

**Time effects in food frequency consumption and eating behaviour among Irish schoolchildren.**  
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Seasonal effects on nutrient intakes, nutritional status and biomarkers of disease such as cholesterol and fibrinogen are a source of variability that warrants consideration in assessing response to interventions and in planning research studies. For example, fieldwork for the UK National Diet and Nutrition Survey covered a 12-month period, to cover any seasonality in eating behaviour and in the nutrient content of foods, such as full-fat milk (Henderson *et al.* 2002). Seasonality has also been documented in the literature as an influence on health status and behaviours, such as smoking (Chandra & Chaloupka, 2003).

To investigate the influence of seasonality on self-reports of eating and dieting behaviour in Irish school-children, data from the 2002 Health Behaviour in School-aged Children (HBSC) survey was examined. The overall aim of the HBSC survey is to gain insight into and improve the understanding of young people's health behaviour and well-being. HBSC is a school-based survey with data collected through self-completion questionnaires administered in the classroom. HBSC Ireland collected data towards the end of the academic year (Time 1) and again at the start of the next school year (Time 2). Ethical approval was granted for the study and consent from schools and children was obtained.

Samples were matched for age and gender and consisted of 951 boys and 1,446 girls on both occasions. Males ranged in age from 10.2 to 18.8 years and females ranged in age from 10.5 to 18.5 years. Univariate analysis of variance were conducted for the variables of interest which included self-reported frequency of meal occasions, weight control behaviour, food poverty and vegetarianism as well as intake of various foods including fruit, vegetables, bread, cereal, dairy products and soft drinks. In each case season was employed as the independent variable. The table presents significant differences by time of data collection for boys and girls separately.

Dep. variable	Boys (%)			Girls (%)		
	ES	Time 1	Time 2	ES	Time 1	Time 2
Snacks weekdays ( $\leq$ twice daily)	0.008*	52.1	52.1	0.003	58.1	59.8
Fruit ( $\geq$ once/day)	0.000	28.8	30.8	0.003*	36.4	43.9
Soft drinks ( $\geq$ once/day)	0.000	45.0	49.9	0.006*	37.5	28.2
Whole milk ( $\geq$ once/day)	0.003	47.9	47.4	0.010*	40.0	43.7
Crisps ( $\geq$ once/day)	0.001	27.6	27.8	0.009*	29.7	26.1
Food poverty (not enough food)	0.004	19.9	19.3	0.007*	14.0	14.9
Dieting (on a diet)	0.003*	7.6	7.3	0.000	18.2	17.6
Vegetarian (vegetarian)	0.008*	2.6	3.5	0.002	6.4	5.2

\*  $P < 0.05$ ; ES: Effect size (partial Eta squared).

Although different on some items, the effect sizes were very low, indicating that, although statistically significant, seasonality did not have a strong influence on these variables, and thus many not be of practical relevance.

These findings may be partly explained by the availability of most foods throughout the year, and the relatively minor differences in daylight and other weather related factors between Spring and Autumn in Ireland. Moreover this study did not take into account the effect, if any, of the summer holiday period on these variables. These findings should also be considered in the light of previous work identifying differences in nutrient intake/status by season, with an emphasis on measurement and methodological differences between studies.

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Chandra S and Chaloupka FJ (2003) *Tobacco Control* (12), 104–112.

Henderson L, Gregory J & Swan G (2002) *The National Diet and Nutrition Survey: adults aged 19 to 64 years, vol. 1*. London: HMSO.