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## School food environments: exploring fast food chain restaurants around post-primary schools in Ireland

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Obesity among children and young people is a significant public health problem in Ireland with children from lower social classes more likely to be overweight<sup>(1)</sup>. The obesogenic environment is thought to play a role in the prevalence of obesity<sup>(2)</sup> and the school food environment may influence food and thus energy intake of children and young people<sup>(3)</sup>.

To address the obesity epidemic in Ireland, efforts to control the proximity of fast food businesses around schools in Ireland have been suggested by Government<sup>(4)</sup>. The aim of this study was to explore the number of fast food chain restaurants around post-primary schools in Ireland, by school type and area level deprivation.

All post primary schools ( $n = 119$ ) that took part in the 2010 Health Behaviour in School-aged Children (HBSC) survey were geo-coded using An Post's Geodirectory and mapped in ArcGIS 10. Geographic Information Systems were used to examine the availability of fast food chain restaurants within 1 and 2 km circular buffers around post-primary schools. Schools designated as disadvantaged were identified and the small area health deprivation index (SAHRU)<sup>(5)</sup> of the electoral district in which each school is situated was mapped.

Chi square analyses were used to investigate the differences in the number of fast food chain restaurants, within 1 and 2 km circular buffers, between urban/rural and disadvantaged/non-disadvantaged schools. Spearman's Rho was used to determine the level of correlation between area level deprivation and number of fast food chain restaurants.

Number of fast food chain restaurants	1 km circular buffer % (n)	2 km circular buffer % (n)
0	53.8 (64)	43.7 (52)
1	19.3 (23)	18.5 (22)
2	10.1 (12)	5.0 (6)
3	5.9 (7)	11.8 (14)
4	2.5 (3)	1.7 (2)
5	4.2 (5)	5.0 (6)
6	3.4 (4)	4.2 (5)
7+	0.8 (1)	10.1 (12)

Fifty five and sixty seven fast food chain restaurants were identified within 1 and 2 km circular buffers of post-primary schools respectively. Significant differences were found between urban and rural schools, with more fast food chain restaurants in the proximity of urban schools ( $p < 0.000$ ). There was a positive correlation between area level deprivation and fast food chain restaurants (1 km:  $r_s = 0.249$ ;  $p = 0.006$ ; 2 km:  $r_s = 0.317$ ;  $p = 0.000$ ).

Further work on the density and type of food retail environment surrounding schools in Ireland, and the effects on food and energy intake of children is necessary. Such work will provide evidence for controlling the proximity of food businesses around schools in Ireland.

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