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Fat and sugar intake and physical inactivity: results from a national survey of children in Scotland

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High intakes of foods rich in saturated fatty acids (SFA) and/or non-milk extrinsic sugars (NMES) contribute to the obesity epidemic, along with high levels of physical inactivity. This study aimed to investigate the association between the intakes of fat and sugar and a measure of physical inactivity in children in Scotland using data collected by the 2006 Survey of Sugar Intake among Children in Scotland⁽¹⁾.

Children aged 3–16 y were randomly selected from 80 postcode sectors across Scotland using the Child Benefit Register. The Scottish Collaborative Group Food Frequency Questionnaire (FFQ) version C2 or C3 (<http://www.foodfrequency.org.uk>) was mailed to 2,352 parents for completion by the parent and/or child (depending on the age of the child). Interviews were carried out for 1700 children by trained field workers who asked about time spent at a television or computer screen on an average day as part of a larger survey. In total 1512 FFQs were returned, of which 51 incomplete FFQs and 70 with extreme energy intakes were excluded from the analysis. Usable data on both diet and physical inactivity were available for 1368 children.

Intakes of total fat, SFA, NMES, crisps and savoury snacks, confectionery and non-diet soft drinks were significantly positively associated with time spent in front of a screen (see table). These associations remained statistically significant ($p < 0.001$ for all) after adjusting for age and sex, except for the association with NMES ($p = 0.128$).

Mean [95% CI]	Number of hours spent at a screen on an average day					<i>p</i> ¹
	<1 h	≥ 1 h, <2 h	≥ 2 h, <3 h	≥ 3 h, <4 h	≥ 4 h	
% food energy						
Total fat	32.3 [31.7, 32.9]	32.7 [32.2, 33.1]	33.0 [32.5, 33.6]	33.7 [32.9, 34.6]	33.8 [32.9, 34.8]	0.001
SFA	13.8 [13.2, 13.9]	13.8 [13.5, 14.0]	13.8 [13.5, 14.1]	14.1 [13.7, 14.5]	14.2 [13.7, 14.7]	0.018
NMES	16.0 [15.1, 17.0]	17.1 [16.6, 17.6]	17.8 [17.0, 18.6]	17.7 [16.5, 18.9]	19.3 [17.6, 21.1]	0.003
g/day						
Crisps ²	15 [13, 18]	18 [17, 20]	21 [18, 23]	26 [22, 30]	29 [24, 35]	0.001
Confectionery	16 [14, 18]	20 [18, 22]	24 [22, 26]	27 [23, 31]	33 [26, 41]	0.001
Non-diet soft drinks	89 [71, 111]	119 [102, 138]	137 [116, 161]	166 [129, 212]	232 [177, 303]	0.001
<i>Base (unweighted)</i>	240	495	383	158	92	

¹*P*-value for linear association between intake and number of hours spent at a screen. ²Includes savoury snacks.

Whilst children at risk of overweight and obesity should spend less time sitting in front of a screen, the intake of any snack foods and drinks consumed whilst watching television or using a computer should also be reduced.

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1. Sheehy C, McNeill G, Masson LF *et al.* (2008) *Survey of Sugar Intake among Children in Scotland* <http://www.food.gov.uk/scotland/scotnut/scotsug>