



Capturing the school food environment in primary schools

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Schools provide an ideal setting for encouraging healthy dietary behaviour among children⁽¹⁾. Optimising school food environments has been identified as a key component of successful school-based nutrition interventions^(1–2). It is not clear, however, what school food environments look like, as no tools are available for measuring this as a whole-school food approach⁽³⁾. This research aimed to develop tools for measuring whole-school food environments in primary schools and utilise these to capture the status of primary school food environments in Northern Ireland.

A scoping review was undertaken to inform tool items. A 16-item observation proforma was developed to capture information on canteen areas, systems, food presentation and monitoring of food intake during lunchtime based on guidance provided by the Public Health Agency, Northern Ireland. Further, a 27-item questionnaire was developed to administer to principals which required catering staff input to assess school food policies, provision and activities. The questionnaire included items from a previously developed measure which explored the role of schools on pupil health and well-being. Tool items were thoroughly reviewed to ensure that they measured what they claimed to. Face-validity was established as it was agreed that items were not measuring overlapping concepts and covered all school food environment aspects. Tools were then tested in primary schools in Northern Ireland. Descriptive analyses were conducted to enable narrative discussion.

An observation was undertaken at eighteen schools, sixteen of these completed questionnaires. Recruited schools ranged in size (34–740 pupils) and were located in both urban (n = 13) and rural geographical regions (n = 5). Eating areas were clean and mostly spacious (n = 15|83.3%). At most schools, queue systems were well controlled (n = 17|94.4%) and pupils eating school meals were seated separately to pupils eating packed lunches (n = 15|83.3%). A sense of rush to eat was apparent at some schools (n = 7|38.9%). Some schools (n = 3|16.7%) presented foods creatively and monitored or encouraged food intake (n = 7|38.9%). There were differences between food policies, and policy implementation and monitoring. Schools held a variety of food activities and some involved parents in these food activities or events (n = 7|43.8%). Chips, chicken curry and roast dinners were popular meals and potatoes and vegetables were commonly wasted. Pupils at some schools (n = 7|43.8%) provided feedback on meals. Tools captured desired detail and modifications to enhance their use were identified, such as developing closed-response items from open-ended item responses obtained.

Food environments vary between schools and consistent food policy implementation and monitoring is needed. Based on best practice observed here and in line with school food guidance, recommendations have been proposed for primary schools to enhance school food environments. Developed tools offer a useful means of measuring school food environments for schools and researchers. Further research should explore the impact of implementing proposed recommendations on children's dietary behaviour.

1. Dreissen CE, Cameron AJ, Thornton LE *et al.* (2014) *Obes Rev* **15**, 968–82.
2. Micha R, Karageorgou D, Bakogianni I *et al.* (2018) *PLoS One* **13**, e0194555.
3. O'Halloran S, Eksteen G, Gebremariam M *et al.* (2020) *Int J Environ Res Public Health* **17**, 1623.