1. Background
Overweight and obesity has serious consequences for children’s short-term and long-term physical and mental health. Being overweight or obese as a child increases the risk of lifelong health problems, including type 2 diabetes, cardiovascular diseases, specific types of cancer, musculoskeletal disorders and depressive symptoms [1-3]. Data from the National Child Measurement Programme (NCMP) school year showed that 9.5% of children aged 4-5 years (i.e. reception age) were affected by obesity in 2017/18 in England, with a further 12.8% overweight. This prevalence was higher among children aged 10-11 years (i.e. year 6), with 20.1% being obese and 14.2% overweight [4]. Importantly, obesity prevalence was over twice as high in the most deprived areas compared to the least deprived areas of England, and is more prevalent in urban settings. Overall, obesity prevalence in England is highest in deprived urban communities.

Childhood obesity prevalence in also higher in London relative to other regions of England and to other major global cities in the world (e.g. Tokyo, Paris, Hong Kong, Sydney and Toronto) [5]. To address this issue, the Mayor of London appointed a London Child Obesity Taskforce in 2018. This group has been assigned the task to develop a road map for obesity prevention policies, interventions and activities over the next 5-10 years, building on the considerable activity already taken in London [6]. Alongside the work of the London Health and Care Strategic Partnership Board (SPB) and other work of local partners, the Child Obesity Taskforce aims to create an urban food and physical activity environment that enables children and families to be healthier [7].

Evidence indicates that food environments in London’s deprived neighbourhoods are such that they trigger the “desire to eat, regardless of how hungry we actually are” [8].
It has been argued that learning from people’s lived experiences is vital in order to understand how they interact with the food environments around them [9]. Current research being pioneered by the Centre for Food Policy in its role as Co-Investigator of the NIHR-funded Obesity Policy Research Unit shows that understanding the everyday realities of mothers living in deprived neighbourhoods around the country is vital to understanding why obesity is so hard to tackle among this population. For example, buying chips for their children at very low cost near schools as a treat when they can afford little else.

Engaging with people’s realities not only provides a valuable source of local knowledge and lived experience to inform effective responses, it also provides the opportunity to actively involve them in the design of such responses [10, 11]. This process, known as co-design, is a method for creatively engaging citizens and stakeholders to find more effective and equitable solutions for complex societal problems [10, 11]. Potential benefits of applying co-design in the public sector include formation of more innovative ideas that better fit the needs of people, generation of more equitable approaches, improved collaboration and interaction between various stakeholders, and public support for the proposed changes [10]. Co-design is also a means to engage the ‘hard to reach’ members of society such as children, thereby acknowledging their right to participate and their competence to contribute as ‘experts of their own experiences’ [11, 12]. Despite increasing popularity of co-design in the public setting, limited research has been undertaken to assess its impact on the development and implementation of public policies [11, 13].

3. Research aims, outcomes, relevance for academic field
This research proposal builds on the concepts of lived experience and co-design, and has been developed to assess what difference co-designing activities with secondary school pupils (aged 11-14 years) make to the development and delivery of policy and actions to create an urban environment that enables healthier food choices. This overall objective has led to the formulation of the following overarching research question and sub-questions:

What difference does co-designing actions with secondary school pupils make to the development and delivery of policy and actions to create an urban environment that enables healthier food choices?

a. What characterises the food environments of secondary school pupils in London?

b. What interventions are already in place to create healthier food environments?

c. What are the lived experiences of secondary school pupils in London of their food environments and the interventions designed to change them?

d. How can the lived-experiences of secondary school pupils be used to inform the co-design process of a set of tangible policies, interventions, and activities to create healthier food environments?

e. What difference does co-designing interventions make to the interventions proposed relative to existing policies and the process of developing and delivering policy?

The results of this study will provide valuable insight in the processes of gathering and incorporating the evidence of lived experiences, and applying methods of co-design into policy and practice to address complex societal issues (including enhancement of food systems). It will add to the research literature by identifying what difference co-design processes actually make to both the actions recommended to improve food environments, and to the process of engaging policy makers (e.g. through the power of youth voices). This is a surprising and notable gap in the literature, as identified through the extensive number of examples brought together in the Centre for Food Policy.
“How can evidence of lived experience make food policy more effective and equitable in addressing major food system challenges?” The study will thus add value by assessing the process and impact of co-design.

Importantly, all research activities will be embedded in a live policy process and thus have an immediate connection with policymakers known to be seeking answers to these research questions.

The desired outcomes would be twofold. First, local authorities in London would implement the actions recommended by the study for changing food environments. Second, that co-design processes would be used more effectively in the future to identify obesity prevention actions based on what is learned from the study.

4. Methodology

The proposed methodology of this study combines participatory action-, qualitative- and quantitative research methods.

Sample and setting
The London Child Obesity Taskforce has developed an action plan that focuses on transforming ten aspects of the daily lives of children and their parents and caregivers. This plan targets three key settings; at home, in learning spaces, and the environment where children are out-and-about. The latter includes, but is not limited to, shops, streets and recreational spaces. For this research we will specifically focus on the direct environment of children when they commute from homes to schools and back. A total of four London boroughs will be selected for the study. A focus will lie on more deprived and multicultural areas, which will be selected based on socio-economic and demographic characteristics derived from the Indices of Deprivation 2015 and 2011 Census data [14, 15]. The co-design project will be undertaken with secondary school-aged children attending Key stage 3 (i.e. Year 7-9, aged 11-14 years) living in London.

Data collection
The first aspect of this PhD-project is to assess characteristics of the food environments of secondary of secondary school pupils in London, specifically in the four boroughs selected for this study. A sample of 80 pupils will be wearing automated cameras to assess their food environment while communicating from home to schools and back. The automated cameras will capture images of the pupils’ direct food environment every 15 seconds. Images will be coded and analysed for an established set of measures of food environments [16], such as exposure to advertising and marketing of unhealthy foods, and exposure to junk food and sugar sweetened beverages versus exposure to healthy foods. The images will also be analysed to identify existing interventions that are in place to create healthier food environments. Additional information on the current food environment and existing interventions will be gathered through document review of policies of the local borough councils, and a set of questionnaires addressed to local stakeholders (including parents of the participating pupils, school directors, and representatives of local government authorities).

The second component of this research is to assess the lived experiences of secondary school-aged children living in London. Within each of the four boroughs we will recruit five pupils (n=20) to participate in a photovoice project. These children will be provided with a child-friendly digital camera to capture images of their food environment and the interventions designed to change them. The children will be encouraged to capture aspects of the food environment that they consider relevant, a specific focus will lie on public and civic spaces (e.g. streets, shops, parks,
recreational facilities). The collected photos will be discussed during a focus group session. A selection of the most relevant images will subsequently be analysed and debated [17, 18], findings will be used to inform the co-design process. Socio-demographic and socio-economic data will be collected by means of a questionnaire addressed to the pupils and their parents.

The third part of the research will be based on observing and analysing the actual process of co-designing actions to create healthier food environments. Co-design activities will be undertaken with children from the four selected boroughs (including but not limited to the participants of the photovoice project), which will be executed by an independent external agency contracted by the London Child Obesity Taskforce. Stakeholder sessions will subsequently take place to plan for implementation of the co-designed activities. This research aspect will be descriptive in nature focusing on the applied participatory design tools and methods, and the process of translating lived-experiences of secondary school pupils into a set of tangible policies, interventions, and activities to create healthier food environments. Further analysis will take place to compare the co-designed interventions to existing interventions and to interventions as initially proposed by the Taskforce.

4. Outline timetable

- Preparation phase (October – Dec 2019)
  - Finalizing project proposal
  - Ethics applications
  - London Childhood Obesity Taskforce
- Data collection phase 1: assessment of food environments and existing interventions (January – June 2020)
  - Wearable camera project
  - Document review of existing interventions
  - Questionnaires
- Data analysis & writing 1 (July– August 2020)
- Data collection phase 2: assessing lived experiences and codesigning healthier environments (September 2020 - June 2021)
  - Photovoice project
  - Co-design activities
  - Stakeholder engagement for implementation
- Data analysis & writing 2 (July 2021 - September 2022)

References


