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Choosing School Lunches in Primary School – Insights From Children, Catering Professionals and Observation

H. Abbotts-Holmes[1] | A. Turnbull[1] | K. Stronge[1] | M. Homer[2] | H. Ensaff[1]

[1]Nutritional Sciences and Epidemiology, School of Food Science and Nutrition, University of Leeds, Leeds, UK | [2]School of Education, University of Leeds, Leeds, UK

Correspondence: H. Ensaff (h.ensaff@leeds.ac.uk)

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ABSTRACT

Introduction: A better understanding of children's food choice behaviour, including within school settings, is needed to inform effective approaches to address recognised shortfalls in children's dietary intakes. The aim of this study was to explore pupils' food choice in school and decision-making processes underpinning the selection of school lunches.

Methods: Five Primary schools in North West England were recruited. Direct observation of lunchtimes and in-class selection of meals was conducted, followed by semi-structured focus group discussions with 119 children (7–11 years) and interviews with four catering managers. Reflexive thematic analysis was used to provide themes and subthemes.

Results: Familiarity and repeated exposure, alongside taste preferences were important drivers for selecting a school lunch – with children, in most cases, the primary decision-maker. Pupils spoke about the lunch costs, its relevance to household finances and deciding between a school or packed lunch. Children articulated that individual preferences were more important than choosing the same as peers. In some cases, nevertheless, conversations with peers led children to try new foods.

Conclusions: Findings highlight modifiable behavioural determinants, including familiarity – and point to further work to support children in exploring and expanding their repertoire of 'acceptable' meals. These include opportunities to leverage meal descriptions and images, to promote a greater diversity of meals chosen. Children and parents, as key stakeholders, are essential to informing and shaping such changes.

1 | Introduction

Children's food choice behaviour is complex and dynamic, influenced by numerous intrinsic and extrinsic factors. These operate at multiple levels, in accordance with socioecological theory [1]; from an individual level, with food preferences, and interpersonal relationships with parents and peers, to more distal influences, for example, related to food practices and policy. When considering children's food choice, the school food environment is relevant, particularly because of the number of days that children spend at school, and the notable contribution that school food can make to their dietary intake [2]. The school food environment encompasses the foods available for children to choose, food-related practices and policies, as well as supporting infrastructure and stakeholders [3]. It comprises many interrelated components and is subject to economic, political and sociocultural influences [4].

An important element of the school food environment is school lunches, and primary schools in England commonly adopt a 3-week menu cycle, where pupils can choose from three or four lunch options every day. A growing number of primary schools are utilising online pre-order systems (OPS). This signals a shift to greater remote selection, with children and/or parents

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Key Points

- Familiarity, repeated exposure and taste preferences were important drivers of school lunch selection, with children being the primary decision-makers in most cases.
- Children discussed lunch costs and its relevance to household finances and choosing between a school meal or a packed lunch.
- Findings highlight familiarity as a modifiable behavioural determinant and point to further work to support children in expanding their repertoire of acceptable meals.

(on their behalf) making selections in advance using their OPS online account, or children selecting their school lunch in class, first thing in the morning.

A better understanding of children's food choice behaviour, including at school, is needed to inform the best approaches to mitigate recognised shortfalls in children's dietary intakes. Specifically, national data show that a minority of children aged 4–10 years (8%, 15% and 14%, respectively) have intakes of free sugars, saturated fat and fibre that meet recommendations [5]. Efforts to support children's dietary intakes are, likewise, critical to responding to obesity prevalence rates in England, including the notable rise from 10.5% for children in reception (4–5 years) to 22.2% in the final year of primary school (10–11 years) [6].

Previous research on children's food choice in primary school settings in England has highlighted pupils as decision-makers when it comes to choosing whether to have a school lunch or bring in a packed lunch from home, the foods to include in a packed lunch [7], and selecting school meals [8]. A consumer survey has also reported that just under a third of decisions about having school meals (or packed lunches) were made by the parent, with almost two fifths being joint decisions between parents and children, and the remainder by children [9]. Other work has pointed to how parental food provision is shaped by children's preferences and behaviours [10], and children's presence during selection can shift parental decisions towards more appealing foods, with more calories, sugar, and less fibre [11]. Further, children's influence on cooking and food choice in families has been reported, where children can act as agents of change [12].

Given the importance of children's food choice behaviour and the rise of online pre-order systems, this study aimed to gain a better understanding of food choice for children in primary school and how school lunches were selected when pre-ordering using these systems.

2 | Materials and Methods

2.1 | Study Design

A qualitative approach suited the focus on food choice behaviour, allowing an emphasis on children's everyday experiences, and the development and understanding of concepts [13]. Three components were planned (1) non-participant direct observation of children in class selecting school lunches, and in dining halls at lunchtime; (2) focus group discussions with children; (3) interviews with catering managers. The present study forms one element of a mixed methods study examining children's real-world food choice behaviour in primary schools; other aspects related to datasets of pupils' school lunch selections, and interviews with parents (reported elsewhere [14]).

2.2 | Schools

Five primary schools in the same metropolitan borough in North West England and with the same catering provider and online pre-order system were invited to participate in the study. Schools utilising the same catering provider were selected as this would provide a level of consistency to the school meals and catering practices. The research team met with senior leaders at the schools to introduce the study, its objectives and what participation would entail. Following agreement to participate, information sheets were sent to parents at the recruited schools.

School size varied from approximately 250 to more than 350 pupils, traversing the national average (272 pupils) [15]. The percentage of pupils eligible for Free School Meals (FSM), a proxy indicator for socioeconomic disadvantage [16], ranged from slightly above 10% to just under 40%, with the national average at 24.7% [15]. In two schools, pupils pre-ordered in class during morning registration or at home (remotely); in the other schools, pupils pre-ordered at home. Observation, discussions and interviews were conducted September 2024–January 2025.

2.3 | Direct Observation

Direct observation was selected to capture children's actual (vs. reported) behaviour. A non-participant approach, systematically observing and recording, without actively interacting, and maintaining an external stance, mitigated researcher influence and supported unobtrusive observation. Initial reconnaissance at the schools, team discussions and previous research [8, 17–22] informed a pro forma to capture observation data, subsequently tested at two study schools and refined. The pro forma comprised sections on the dining hall and servery, food, pupils' interaction with the OPS and staff, and meal selection during registration (relevant to two schools). Tick boxes and prompts were used to simplify data collection. Researchers completed a hard copy whilst carefully watching and listening, noting observations and important details and taking photographs. Engagement with others was minimised and the emphasis was on being discreet. Follow-on reflections were noted to support data collection and contribute to reflexivity regarding researchers' roles. Observation data were compiled, digitised and reviewed, with main aspects highlighted for team discussion.

2.4 | Focus Group Discussions and Interviews

Focus group discussions at school provided a familiar and comfortable setting, to promote easier discussion and support insights to children's perspectives and perceptions. Group

discussions were favoured (over individual interviews) to promote a safe, peer-driven environment with reduced power imbalance between the researcher and children [23]. One-to-one interviews were chosen for catering managers to promote detailed individualised insights [24]. Schedules (guides with topics, questions and prompts) were developed for discussions/interviews; these were semi-structured to promote free discussion and exploration of issues relevant to participants. Questions were non-leading and checked for fitness for purpose and age-appropriate wording (children's discussions). The schedules were reviewed by experts specialising in public health, school food and children's nutrition, and adjusted to improve language and flow. Discussions began with children introducing themselves and drawing their favourite foods; this was to settle pupils, help them engage and familiarise with the topic, and encourage discussion. Questions related to food choice in school and how lunches were selected, e.g. *Can you describe what you had for lunch today, and why did you choose that for lunch? If you could pick anything for school lunch, what would it be and why? What do you think about choosing your lunch online?* Interviews with catering managers focused on the OPS, menu and pupils' food choice, for example, *What is your experience using the OPS? How would you describe the menu? What are the most popular meals and why do you think that is?* Discussions were not constrained, with questions adapted accordingly. Participants were also asked for topics that had not come up, that they thought were relevant.

All children had parental consent to participate, and school staff were asked to select pupils, with each session designed to include a mix of children from the same year group. Focus group discussions with children were facilitated by one researcher (HA, Research Officer, trained in qualitative data collection methods, female) while another noted non-verbal communication and key points (AT, KS, research students, briefed in data collection methods, female). Participants were unknown to researchers, who introduced themselves at the start, and described the study, its focus, their role and what would follow. All were at school and in person, except for one phone interview with a catering manager at their convenience. Discussions were audio recorded (Olympus Digital Voice recorder MS-853; Microsoft Teams), transcribed according to a protocol (adopting a denaturalised approach with the focus on content rather than features such as pauses or idiosyncrasies), and deidentified with pseudonyms. Follow-on reflections and initial insights were noted, alongside researchers' developing questions. This contributed to researchers' reflexive practices, recognising their role in the process and helping to reveal preconceptions.

2.5 | Data Analysis

Data were considered to be sufficient to reach saturation, where discussions and considerations were similar with no new insights. Reflexive thematic analysis was conducted using an inductive approach to capture participants' perceptions and experiences related to school lunches. Study data (transcripts, observation notes and photographs) were reviewed in detail, with initial analytical ideas and concepts noted. Transcripts were imported into NVivo 14 software (Lumivero, Denver, CO, USA) for analysis, comprising exploration, coding and thematic analysis. Coding was conducted (HA, AT, KS) iteratively, with meetings to systematically discuss and review nodes, coding stripes and ongoing analysis, alongside potential sources of bias. After four iterations, there was consensus that the codes represented data well. Themes were identified by organising codes around central concepts that substantially contributed to understanding the core research topic. The relationships between developing themes were considered and discussed, before the final set of themes and subthemes was refined.

3 | Results

Observation of lunchtimes (25 h) and in-class selection of meals (4.5 h) provided contextual insights into lunchtime service, school food, the OPS and children's selection, described below.

3.1 | Lunchtime Service in the Dining Hall

The dining halls were multiuse, with tables set up for lunchtime (Figure 1A) and then folded and wheeled away. Lunch service was busy at all schools. Pupils were released to lunch in a staggered manner, starting with nursery and reception, then years 1 to 6, often with two classes together. Pupils picked up a tray and cutlery, and queued at the servery to receive their meals. Pupils used a touchscreen monitor (Figure 1B) (with staff support as needed) to click on their class and name, thereby revealing their pre-ordered meal (and dessert in four schools). This was also shown on another screen for catering staff to serve the meal. Staff then reset the screen, ready for the next pupil. In a few cases pupils had not pre-ordered, which resulted in 'no pre-order' message, and usual practice was to then offer a cheese sandwich or any available extra portions of other meals. Pupils' queueing times varied and ranged from 2 to 4 min to 12–15 min. All pupils ate lunch in the dining hall, apart from at one school where years 4–6 (8–11-year-olds) took their meals to eat in their classroom (a practice instigated during the COVID pandemic and retained partly to alleviate restricted capacity in the dining hall).

Seating practices varied in schools, however all allocated seating for nursery and reception pupils – with older pupils having more freedom to choose where to sit. Younger pupils with packed lunches from home tended to sit with their year group, whilst older pupils could be dispersed among other years. There was a dedicated area for clearing plates and stacking trays (Figure 1K). In four schools, pupils scraped leftovers into a bin, put their plate, cutlery, cup and tray into designated boxes; at the fifth school, pupils lined up and gave their trays to catering staff.

3.2 | Food and Beverages

Meals were prepared in a kitchen adjacent to the servery, displayed and served from hot trays (Figure 1C,D). The options for school lunch are outlined in Table 1. Across all schools, hot mains (meat/fish-based, vegetarian, halal and jacket potato meals) and sides (e.g. beans, cooked vegetables) were in trays at the servery; sandwiches were behind the servery and provided



FIGURE 1 | School lunch in primary schools. (A) Dining hall showing seating for pupils with water jugs on tables. (B) Touchscreen monitor for pupils to show their selected meals. (C) Cheesy bean pasta bake, sticky BBQ chicken with rice, broccoli and jacket potatoes. (D) Chicken balti curry with naan and rice, omelette, potato wedges, jacket potatoes and beans. (E) Plated up lunch of roast chicken, mash, carrots and broccoli. (F) Plated up lunch of beef burger in a bun with wedges and salad. (G) Plated up lunch of chicken burger in a bun, with wedges and salad. (H) Desserts – vanilla sponge muffin, yoghurt and fruit; alongside bread. (I) Desserts – cakes, biscuits, yoghurt and fruit. (J) Salad bar with sliced tomatoes, cucumber, carrots, and peppers, raisins, plain pasta, wholemeal bread. (K) Clearing up station.

TABLE 1 | Food and beverages available every lunchtime at the primary schools.

Item	Examples
Mains – five options	
Meat/fish-based meal	Beef lasagne, spaghetti bolognaise, roast chicken dinner
Vegetarian meal	Margherita pizza, macaroni cheese, cheesy bean pasta bake
Halal meal	Halal beef lasagne, halal chicken dinner, halal chicken pasta bake
Jacket potato with various fillings	Jacket potato with fillings, such as beans, cheese, tuna mayonnaise
Sandwich with various fillings	Cheese sandwich, ham sandwich, tuna mayonnaise sandwich
Sides – two options	Mixed vegetables, broccoli, roast potatoes
Salad Bar – various options	Peppers, cherry tomatoes, cucumber, carrot, lettuce, plain pasta
Bread	Slices of white or wholemeal bread
Dessert – three options	
Yoghurt	Small pot of flavoured yogurt
Fruit	Whole or chopped/sliced fruit (banana, apple, orange, plum, kiwi)
Other dessert	Strawberry smoothie pot, orange muffin, raspberry ice cream roll
Beverages	Plain water

as required. The presentation of desserts (Figure 1H,I) differed, either arranged next to mains and dished out, behind the servery and retrieved, or further along the servery where pupils helped themselves. Children pre-ordered desserts at four schools, and at the other school, pupils chose at lunchtime. Typically, seconds were not available (partly due to the accuracy in meal numbers provided by the OPS). If portions were left over, these were provided (typically to older children) – either according to ad hoc pupil requests or after catering staff had called out there were seconds available.

Four schools had a self-service salad bar (Figure 1J) (at the end of the servery) where pupils helped themselves to items, e.g. chopped cucumber, cherry tomatoes, raisins, plain pasta, chopped lettuce, sweetcorn and sliced carrots; at some schools, sliced wholemeal/white bread was at the salad bar. Popular salad bar foods, observed to run out were plain pasta, cucumber and bread. At two schools, staff stationed at the salad bar encouraged pupils to select items. At one school, staff at the servery also prompted pupils to go to the salad bar, where another staff member was stationed to help pupils, particularly those in reception – year 2.

At all schools, free drinking water was available; midday supervisors placed jugs of water on tables with cups for pupils to help themselves. At one school, a few pupils nominated for good behaviour received juice.

3.3 | Interactions at Lunchtime

During service, catering staff, teachers, members of the school's senior leadership team, and midday supervisors (specifically employed for lunchtimes), helped with pupil queuing, seating, and encouraging positive behaviour. Staff supported pupils (particularly younger pupils in nursery and reception) to get a tray and cutlery, use the touchscreen monitor to find their name, balance their tray, and cut up food. In three schools, staff also collected meals for nursery pupils and brought them to their table. Pupils also assisted in two schools, e.g. filling water jugs, water cups, scraping food waste off plates, putting trays away, with year 6 volunteers in the one school also helping younger pupils to sit at allocated tables and cut up food.

Interactions between pupils and staff during lunchtime included straightforward pupil comments about their food choices, for example, *I'm having a cheese sandwich, It looks yummy*. Catering staff knew pupils well and were familiar with their likes and dislikes; they also often prompted pupils, for example, *Pick your name darling* (for the touchscreen), *Broccoli? Carrots?* (to choose sides), *Are you having salad?* Staff also encouraged pupils to try foods, for example, *Try it (lettuce), you might do! (like it)* – in response to a pupil saying, *I really don't like lettuce*. Staff also relayed to researchers how it was difficult to encourage children to eat everything on their plate.

3.4 | In-Class Selection of School Lunches

Lunch selection (during morning registration) was observed for each year group at the two schools offering this option (alongside preselection at home). Both schools encouraged pre-ordering from home and a minority (approximately 2–10 pupils per class) selected lunch during registration, with others having already pre-ordered from home, or having a packed lunch. Generally, older pupils selected meals in class more than younger, and there was a marked increase in packed lunches between years 2 and 3 at both schools (typically a tripling from a handful of pupils), likely reflecting the Universal Infant Free School Meal programme (where pupils in reception to year 2, receive a free school meal).

In class, teachers opened the OPS website on an interactive whiteboard (observed with younger years) or read out meals from their laptop, for pupils to pre-order. Interestingly, some teachers remarked about limited time and how they were keen to spend more time with pupils on their meal selection. In some cases, teachers explained and described meals (particularly for

younger pupils), for example, likening to meals familiar to pupils, using alternative wording; teachers also occasionally encouraged pupils who consistently chose the same meal, for example, *Are you sure you don't want to try something else?*

3.5 | Focus Group Discussions and Interviews

Overall, 119 children participated in 24 discussions (30–45 min) Table 2; four catering managers were interviewed (45–60 min). One pupil and one catering manager declined to take part, for unknown reasons. Analysis provided three main themes with subthemes, Table 3. Each is described alongside illustrative quotes; participants are denoted by identifiers, for example, CM1 (catering manager 1), P22 (pupil 22).

3.5.1 | School Meals

Taste. Pupils talked positively about lunchtime, and choosing meals based on taste, their enjoyment of those foods and previous experiences. Pupils relayed food dislikes in terms of how foods tasted and/or their preferences.

> *... you're getting to eat food and re-doing all your energy and it's all tasty.*
>
> (P87, Year 4 girl)

> *It's [school lunch] delicious, it's fancy and it makes me hungry.*
>
> (P96, Year 4 girl)

> *... jacket potatoes – they just don't taste potatoey – they taste kind of like gone off chips.*
>
> (P1, Year 3 boy)

> *... I like picking my school dinners because I like to see what's on there and sometimes there's food on there that I don't really like, because it might be too spicy, sour... might not have enough flavour.*
>
> (P25, Year 5 girl)

Pupils disliked certain food combinations or food 'mixed together,' which might lead to negative experiences.

> *... like some of the food served together just grosses me out.*
>
> (P77, Year 6 boy)

> *... you used to get the option of having the barbecue sauce... but now they give it to you, and I don't like it cause it's all mixed in together.*
>
> (P103, Year 5 girl)

Some pupils acknowledged their changing preferences, occasionally referencing taste buds. This was also discussed by one catering manager, who reflected on one pupil choosing new foods for lunch.

> *So, I had a beef pie and like when I was three (years old) ... I like, loved it, but now that my taste buds have changed, I don't really like it anymore.*
>
> (P104, Year 5 girl)

> *I know as you get older, your taste buds change as well – so, whether he'd [pupil] experienced something somewhere... and gone, 'Right, we'll give it a try.'*
>
> (CM2)

Texture. In several discussions, pupils spoke about texture or 'consistency' of food, for example, when referring to themselves as 'picky eaters,' explaining likes/dislikes and past experiences.

> *This is very picky, but I don't like lasagne; I just don't... I just don't know about it, just a texture of it – [I] don't like.*
>
> (P20, Year 6 girl)

> *... it's [Spaghetti Bolognese] my favourite because it has beef and sauce and vegetables in the sauce... 'cause my mum puts vegetables in the sauce which gives it a nice, good flavour – and then I like it with some cheese because it gives it good texture.*
>
> (P82, Year 3 girl)

TABLE 2 | Characteristics of pupils in the focus group discussions ($n = 119$).

	n	%
Year group (age)		
Year 3 (7–8 years)	25	21.0
Year 4 (8–9 years)	24	20.2
Year 5 (9–10 years)	35	29.4
Year 6 (10–11 years)	35	29.4
Sex		
Male	52	43.7
Female	67	56.3
School lunch pre-ordering		
Remote (at home)	62	52.1
School (in class) and remote (at home)	57	47.9

TABLE 3 | Themes and subthemes.

Theme	Subthemes
School meals	Taste Texture Familiarity Cost
Who chooses	Children choosing Parents choosing
How choices are made	Peer interactions Pre-ordering

I'm a picky eater, so it's more like the texture [I don't like] than the sweetness – it just doesn't... I don't like it (brioche).

(P116, Year 6 girl)

Similar to a preference for 'separate' meal components, not 'mixed together', pupils described how mixing made meals 'soggy', impacting their enjoyment.

... gravy makes it like soggy... I'll like them both [meal components], but they have to be separate – no, I don't like them touching.

(P77, Year 6 boy)

Familiarity. Pupils expressed a reluctance to try new foods at school, preferring to first have these at home; in some cases, pupils explained this was to avoid being hungry at school.

Sometimes, if I don't know what it tastes like, I'll ask my mum if I can try it at home – and then I know what it tastes like, so I might be able to have it at school – and then I can make the option. But if I just choose it on the day and I don't like it... 'cause I probably won't want to eat it, and I don't want to go hungry. So, I'll ask my mum to try it at home 'cause I know I can have a different meal [if I don't like it, at home].

(P101, Year 5 boy)

I think I would try at home first and then try at school, so if I don't like it, then I'll know.

(P114, Year 6 girl)

Pupils explained they could 'just go with' a sandwich or jacket potato, as a 'last resort' when they disliked or were unfamiliar with other options.

There is three options every day, there's one that's always a different one and there's sandwiches and jacket potatoes – and if you don't like the one that's different, you can always just get a jacket potato or a sandwich.

(P64, Year 5 girl)

Sometimes if there's something that I'm not really fancying, I will go for jacket potato or sandwiches.

(P109, Year 5 girl)

Catering managers reported how menu variety meant pupils were happy, with one linking sandwiches and jacket potato meals to smaller appetites.

They're happy because they know there's something out of all that choice, because you've always got a main, a vegetarian main and what I call a snack main – if they've got small appetites – like your jacket potatoes and your sandwiches.

(CM1)

With ordering, pupils discussed how changes to meal names could confuse them, making decisions more difficult.

... Say what we had today – a chicken tikka masala – they kind of... changed the name; like, instead of a jacket with beans, they changed it to jacket with baked beans... Well, I get really confused if it's actually what I get, like normally, or if it's something different.

(P61, Year 4 girl)

Catering managers highlighted familiarity and how popular meals 'they tend to go for' were familiar ones, and how sometimes, parents pre-ordered meals that were unfamiliar or disliked. Catering managers emphasised how rapport with pupils developed over time and the importance of 'getting them to try' new/unfamiliar meals.

Today, it's [popular meal] fish fingers, Tuesday pizza, Wednesday sausage. Basically, that is from education [knowing foods], because that's probably what they get fed at home.

(CM2)

If they're not familiar with it, then they tend not to go for it – unless... the parents are ordering for it.

(CM3)

... I try to encourage them to actually try something different and [I say], 'Don't dismiss it until you've tried it, you might like it.'

(CM1)

... if I'm only there for a day, they're very, very quiet. They don't really talk to you; they come in, they smile, they look a bit worried. But the longer you're there, the more they get used to you and then you can't get them through the line because they just stood there chattering.

(CM4)

Cost. Pupils talked about the cost of lunches being 'like £2', with some referring to free school meals and eligibility, and how cost was relevant to having a packed lunch or school meal. Likewise, one catering manager explained how you can 'provide a packed lunch cheaper than a school dinner.'

Ok, so I prefer, like some packed lunches – but the only reason I do like school dinner, is because it's for free, and my mum's got like a really bad job, and she's divorced of my dad.

(P13, Year 5 boy)

Since my mum had a good job, she had to pay for the lunches, and they were like 5 pound or something, so then I moved to packed lunches.

(P12, Year 5 boy)

I go school dinners on Fridays... My mum doesn't wanna pay for the whole week because we have bills to pay. So, I go on Fridays because I like the school lunch [on that day].

(P21, Year 6 girl)

3.5.2 | Who Chooses

Children choosing. When choosing lunches, children (particularly year 4 and above) relayed how they were the decision-makers – choosing independently, 'I do it myself.' Pupils liked selecting meals, enjoying the autonomy, and opportunity to decide, as they would eat foods they would enjoy.

I usually order it myself because it's online. So, I just go on my phone to do it.

(P13, Year 5 boy)

I like ordering food from school because I used to go to a nursery, and nursery just gave us food – we didn't have any choice and I hated it. And when I joined school, I was able to choose my meals.

(P117, Year 6 boy)

I prefer choosing in class because I don't want my mum ordering my food.

(P99, Year 4 boy)

... my parents just hand it [mobile] over to me and say, 'Choose whatever you like', so it feels like when I choose it, it feels like I'm free to choose that [the meal] if I want... I can choose whatever I want. It's like having a buffet and I could choose whatever I like. You can just choose anything you like, and my parents don't look at it afterwards, which means, which probably means, I'm fine to have anything I want.

(P59, Year 4 girl)

When unfamiliar with meals, pupils turned to parents.

So, my mum says the options and then I ask like a question if I don't know what a food is. Like we had a meat pie once and I was like, 'What's a meat pie?', when I was in reception. And then my mum explains what it was – and then I chose it because it sounded so good.

(P82, Year 3 girl)

My mum would say if I didn't understand what something was... let's say it's 'macaroni and cheese' and I didn't really know what that was, she'd say, 'It's just cheese pasta.'

(P63, Year 5 boy)

Catering managers explained how older pupils were more independent, whilst younger pupils had more parental input, 'being told what they're going to have.' Two managers felt independence led to greater selection of jacket potatoes and sandwiches, which one attributed to growing familiarity with the menu and more established preferences.

But what you're also finding as well, as they [children] get older and they're moving more into the independence days, that they are ordering their own dinners.

(CM2)

They [younger pupils] do tend to go for the hot food, whereas the older children... you still get a lot of hot food [but]... you do tend to get more jacket potatoes and sandwiches with them. I think, maybe they know that they don't like certain foods... because they've had them previously, because they've been through it, they've had the meals for years, so maybe they're more aware of the fact they don't like certain foods, so they pick something else instead.

(CM4)

Parents choosing. Some children discussed how parents were the primary decision-maker, and most trusted them to choose their 'favourite food', because 'Mum just knows what I like' – and were happy with parents' selections. Children expressed excitement and anticipation around lunchtime, and many of those whose parents pre-ordered, enjoyed the element of surprise. Occasionally, parents might choose meals that pupils would not have chosen themselves.

.... I love going to dinner; sometimes my mum chooses my dinners for me, so I get excited to see what she's ordered for me, because it's like a mystery and I get to find out.

(P23, Year 5 girl)

... it's always a surprise for me because my mum chooses it and sometimes, sometimes it's like a really good surprise, because sometimes she chooses some different things, but sometimes things at school that I don't like, and sometimes I wish she didn't choose it...

(P60, Year 4 girl)

Catering managers explained that younger children's parents tended to pre-order, and this may include disliked options.

.... whereas the little ones they kind of, if the parents are ordering, the parents are just assuming that they like it, and they keep ordering it. We do have it quite a lot... where they're coming through with the same meals

ordered every time – and we know they don't like them. But, yeah, the parents keep ordering it.

(CM4)

And the ones that do order it, you can tell the parents have ordered it because you put it on the plate and they go, 'I don't like that.'

(CM3)

3.5.3 | How Choices are Made

Peer interactions. Many pupils discussed lunches with parents, 'not my teachers, not my friends, just my parents.' Discussions covered food likes/dislikes, having a packed or school lunch. Other children discussed school food with peers, garnering information to support their own decision, sometimes inspired to choose certain meals.

My friend tried a vegan sausage roll – even though he's not vegan – and he said it's real nice and so it got me into liking vegan sausage rolls.

(P22, Year 5 boy)

Sometimes I like to ask my friends what they've had, so then I'm aware what there is, so I can make my decision before I go up [to whiteboard], so I don't take up too much time thinking about it.

(P101, Year 5 boy)

Pupils were aware of peers' selections, but emphasised their own preferences as more important, with any alignment being a coincidence – 'it's a random pick' – because of shared likes/dislikes, rather than wanting to choose the same.

I just picked whatever I liked. I didn't really want to be the same as my friend because I might not like what they like.

(P70, Year 6 girl)

... my friends will really just go for whatever they want. My friends don't really pick the same as each other or me, some people will every now and then pick the same one, as a coincidence because it's good food.

(P115, Year 6 boy)

One catering manager explained how pupils were choosing meals at home with the OPS and consequently, influenced less by peers.

They used to [choose the same] before [pre-order system] ... A couple of friends will have the same, but I think it's more a coincidence [now] than a choice of discussing it with each.

(CM3)

I know a lot of the time you'll get them coming and saying, 'I ordered the same as you.' So, I don't really know previously what they've ordered together or whether they've copied each other or whether it is just the parents and it just happens to be the most popular one, so, a lot of them have ordered it.

(CM4)

Pre-ordering. During discussions, some pupils felt the OPS provided a sense of security around meals, starting the school week, knowing 'what to expect.' Pupils who could pre-order remotely at home or at school, talked about preferring the convenience at home 'in my pyjamas and not in my uniform.' Children also mentioned shortcomings, for example, no longer wanting their pre-ordered meal, missing the surprise element.

.... I miss when it was a surprise and we just grab a tray, grab a fork and a knife, and then we could just choose what we want, instead of choosing online and then just having to click on it.

(P34, Year 6 boy)

All catering managers discussed the advantages, for example, cutting food waste, stock, meal preparation – with one referring to it as a 'blessing,' and another explaining the only challenge was getting parents to order.

Fantastic piece of kit if it's used properly... Right, I walk in Monday morning, I know exactly what I'm doing for the full week.

(CM2)

It's great, it cuts me down on waste. There's no discrepancy when they're [pupils] coming up saying, 'Well, I didn't order that!' – Well, obviously you did.

(CM3)

4 | Discussion

Children's food choice in primary school and their experience selecting meals was explored. Data from observation, discussions with more than a hundred pupils, and interviews with catering managers conveyed a rich picture. Children were positive about their school meals and being able to pre-order. Most were the main decision-maker – with taste, texture and familiarity, pertinent to their food choice, and previous experiences important. These informed their liking of certain foods and excitement around lunchtime, where taste and texture were paramount. Referencing taste and texture in this way is consistent with previous work. One US study reported how children (8–13 years) discussed their liked foods in relation to taste and texture and attributed food preferences to visual appeal and familiarity [25]. Other work has outlined how children's perceptions of 'tastiness' predominantly drive food choice, with limited consideration of portion size and energy balance [26]. In the present study, catering staff likewise acknowledged the important role of taste in pupils' lunch selections.

Children's discussions also highlighted familiarity, which was emphasised by catering managers who referred to pupils

choosing meals that were familiar, particularly from home. In discussions, children relayed their reluctance to try new foods within the school environment, with some preferring to try these first at home; this was explained as a safeguard against hunger, should the meal not be liked. Food neophobia, the avoidance or reluctance to consume novel foods [27], is critical in children's food choice behaviour, given its acknowledged relationship to food acceptance [28]. Interestingly, children highlighted how they might select a jacket potato/sandwich (available every day and familiar to pupils) when other options were disliked or unfamiliar. In this way, these may be perceived to act as a barrier to expanding food repertoire.

Most children discussed how they were the primary decision-makers and enjoyed the autonomy. Corresponding with children's authority over everyday food decisions, previous work reported how children can be active decision-makers on packed lunches from home [7], and influence food at home, shopping and family diets [12, 29]. Another study reported how children perceived that adults exert considerable control over their food choices, including what and how much they eat [30]. In the present study, some children explained how they were supported by parents, for example providing more details for unfamiliar meals. Children also described discussing school food with parents, rather than peers or teachers. This is pertinent given a family's influence over children's diets and food choice, its relevance to eating habits, including later during adulthood [31]. One US study exploring the association between parent-child decision-making and obesity, found that children (10–14 years) who made decisions with their parents had lower odds of obesity compared with children who made decisions more independently [32]. Whilst most pupils in the present study selected their meals, others explained how parents did this and they trusted them to know their preferences. This corresponds with a Welsh study where younger children (7–8 years) relinquished decision-making to parents as this was associated with security and structure, which was more important than the positive perceptions of deciding themselves [33].

In this study, children talked about speaking with peers to understand about certain meals; children valued others' views and, occasionally were inspired to try unfamiliar/new foods. Whilst peer interactions were important, any similarity in selection was explained as shared food preferences, a 'coincidence,' and emphasising individual preferences driving choice. This may indicate underlying social motivations and peer influence playing a role unrecognised by children. Personal preferences becoming more reasoned and taking into consideration others' perspectives, as reflected in these discussions, are consistent with the concrete operational stage (7–11 years) of Piaget's cognitive development theory [34] – a progression from children beginning to express their own viewpoints and preferences during the earlier preoperational stage (2–7 years). Interestingly, a UK study that explored influences on children's food choice and the wider food culture, reported children speaking to friends about food likes/dislikes, with choices based on individual preferences, and some referring to the influence of friends, mostly with respect to recommendations around foods [35]. This reflects children's assertions in the present study about the importance of personal preferences, above the influence of friends, and the relevance of friends' recommendations around foods.

Lunch costs arose in discussions, notably how it impacted the decision between a packed lunch/school meal (or alternating between the two), with pupils referring to eligibility depending on parents' circumstances. Previous literature has reported how children can have a good understanding of finances impacting household food provision and resulting in not being able to afford packed lunch items or school lunches [36]. This reflects children's awareness of family finances, and its bearing on children's food experiences, particularly given the cost-of-living crisis [37].

4.1 | Limitations

Findings should be considered within the context of the schools, all in North West England, utilising the same catering provision and pre-order system. Further research is recommended in other regions and with different catering provision. Schools selected a cross-section of pupils for focus groups, however potential bias in participant selection remains. It is also important to acknowledge that discussions and interviews were subject to social desirability bias, where participants align with perceived norms or researcher expectations. In addition, the focus group format may have resulted in distractions, dominant voices, and reduced willingness among some to contribute.

4.2 | Implications for Research and Practice

This study adds to literature on food provision in primary schools, and how pupils select lunches, including their experience with an online pre-order system. Direct observation of lunchtimes and in-class meal selection, combined with discussions with pupils and interviews with catering managers generated a rich and comprehensive account. The use of an observation pro forma enabled a systematic means of recording pupils' behaviours in a structured way, strengthening the rigour of the observational data and supporting the triangulation across multiple data sources.

Findings reinforce the importance of familiarity to children's food decision-making and point to further work to understand how to better support children to explore and expand their repertoire of acceptable foods. Opportunities to increase exposure and familiarity are recommended; these may include, for example, tasting sessions, lunchtime sampling – particularly given the observed staff interactions (prompting new foods, using the salad bar). Such strategies can aim to influence preferences through sensory experiences [38], establishing these with repeated exposure within a safe environment [39]. Previous work involving taste lessons in Dutch schools reported small but significant effects on foods known and tasted by 9–12-year-olds [40]. Children's knowledge of new/unfamiliar meals may be promoted through additional details and description on the menu. This may support discussions with parents about meals, e.g. trying new meals at home first – which pupils highlighted as important. Likewise, this may help teachers supporting younger pupils with selections. When

choosing, children relied on meal names and recalled experiences. Further work to understand the relevance of wording, descriptions and images in promoting children's understanding and knowledge of meals, is recommended. Such changes may be relevant to the acceptance and consumption of new/unfamiliar foods, particularly given that children's responses may be linked to their visual expectations and experiences with similar meals [41].

Familiarity and taste were key factors when deciding what to select for school lunch – with children preferring to try new or unfamiliar meals at home first. This highlights the relevance of the home food environment and its role in children's food choices, both at home and beyond. As nutritional gatekeepers, parents may support children in trying new foods at home – and further work to understand parents' awareness of their role in expanding children's repertoire of foods and how to approach this, would be valuable.

Children's awareness of the burden of the cost of school lunches underlines the cost-of-living crisis and its bearing on children's food experiences. It suggests the cost-of-living crisis can shape not only access to food but also children's perceptions and everyday experiences. This highlights the need to recognise children as active participants in, and witnesses to, household financial pressures, emphasising the importance of child-centred and sensitive approaches to food-related support. Further research exploring children's perspectives on food and financial hardship is warranted, including how awareness of food costs influences food choice, particularly among children whose families experience financial pressure but do not meet eligibility criteria for free school meals. Centring children's voices is critical in providing a more nuanced understanding of children's experiences in everyday life and informing more responsive approaches to school food provision.

Children clearly articulated that their individual preferences were more important than choosing the same as peers, although peers did occasionally inform decisions, for example, recommending new/unfamiliar meals. Further research should examine how peer influence interacts with individual preferences and previous food experiences to shape willingness to try new foods, across different age groups. It would also be valuable to investigate whether positive peer role modelling can contribute to sustained food acceptance. Such findings could inform school-based approaches that harness positive peer influences through, for example, peer-led food activities, while maintaining children's autonomy and individual preferences.

Author Contributions

H. Abbotts-Holmes: investigation, formal analysis, writing – original draft, writing – review and editing. **A. Turnbull:** investigation, formal analysis, writing – review and editing. **K. Stronge:** investigation, formal analysis, writing – review and editing. **M. Homer:** conceptualisation, methodology, writing – review and editing. **H. Ensaff:** conceptualisation, methodology, formal analysis, writing – review and editing.

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Ethics Statement

This study received ethical approval from the Faculty Research Ethics Committee at the University of Leeds (BESS&FREC/1248).

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The datasets related to this study are not openly available because of ethical restrictions.

Transparency Declaration

The lead author affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

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