 (-2.69-1.21) p = 0.456	-0.82 (-3.33-1.68) p = 0.518	-0.36 (-5.61-4.88) p = 0.892
School Level IDACI	1.68 (-0.31-3.68) p = 0.098	1.71 (-0.80-4.21) p = 0.182	2.03 (-3.37-7.43) p = 0.461
Sixth Form: Yes	-48.08 (-86.41- -9.76) p = 0.014	-12.14 (-60.18-35.90) p = 0.620	14.81 (-89.95-119.56) p = 0.782
Provision: External	0.14 (-34.75-35.04) p = 0.994	41.77 (-2.09-85.64) p = 0.062	63.22 (-31.54-157.98) p = 0.191
Religious: Secular	91.24 (31.23-151.26) p = 0.003	122.41 (48.05-196.78) p = 0.001	108.24 (-57.15-273.64) p = 0.200
Year collected: 2020/2021	-83.56 (-145.87- -21.25) p = 0.009	-54.89 (-133.22-23.44) p = 0.170	-103.32 (-272.20-65.56) p = 0.230
Year collected: 2021/2022	-49.58 (-87.24- -11.91) p = 0.010	-52.56 (-100.22- -4.90) p = 0.031	-95.18 (-196.86-6.50) p = 0.067
Year: 9	-86.81 (-178.94-5.32) p = 0.065	-154.23 (-279.18- -29.29) p = 0.016	-153.78 (-392.09-84.53) p = 0.206
Year: 10	-95.00 (-228.15-38.15) p = 0.162	-174.11 (-354.74-6.53) p = 0.059	-173.51 (-517.06-170.04) p = 0.322

Table 4. Outcome: Fat intake

Coefficient	Fat intake (g) Lunch	Fat intake (g) School day	Fat intake (g) 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	-0.006 (-0.07-0.06) p = 0.856	0.04 (-0.05-0.13) p = 0.403	0.07 (-0.10-0.24) p = 0.424
SFS Standards: Variety	-0.12 (-0.19- -0.04) p = 0.003	-0.06 (-0.16-0.04) p = 0.238	-0.13 (-0.34-0.07) p = 0.187
Sex: Male	1.63 (0.16-3.10) p = 0.029	2.28 (0.33-4.22) p = 0.022	7.30 (3.81-10.78) p < .001
Sex: Other	-0.13 (-4.22-3.97) p = 0.951	-1.12 (-6.54-4.30) p = 0.685	-9.42 (-18.85-0.01) p = 0.050
Age	1.01 (-1.07-3.09) p = 0.341	2.51 (-0.22-5.25) p = 0.072	3.06 (-1.85-7.97) p = 0.221
Ethnicity: Asian/Asian British	-0.007 (-2.01-2.00) p = 0.994	-0.81 (-3.48-1.86) p = 0.553	-0.003 (-4.81-4.81) p = 0.999
Ethnicity: Black/African/Caribbean/Black British	2.07 (-1.23-5.38) p = 0.218	2.03 (-2.36-6.42) p = 0.365	1.18 (-6.59-8.95) p = 0.766
Ethnicity: Mixed/Multiple	-1.97 (-5.05-1.11) p = 0.211	-4.57 (-8.66- -0.49) p = 0.028	-2.87 (-10.20-4.46) p = 0.442
Ethnicity: Other	8.88 (4.83-12.92) p < .001	11.67 (6.42-16.93) p < .001	9.66 (0.43-18.89) p = 0.040
IMD Quintile: 2	3.05 (0.73-5.36) p = 0.010	2.13 (-0.93-5.18) p = 0.173	2.93 (-2.52-8.38) p = 0.291
IMD Quintile: 3	2.28 (-0.10-4.66) p = 0.061	1.43 (-1.74-4.59) p = 0.377	-0.73 (-6.39-4.93) p = 0.801
IMD Quintile: 4	3.02 (0.49-5.54) p = 0.019	4.29 (0.94-7.65) p = 0.012	3.35 (-2.67-9.37) p = 0.276
IMD Quintile: 5	3.34 (0.81-5.87) p = 0.010	3.42 (0.05-6.80) p = 0.047	3.74 (-2.34-9.82) p = 0.228
Source of Lunch: 100% School Provided	-5.31 (-6.68- -3.94) p < .001	-2.88 (-4.66- -1.10) p = 0.002	-0.71 (-3.89-2.46) p = 0.660
Percent FSM	-0.03 (-0.12-0.06) p = 0.497	-0.02 (-0.13-0.10) p = 0.786	0.01 (-0.21-0.24) p = 0.921
School Level IDACI	0.08 (-0.008-0.17) p = 0.075	0.06 (-0.06-0.18) p = 0.319	0.06 (-0.17-0.29) p = 0.626
Sixth Form: Yes	-1.88 (-3.59- -0.17) p = 0.031	-0.35 (-2.61-1.92) p = 0.764	-0.53 (-4.96-3.90) p = 0.815
Provision: External	0.003 (-1.56-1.57) p = 0.997	1.69 (-0.38-3.76) p = 0.109	2.09 (-1.93-6.11) p = 0.308
Religious: Secular	4.57 (1.92-7.22) p = 0.001	5.83 (2.32-9.35) p = 0.001	6.43 (-0.55-13.41) p = 0.071
Year collected: 2020/2021	-3.60 (-6.38- -0.82) p = 0.011	-2.15 (-5.84-1.55) p = 0.255	-3.09 (-10.23-4.06) p = 0.397
Year collected: 2021/2022	-2.89 (-4.59- -1.19) p = 0.001	-3.01 (-5.27- -0.76) p = 0.009	-3.76 (-8.10-0.57) p = 0.089
Year: 9	-3.40 (-7.89-1.09) p = 0.138	-6.92 (-12.82- -1.03) p = 0.021	-6.71 (-17.30-3.88) p = 0.214
Year: 10	-3.60 (-10.08-2.88) p = 0.276	-7.81 (-16.33-0.72) p = 0.073	-6.63 (-21.88-8.62) p = 0.394

Table 5: Outcome: Fibre intake

Coefficient	Fibre intake (g) Lunch	Fibre intake (g) School day	Fibre intake (g) 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.004 (-0.01-0.02) p = 0.613	0.01 (-0.009-0.03) p = 0.295	0.03 (-0.03-0.08) p = 0.340
SFS Standards: Variety	-0.03 (-0.05- -0.01) p = 0.001	-0.02 (-0.05- -0.002) p = 0.032	-0.01 (-0.07-0.05) p = 0.676
Sex: Male	0.16 (-0.14-0.46) p = 0.292	0.28 (-0.09-0.65) p = 0.143	1.14 (0.39-1.89) p = 0.003
Sex: Other	-0.11 (-0.93-0.71) p = 0.793	-0.36 (-1.38-0.67) p = 0.494	-1.53 (-3.52-0.46) p = 0.133
Age	0.21 (-0.21-0.64) p = 0.331	0.44 (-0.09-0.96) p = 0.103	0.42 (-0.65-1.49) p = 0.442
Ethnicity: Asian/Asian British	0.06 (-0.35-0.46) p = 0.786	-0.21 (-0.72-0.30) p = 0.422	-0.08 (-1.13-0.97) p = 0.886
Ethnicity: Black/African/Caribbean/Black British	0.18 (-0.48-0.84) p = 0.598	-0.11 (-0.94-0.73) p = 0.799	-0.41 (-2.07-1.24) p = 0.624
Ethnicity: Mixed/Multiple	-0.24 (-0.85-0.38) p = 0.450	-0.70 (-1.47-0.08) p = 0.077	-0.55 (-2.10-1.00) p = 0.485
Ethnicity: Other	1.41 (0.60-2.22) p = 0.001	1.24 (0.24-2.24) p = 0.015	-0.37 (-2.32-1.58) p = 0.708
IMD Quintile: 2	0.21 (-0.26-0.67) p = 0.383	0.21 (-0.37-0.79) p = 0.475	0.44 (-0.72-1.61) p = 0.455
IMD Quintile: 3	0.13 (-0.36-0.61) p = 0.606	0.09 (-0.52-0.69) p = 0.774	0.46 (-0.76-1.68) p = 0.460
IMD Quintile: 4	0.32 (-0.19-0.83) p = 0.223	0.61 (-0.03-1.25) p = 0.061	1.11 (-0.19-2.40) p = 0.094
IMD Quintile: 5	0.40 (-0.11-0.92) p = 0.123	0.53 (-0.12-1.18) p = 0.109	1.72 (0.40-3.04) p = 0.011
Source of Lunch: 100% School Provided	-1.41 (-1.68- -1.13) p < .001	-0.88 (-1.22- -0.54) p < .001	-0.15 (-0.82-0.51) p = 0.649
Percent FSM	-0.02 (-0.04- -0.004) p = 0.019	-0.03 (-0.05- -0.002) p = 0.032	-0.04 (-0.10-0.03) p = 0.271
School Level IDACI	0.01 (-0.007-0.04) p = 0.195	0.01 (-0.01-0.04) p = 0.313	0.02 (-0.05-0.09) p = 0.602
Sixth Form: Yes	0.14 (-0.26-0.55) p = 0.489	0.45 (-0.03-0.93) p = 0.065	0.77 (-0.55-2.09) p = 0.253
Provision: External	0.03 (-0.34-0.40) p = 0.891	0.37 (-0.07-0.81) p = 0.098	0.35 (-0.83-1.54) p = 0.559
Religious: Secular	0.56 (-0.09-1.20) p = 0.090	1.11 (0.35-1.87) p = 0.004	0.86 (-1.26-2.98) p = 0.426
Year collected: 2020/2021	-0.14 (-0.80-0.52) p = 0.674	-0.08 (-0.86-0.70) p = 0.838	-0.25 (-2.38-1.88) p = 0.815
Year collected: 2021/2022	-0.52 (-0.91- -0.12) p = 0.011	-0.61 (-1.08- -0.13) p = 0.012	-1.16 (-2.42-0.10) p = 0.070
Year: 9	-0.85 (-1.76-0.06) p = 0.067	-1.45 (-2.58- -0.32) p = 0.012	-1.23 (-3.52-1.07) p = 0.296
Year: 10	-1.00 (-2.32-0.31) p = 0.136	-1.62 (-3.26-0.02) p = 0.052	-1.29 (-4.61-2.03) p = 0.447

Table 6: Outcome: Fruit and vegetable (F&V) intake

Coefficient	F&V portions Lunch	F&V portions School day	F&V portions 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.0000 (-0.006-0.006) p = 0.994	0.003 (-0.003-0.009) p = 0.386	0.004 (-0.01-0.02) p = 0.596
SFS Standards: Variety	0.0002 (-0.007-0.007) p = 0.956	0.0003 (-0.007-0.007) p = 0.941	-0.0006 (-0.02-0.02) p = 0.939
Sex: Male	-0.04 (-0.14-0.06) p = 0.416	-0.03 (-0.14-0.09) p = 0.630	-0.04 (-0.24-0.16) p = 0.711
Sex: Other	-0.16 (-0.43-0.10) p = 0.227	-0.27 (-0.58-0.05) p = 0.094	-0.47 (-1.00-0.06) p = 0.081
Age	0.04 (-0.10-0.18) p = 0.577	0.03 (-0.13-0.19) p = 0.735	0.13 (-0.16-0.41) p = 0.389
Ethnicity: Asian/Asian British	-0.04 (-0.17-0.10) p = 0.566	-0.08 (-0.24-0.08) p = 0.336	-0.10 (-0.38-0.18) p = 0.476
Ethnicity: Black/African/Caribbean/Black British	0.02 (-0.19-0.24) p = 0.835	-0.02 (-0.27-0.24) p = 0.908	0.05 (-0.39-0.49) p = 0.823
Ethnicity: Mixed/Multiple	0.02 (-0.18-0.22) p = 0.857	-0.05 (-0.29-0.19) p = 0.687	-0.10 (-0.52-0.31) p = 0.621
Ethnicity: Other	0.17 (-0.10-0.43) p = 0.212	0.18 (-0.12-0.49) p = 0.245	-0.13 (-0.65-0.39) p = 0.623
IMD Quintile: 2	-0.01 (-0.17-0.14) p = 0.848	-0.03 (-0.21-0.15) p = 0.743	0.12 (-0.19-0.43) p = 0.457
IMD Quintile: 3	0.010 (-0.15-0.17) p = 0.906	0.01 (-0.17-0.20) p = 0.891	0.26 (-0.06-0.58) p = 0.116
IMD Quintile: 4	0.0008 (-0.17-0.17) p = 0.992	0.01 (-0.18-0.21) p = 0.886	0.18 (-0.17-0.52) p = 0.320
IMD Quintile: 5	-0.003 (-0.17-0.17) p = 0.974	0.07 (-0.13-0.27) p = 0.519	0.29 (-0.06-0.64) p = 0.110
Source of Lunch: 100% School Provided	-0.26 (-0.34- -0.17) p < .001	-0.20 (-0.30- -0.10) p < .001	0.0004 (-0.18-0.18) p = 0.997
Percent FSM	-0.01 (-0.02- -0.003) p = 0.006	-0.01 (-0.02- -0.006) p = 0.001	-0.03 (-0.04- -0.008) p = 0.004
School Level IDACI	0.004 (-0.005-0.01) p = 0.399	0.004 (-0.004-0.01) p = 0.334	0.006 (-0.01-0.02) p = 0.490
Sixth Form: Yes	0.02 (-0.14-0.18) p = 0.805	0.09 (-0.07-0.25) p = 0.260	0.13 (-0.23-0.48) p = 0.487
Provision: External	0.05 (-0.10-0.19) p = 0.533	0.12 (-0.03-0.26) p = 0.111	0.09 (-0.23-0.41) p = 0.580
Religious: Secular	0.09 (-0.17-0.35) p = 0.491	0.21 (-0.04-0.47) p = 0.097	0.30 (-0.27-0.88) p = 0.298
Year collected: 2020/2021	0.07 (-0.19-0.34) p = 0.588	0.05 (-0.20-0.31) p = 0.681	0.11 (-0.46-0.69) p = 0.698
Year collected: 2021/2022	0.12 (-0.04-0.27) p = 0.145	0.09 (-0.06-0.25) p = 0.243	0.04 (-0.30-0.38) p = 0.818
Year: 9	-0.10 (-0.40-0.20) p = 0.521	-0.14 (-0.49-0.21) p = 0.441	-0.34 (-0.95-0.27) p = 0.279
Year: 10	-0.19 (-0.62-0.25) p = 0.395	-0.15 (-0.66-0.35) p = 0.551	-0.47 (-1.35-0.41) p = 0.297

Table 7. Outcome: number of sugar sweetened beverages (SSB) consumed (Poisson models)

Coefficient	SSB items Incidence Rate Ratio Lunch	SSB items Incidence Rate Ratio School day	SSB items Incidence Rate Ratio 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	0.99 (0.98-1.01) p = 0.325	1.00 (0.98-1.01) p = 0.510	1.00 (0.99-1.01) p = 0.781
SFS Standards: Variety	1.00 (0.98-1.01) p = 0.871	1.00 (0.98-1.02) p = 0.943	1.00 (0.99-1.01) p = 0.947
Sex: Male	0.88 (0.68-1.14) p = 0.343	0.95 (0.74-1.21) p = 0.659	0.93 (0.79-1.10) p = 0.420
Sex: Other	1.09 (0.55-2.17) p = 0.800	1.20 (0.63-2.31) p = 0.577	0.93 (0.59-1.47) p = 0.754
Age	1.06 (0.74-1.53) p = 0.744	0.93 (0.65-1.32) p = 0.674	0.86 (0.67-1.10) p = 0.226
Ethnicity: Asian/Asian British	0.66 (0.44-1.00) p = 0.049	0.77 (0.53-1.13) p = 0.177	0.77 (0.60-1.00) p = 0.046
Ethnicity: Black/African/Caribbean/Black British	0.92 (0.52-1.63) p = 0.779	1.08 (0.64-1.82) p = 0.782	0.86 (0.59-1.25) p = 0.432
Ethnicity: Mixed/Multiple	0.71 (0.39-1.28) p = 0.256	0.85 (0.50-1.43) p = 0.532	0.83 (0.58-1.19) p = 0.320
Ethnicity: Other	1.06 (0.58-1.94) p = 0.840	0.94 (0.50-1.77) p = 0.860	0.73 (0.46-1.16) p = 0.183
IMD Quintile: 2	0.84 (0.57-1.22) p = 0.349	0.96 (0.66-1.37) p = 0.808	1.03 (0.80-1.32) p = 0.840
IMD Quintile: 3	0.70 (0.47-1.04) p = 0.076	0.79 (0.53-1.16) p = 0.226	0.92 (0.70-1.20) p = 0.547
IMD Quintile: 4	0.70 (0.46-1.08) p = 0.111	0.78 (0.51-1.19) p = 0.245	1.02 (0.76-1.36) p = 0.900
IMD Quintile: 5	0.52 (0.33-0.83) p = 0.006	0.70 (0.45-1.08) p = 0.109	0.73 (0.54-0.98) p = 0.039
Source of Lunch: 100% School Provided	0.89 (0.69-1.13) p = 0.334	1.04 (0.83-1.31) p = 0.719	1.24 (1.07-1.44) p = 0.005
Percent FSM	1.00 (0.98-1.01) p = 0.801	1.00 (0.98-1.02) p = 0.749	1.00 (0.99-1.02) p = 0.852
School Level IDACI	1.01 (1.00-1.03) p = 0.175	1.02 (1.00-1.03) p = 0.108	1.01 (1.00-1.03) p = 0.061
Sixth Form: Yes	1.07 (0.78-1.46) p = 0.692	1.17 (0.80-1.70) p = 0.415	1.16 (0.85-1.58) p = 0.361
Provision: External	1.02 (0.77-1.34) p = 0.908	0.89 (0.64-1.24) p = 0.486	0.95 (0.72-1.26) p = 0.733
Religious: Secular	1.93 (1.01-3.67) p = 0.045	2.39 (1.20-4.76) p = 0.013	1.22 (0.74-2.02) p = 0.441
Year collected: 2020/2021	0.81 (0.50-1.33) p = 0.409	0.89 (0.50-1.61) p = 0.706	1.16 (0.71-1.89) p = 0.564
Year collected: 2021/2022	0.68 (0.51-0.91) p = 0.011	0.72 (0.51-1.02) p = 0.062	0.87 (0.65-1.16) p = 0.334
Year: 9	0.69 (0.31-1.51) p = 0.351	0.85 (0.40-1.79) p = 0.662	1.13 (0.68-1.90) p = 0.636
Year: 10	0.59 (0.19-1.86) p = 0.369	0.79 (0.27-2.38) p = 0.680	1.03 (0.48-2.19) p = 0.939

Table 8. Outcome: number of high fat, sugar and salt (HFSS) items consumed (Poisson models)

Coefficient	HFSS items Incidence Rate Ratio Lunch	HFSS items Incidence Rate Ratio School day	HFSS items Incidence Rate Ratio 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	1.00 (1.00-1.01) p = 0.441	1.00 (1.00-1.01) p = 0.086	1.00 (1.00-1.01) p = 0.064
SFS Standards: Variety	1.00 (0.99-1.01) p = 0.961	1.00 (1.00-1.01) p = 0.369	1.00 (1.00-1.00) p = 0.822
Sex: Male	0.87 (0.80-0.96) p = 0.003	0.89 (0.82-0.96) p = 0.002	0.93 (0.88-0.99) p = 0.015
Sex: Other	1.03 (0.81-1.30) p = 0.824	0.91 (0.74-1.11) p = 0.348	0.79 (0.67-0.93) p = 0.004
Age	0.96 (0.85-1.09) p = 0.538	1.01 (0.91-1.11) p = 0.914	0.99 (0.91-1.07) p = 0.810
Ethnicity: Asian/Asian British	0.84 (0.74-0.95) p = 0.005	0.84 (0.76-0.93) p = 0.001	0.88 (0.81-0.95) p = 0.001
Ethnicity: Black/African/Caribbean/Black British	0.78 (0.62-0.99) p = 0.041	0.91 (0.76-1.09) p = 0.304	0.91 (0.80-1.03) p = 0.144
Ethnicity: Mixed/Multiple	0.87 (0.72-1.06) p = 0.166	0.87 (0.75-1.02) p = 0.096	0.87 (0.77-0.99) p = 0.029
Ethnicity: Other	1.15 (0.92-1.43) p = 0.223	1.04 (0.86-1.26) p = 0.664	1.03 (0.89-1.19) p = 0.704
IMD Quintile: 2	1.03 (0.90-1.19) p = 0.653	1.07 (0.95-1.20) p = 0.255	1.04 (0.95-1.14) p = 0.342
IMD Quintile: 3	1.08 (0.94-1.24) p = 0.301	1.10 (0.98-1.24) p = 0.105	1.07 (0.97-1.17) p = 0.156
IMD Quintile: 4	1.18 (1.01-1.37) p = 0.031	1.21 (1.07-1.37) p = 0.003	1.15 (1.04-1.27) p = 0.005
IMD Quintile: 5	1.15 (0.99-1.34) p = 0.066	1.21 (1.07-1.37) p = 0.003	1.16 (1.05-1.28) p = 0.003
Source of Lunch: 100% School Provided	0.54 (0.50-0.60) p < .001	0.70 (0.65-0.75) p < .001	0.90 (0.85-0.95) p < .001
Percent FSM	0.99 (0.99-1.00) p = 0.022	1.00 (0.99-1.00) p = 0.181	1.00 (1.00-1.00) p = 0.838
School Level IDACI	1.01 (1.00-1.02) p = 0.001	1.00 (1.00-1.01) p = 0.036	1.00 (1.00-1.01) p = 0.319
Sixth Form: Yes	0.99 (0.88-1.11) p = 0.849	1.06 (0.97-1.15) p = 0.202	1.03 (0.96-1.11) p = 0.376
Provision: External	1.05 (0.95-1.16) p = 0.365	1.05 (0.97-1.13) p = 0.256	1.04 (0.97-1.11) p = 0.284
Religious: Secular	1.29 (1.07-1.57) p = 0.008	1.17 (1.01-1.34) p = 0.035	1.00 (0.89-1.13) p = 0.979
Year collected: 2020/2021	0.86 (0.72-1.04) p = 0.117	0.96 (0.84-1.10) p = 0.586	0.97 (0.86-1.09) p = 0.633
Year collected: 2021/2022	0.87 (0.78-0.97) p = 0.014	0.87 (0.80-0.95) p = 0.002	0.92 (0.85-0.98) p = 0.016
Year: 9	0.98 (0.75-1.28) p = 0.863	0.90 (0.72-1.12) p = 0.340	0.96 (0.80-1.14) p = 0.618
Year: 10	1.00 (0.68-1.48) p = 0.997	0.92 (0.67-1.27) p = 0.621	0.97 (0.76-1.25) p = 0.822

Table 9. Outcome: number of confectionery items consumed (Poisson models)

Coefficient	Confectionery items Incidence Rate Ratio Lunch	Confectionery items Incidence Rate Ratio School day	Confectionery items Incidence Rate Ratio 24-hour day
Pupils	1,878	1,934	2,045
Schools	36	36	36
SFS Standards: Obesity/Sugar	1.01 (1.00-1.02) p = 0.193	1.01 (1.00-1.02) p = 0.015	1.01 (1.00-1.01) p = 0.011
SFS Standards: Variety	1.00 (0.99-1.02) p = 0.793	1.00 (0.99-1.01) p = 0.778	1.00 (0.99-1.01) p = 0.608
Sex: Male	0.81 (0.64-1.04) p = 0.095	0.81 (0.68-0.97) p = 0.022	0.73 (0.64-0.83) p < .001
Sex: Other	0.43 (0.17-1.06) p = 0.068	0.57 (0.31-1.04) p = 0.066	0.45 (0.28-0.72) p = 0.001
Age	1.07 (0.77-1.49) p = 0.696	0.99 (0.77-1.26) p = 0.909	0.92 (0.77-1.11) p = 0.404
Ethnicity: Asian/Asian British	0.77 (0.54-1.09) p = 0.135	0.72 (0.56-0.94) p = 0.017	0.73 (0.60-0.88) p = 0.001
Ethnicity: Black/African/Caribbean/Black British	0.66 (0.31-1.38) p = 0.265	0.90 (0.58-1.42) p = 0.663	0.78 (0.56-1.08) p = 0.137
Ethnicity: Mixed/Multiple	0.80 (0.46-1.38) p = 0.418	0.99 (0.69-1.44) p = 0.977	0.85 (0.63-1.14) p = 0.269
Ethnicity: Other	0.99 (0.52-1.89) p = 0.982	1.14 (0.73-1.78) p = 0.572	0.88 (0.62-1.27) p = 0.508
IMD Quintile: 2	1.24 (0.83-1.85) p = 0.286	1.32 (1.00-1.76) p = 0.054	1.22 (0.98-1.51) p = 0.071
IMD Quintile: 3	1.35 (0.91-2.00) p = 0.137	1.42 (1.06-1.90) p = 0.018	1.32 (1.06-1.64) p = 0.014
IMD Quintile: 4	1.67 (1.11-2.53) p = 0.015	1.45 (1.06-1.99) p = 0.019	1.29 (1.02-1.64) p = 0.033
IMD Quintile: 5	1.43 (0.94-2.17) p = 0.099	1.44 (1.05-1.97) p = 0.024	1.49 (1.18-1.88) p = 0.001
Source of Lunch: 100% School Provided	0.15 (0.11-0.22) p < .001	0.33 (0.27-0.41) p < .001	0.67 (0.59-0.77) p < .001
Percent FSM	1.00 (0.98-1.01) p = 0.819	1.00 (0.99-1.01) p = 0.547	1.01 (1.00-1.02) p = 0.034
School Level IDACI	1.00 (0.99-1.02) p = 0.509	1.00 (0.99-1.01) p = 0.928	0.99 (0.99-1.00) p = 0.151
Sixth Form: Yes	1.25 (0.96-1.64) p = 0.101	1.32 (1.07-1.62) p = 0.009	1.17 (1.00-1.37) p = 0.049
Provision: External	1.00 (0.78-1.29) p = 0.995	1.09 (0.90-1.31) p = 0.383	1.06 (0.92-1.22) p = 0.421
Religious: Secular	1.77 (1.05-2.98) p = 0.031	1.05 (0.75-1.46) p = 0.784	0.83 (0.65-1.06) p = 0.136
Year collected: 2020/2021	0.82 (0.53-1.28) p = 0.387	0.86 (0.62-1.21) p = 0.391	0.84 (0.65-1.08) p = 0.179
Year collected: 2021/2022	0.91 (0.70-1.19) p = 0.491	0.79 (0.65-0.97) p = 0.022	0.82 (0.71-0.95) p = 0.010
Year: 9	0.76 (0.37-1.54) p = 0.439	0.97 (0.58-1.65) p = 0.925	1.14 (0.76-1.70) p = 0.531
Year: 10	0.69 (0.25-1.94) p = 0.484	1.05 (0.49-2.24) p = 0.907	1.30 (0.73-2.31) p = 0.379