

## Article

# Exploring Australian children's perceptions of a school-provided lunch model using a story completion method

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## Abstract

Children in Australia currently bring a packed lunch to school from home. Many children are not consuming a healthy diet at school. There is interest from key stakeholders (e.g. education and the non-government sector, food service and parents/carers) to transform the Australian system to a school-provided model to improve children's diets, reduce parental burden and address food insecurity. To facilitate a successful transition to this system, it is important to consider the views of the children. We aimed to explore Australian primary school children's perceptions of a hypothetical school-provided lunch model. To achieve this aim, we undertook a qualitative study using the story completion method. Twenty-one grade-five children, from one public primary school in South Australia, participated in a once-off data collection session. Children were given a brief story stem and asked to complete a story about a hypothetical school-provided lunch scenario. The story data were analysed using thematic analysis. Four main themes were generated: the eating environment, the food provided, processes of the mealtime and time. The desire for choice was an additional overarching theme that cut across all themes. Our study provides the first exploration of South Australian children's perceptions of hypothetical school-provided meals. These insights can be used to co-design an acceptable school food system with children to create a positive eating environment that supports healthy eating habits they can carry forward into adulthood.

**Keywords:** school food, school-provided lunch, story completion, children, qualitative

## INTRODUCTION

Good nutrition supports the rapid physical, cognitive and immune development that occurs throughout childhood and adolescence (Pearce *et al.*, 2018) and can enhance children's concentration and academic achievement (Velardo *et al.*, 2020). As most children spend 6–7 h at school each day (UNICEF, 2019), school is the location for approximately one-third of children's daily intake (Manson *et al.*, 2021). Currently, Australian children predominantly bring food packed from home, with most schools also offering food available for purchase from an on-site canteen or external food provider (Lucas *et al.*, 2017). However, many

Australian children aged between 5 and 12 years old are not consuming a healthy diet at school, with 44% of children's energy intake at school being from unhealthy food items, such as processed meats, sweet and savoury biscuits and cereal bars (Manson *et al.*, 2021). While canteen interventions have improved what is on offer to include more healthy choices, over two-thirds of canteen purchases comprise less healthy choices, being products higher in saturated fat, total sugars and sodium (Delaney *et al.*, 2019). Additionally, Australian families face challenges in providing nutritious, safe, convenient foods that align with children's preferences (Bathgate and Begley, 2011; Tanner *et al.*, 2019). There is often also a stigma attached to lunch

### Contribution to Health Promotion

- The school food environment is an important target for health promotion with children consuming a significant proportion of their daily food at school.
- School-provided meals may improve the quality of children's diet, reduce stigma and burden for families around what is in the lunch box and ensure all children have access to healthy food.
- Developing a school-provided lunch model in Australia requires an understanding of children's perceptions and preferences to allow for a successful transition that will be accepted and valued by children.
- This study provided the first exploration of Australian children's perceptions of school-provided meals.

box contents, including feelings of embarrassment for children regarding what types of foods they bring, or in some cases how much food, if any at all (Smith, 2021). This stigma is not exclusive to children with research indicating that Australian parents also feel stigma and embarrassment relating to their children's lunch box contents and experience a range of barriers in providing school lunches including financial and time constraints and feel unsupported in providing appropriate food for their children (Watson-Mackie *et al.*, 2023).

School food models vary internationally with some countries such as Sweden, Finland, France, Italy and Japan offering school meals, compared to Norway where children bring a packed lunch from home (Tanaka and Miyoshi, 2012; Lucas *et al.*, 2017; Dunbabin, 2020; Fossgard *et al.*, 2021; Education, 2022). In some countries where school meals are offered such as the UK and the USA, families may choose to take part in school meals or bring a packed lunch from home (Lucas *et al.*, 2017; United States Department of Agriculture, 2022). The logistics of how school meal models operate differ greatly across and even within countries, for example, if they are universal or targeted, free or parent-paid (Manson, 2022). With the right policies and guidelines in place school meals may help to increase children's consumption of healthy food groups such as vegetables, fruit and dairy and reduce the consumption of unhealthy food items (Manson *et al.*, 2022). Additionally, school-provided meals can create a positive eating environment and relationship with food whilst being used as an educational tool for agriculture, sustainability and food procurement (Dunbabin, 2020). A school-provided lunch

model may reduce the stigma around school lunches as all children have access to the same foods, as well as reducing the burden of packing school lunches for families (Smith, 2021). Currently, in Australia, many schools participate in school breakfast programs for children who come to school without having anything to eat, these are often provided by food relief organisations (Manson, 2022). Thus the school environment presents an important health promotion setting for interventions to improve children's dietary intake (World Health Organization, 2020).

While these alternative models show promise for improving children's dietary intake and reducing parental burden, before taking steps to transform the Australian school food model, it is important that key stakeholders are consulted. For a transition to a school-provided food model to be accepted by children, it is vital their voices be captured. This is supported by The United Nations Convention on the Rights of the Child which highlights the right of the child to be consulted in matters that concern their everyday life (United Nations General Assembly, 1989). Australian literature capturing primary-school-aged children's food-related experiences and perceptions tends to focus on nutrition literacy (Velardo and Drummond, 2019), food insecurity (Velardo *et al.*, 2021) and the marketing and advertisement of food (Dixon *et al.*, 2014). However, these do not capture children's views of school-provided lunch models. A recent study demonstrated the interest of key stakeholders in transitioning to a school-provided food model in Australia, but children were not included in this sample (Johnson *et al.*, 2020). Additionally, the evaluation of a pilot trial in one Australian jurisdiction, providing school meals on select days, did include children's perspectives, but the children were not consulted prior to the implementation of the trial (Smith, 2021). To date, there is no research exploring Australian children's perceptions of a hypothetical school-provided food model. Therefore, the aim of this qualitative study was to explore South Australian primary school children's perceptions of a hypothetical school-provided lunch model.

## METHODS

This study adopted a qualitative inquiry methodology and is reported in line with the Standards for Reporting Qualitative Research (Supplementary File 1; O'Brien *et al.*, 2014). Qualitative studies are useful for investigating attitudes, views, perceptions and ideas of a phenomenon and were therefore deemed an appropriate approach for this study (Harris *et al.*, 2009). Social constructionism is the epistemological position that underpins this research, whereby it is assumed that one's reality is not fixed but is formed through

experiences and interactions with society (Vivien, 2015). This research was grounded in an interpretivist paradigm, and hence took the position that reality is socially constructed and that children's responses are a product of sociocultural ideas and norms around school food (Crotty, 1998).

The story completion method was used to collect children's perceptions of a school-provided lunch model. The story completion method provides participants with a story 'stem', which is an opening paragraph that sets the scene for the story plot, along with prompts to guide their story (Clarke *et al.*, 2019). Participants are then asked to complete the story with their own thoughts and ideas (Clarke *et al.*, 2019). This method allows participants to share their opinions freely as their responses are hypothetical, regarding a story character, with no right or wrong answer (Clarke *et al.*, 2019). This method was selected as children were being asked to provide their perspectives on a hypothetical scenario, given that they had likely not experienced school-provided lunches personally.

The authors of this article were a mix of mothers and women without children. Authors E.C., B.J.J., G.M. have a background in nutrition and dietetics and S.V. has a background in health promotion. G.M. and S.V. are experienced qualitative researchers. S.V. has expertise in child-centred research, and B.J.J. has experience with using story completion methods. Ethics approval was obtained from Flinders University Human Research Ethics Committee (approval number 5235) and the Department for Education in South Australia (reference number 0022-0028).

### Participants and sampling

Participants were recruited through one primary school in metropolitan Adelaide, South Australia. Several schools that had previously expressed interest in nutrition were initially approached by the Department for Education. One school was selected to participate in the study and an associated Department for Education initiative. The school was situated in a suburb with a Socioeconomic Index for Area score of 9 out of 10, reflecting a high level of socio-economic advantage (Australian Bureau of Statistics, 2016). At this school, the children usually eat a lunch packed from home, but there is also an onsite canteen available where children can purchase their lunch. Children typically eat outside of their classroom area, with 10 minutes allocated to eating time.

Grade five children (aged 10–12 years) were selected by the school deputy principal as the age group for this research given the intellectual level of completing a written story task. Researchers met with the deputy principal to discuss the research, who selected two grade-five classes consisting of approximately

25–30 children each, to participate. Two classes were deemed sufficient based on a suggested range of 20–40 participants when using a single-story stem without comparisons (Braun *et al.*, 2019). Researchers liaised with the classroom teachers to ensure the planned data collection method was feasible and age-appropriate. E.C. introduced the research to the children in a presentation, prior to recruitment and data collection. This provided an opportunity to engage with the children and answer any questions, which is an important process when conducting research with children (Prior and Van Herwegen, 2016). Care was taken to ensure that both the children and their caregivers understood the research, with an information sheet provided to children in the classes containing specific sections for both children and parents. The information sheet and consent form were sent electronically and in hard copy. All children in the two classes were invited to participate in the activity, however, participants required caregiver consent and personal assent for their data to be collected. For children with caregiver consent, their signed personal assent was also required, which reflects best practices to ensure research is with children and not on children (Prior and Van Herwegen, 2016).

### Data collection

Data were collected through a once-off in-person story completion activity. The activity was pilot-tested with a convenience sample of two children in grade five who did not attend the participating school, to assess the suitability of the activity for the age group and ensure that it would yield appropriate data. Children participating in the pilot were known to the researchers and both parental consent and children's assent were sought prior to testing. The pilot testing led to providing more detail in the follow-up questions to assist with easy interpretation by the participants. Participants were provided with the story stem, along with instructions and a series of prompts to guide their thinking to relevant topics and ensure stories remained realistic (Figure 1). The story stem provided a simple scenario where school-provided meals were provided at the fictional character's school and invited the children to explore this further. The children were provided with prompts of things they could write about. These prompts were; where the food comes from, what the eating space/room looks like, what foods there are, how the foods are given to students, what happens when students finish eating and how the character feels about the food. There was no gender assigned to the character in the story, and the name that was chosen was intentionally not gendered so that children could express their stories freely. Furthermore, the name was discussed with the class teachers to ensure that there were no children in the classes with the same name to avoid any feelings

# Story Writing Activity

## Story Beginning

It's Wednesday lunch time.

Sammi can't wait for the bell for lunch to go off.

At Sammi's school, students don't bring a lunchbox or buy food from the canteen, instead, food is given to the students.

**\*ding ding\***

the bell for lunch goes..."

## Things you could write about in your story

- Where the food comes from
- What the eating space/room looks like
- What foods there are
- How the foods are given to students
- What happens when students finish eating
- How do you feel about the food

Please complete the story explaining what happens next.

Describe what lunch time looks like.

**Fig. 1:** Story stem with instructions and prompts provided to participants for the activity.

of embarrassment. Participants completed the activity in paper format and were asked to answer six multiple choice style follow-up questions to contextualize the data and confirm assumptions made in the story (Supplementary File 2), brief demographics (sex and gender) and self-reported interest in school-provided meals. E.C. introduced and facilitated the session, E.C. and B.J.J. were available to clarify the activity throughout the session. Whilst researchers were available to the children throughout the data collection, researchers were mindful not to lead the direction of any stories and directed the children back to the instructions and prompts provided as needed. The activity took approximately 45 minutes to complete. Children were asked to complete the activity under test conditions to minimize peer influence.

## Analysis

The participant's hand-written stories were the primary data for this study. After data collection, the stories were promptly de-identified and assigned a participant number to ensure anonymity. Stories were analysed thematically using the six-step approach as described by Braun and Clarke (Braun and Clarke, 2006) as is common in story completion (Clarke et al., 2019). This began with familiarization with the data through initial reading of the stories. Data were then transcribed verbatim from the children's hard copies into digital format in Microsoft Excel (Microsoft Corporation, USA). Spelling errors were corrected when minor and did not impact the context of the story. An inductive approach to coding was used, where codes were

generated from the data, staying close to participant responses (Braun and Clarke, 2022). Iterative rounds of coding were undertaken by E.C. where new codes were created, old codes were refined, combined and collapsed to form themes and sub-themes. The final codes were discussed with all co-authors (B.J.J., S.V., G.M.) to ensure logic and together the codes were arranged into themes which were refined, defined and finalized (Supplementary File 3).

## RESULTS

### Participant characteristics

The final sample consisted of 21 participants. Of the children present on the day of data collection, 22 had parental consent and 21 of these children provided assent. All participants were in grade five, which corresponds to an approximate age of 10–11 years old (Table 1). More girls ( $n = 13$ ) participated than boys ( $n = 4$ ), and four children did not specify their gender. The length of the stories ranged from 44 to 189 words, with a median length of 121 words. The sample was divided on their interest in school-provided lunches, with ten participants self-reporting they were interested in school-provided meals.

### THEMES

Four themes were generated from the data: the eating environment, the food provided, processes of the meal-time and time. An overarching theme expressed across all the other themes was: children desire choice.

**Table 1:** Characteristics of the participants in the sample ( $n = 21$ )

Participant characteristics	<i>n</i>
Gender identity	
Male (boy)	4
Female (girl)	13
Gender not specified	4
Interest in school provided lunches	
Interested	10
Not interested	2
Unsure	9

### The eating environment

The theme of eating environment was generated as the majority of stories described the eating environment in which the character spent the mealtime either in terms of the physical environment or by describing the social environment. Therefore, two sub-themes were generated: the social eating environment and the physical eating environment.

#### The social eating environment

The social aspects of the mealtime such as sitting and chatting whilst eating were commonly described in participants' stories. The majority of stories described positive social interactions between the children such as friendly gestures of smiling and waving. For example,

*"Together, they talked and ate, occasionally commenting on the pasta...Sammi ran to catch up with friends."* – Participant 1, girl, interested in school meals

*"Sammi sits down and soon enough his friends sit down and greet him with a smile. Edie sits next to him and says hello. Izzy sits across from Sammi and waves."* – Participant 6, girl, interested in school meals

Other stories simply described the children in the presence of their friends, signifying the association of the company of friends during mealtime.

*"Soon, his friends walk over placing their trays of food down."* – Participant 7, girl, interested in school meals

*"Joe, his friend, walks up to him."* – Participant 11, gender not specified, interested in school meals

#### The physical eating environment

Participants commonly described the physical environment of mealtime in the stories. The majority of participants described a cafeteria-like environment consisting

of a large dining room with tables and chairs where the food is served and eaten.

*"The cafeteria is a room with tables for students to sit down and eat."* – Participant 2, girl, interested in school meals

*"Sammi walks with her class to the cafeteria... The room is like a huge hall with white walls. Lots of tables."* – Participant 5, girl, unsure about school meals

A minority of the participants described Sammi collecting the food from a cafeteria and sitting outside to eat, mirroring something similar to the current model of school food.

*"She sprinted to the lunch hall... She reached the counter and grabbed a bowl, before hurrying to collect food... She then walked carefully to her usual spot on the grass outside."* – Participant 1, girl, interested in school meals

*"he races out of the class and waits in line to go to the canteen... that serves food like a buffet ... after he chooses the food and dessert, he goes back to the place right outside his class."* – Participant 11, gender not specified, interested in school meals

### The food provided

Children's stories described the food provided in the hypothetical scenario, in terms of where the food was being prepared and the types of foods available, including there being a variety or options of food. Two sub-themes were generated that sit within this theme: Source of food and Options of food.

#### Source of food

Several participants described where the food was prepared in their stories. Most typically they either described the food being prepared on-site at the school or being prepared off-site at a café or takeaway shop and delivered to the school.

*"Sammi and her friends loved how they now get to eat lunch made from the school every day!"* – Participant 9, girl, interested in school meals

*"All the food comes from the local café or places that give out food"* – Participant 2, girl, interested in school meals

#### Options of food

The majority of participant's stories described the children eating or choosing different meals from one another. This suggested that they imagined there would be an offering of a variety of foods for the children to choose from daily. For example,

*"I got some vegetable salad, what did you get", asked her friend Bella. "I got Spaghetti bolognese", said Sammi excitedly. "Well, I got a hamburger", said Lila.* – Participant 4, gender not specified, interest in school meals not specified

*"As he looked at the lunches he saw burgers, chips, vegetables and fruit."* – Participant 21, girl, unsure about school meals

A minority of participants described daily specials offered by the school to increase variety.

*"Hmm, I wonder what today's special is." "Well, I heard that it might be supreme pizza and spaghetti and meatballs."* – Participant 12, boy, unsure about school meals

Alternatively, others described all children receiving the same set meal, with some considering the need to cater for various dietary requirements and preferences.

*"There are 5 different types, vegetarian, allergy free, lactose intolerant and just a normal meal"* – Participant 2, girl, interested in school meals

A minority of participants considered whether the option to bring a meal from home remained a possibility. For example,

*"But you don't have to get it either like you could bring your own food."* – Participant 14, boy, interested in school meals

*"And thought to herself, I really wish I could bring my own lunch."* – Participant 19, girl, unsure about school meals

### Processes of the mealtime

The majority of children described some form of the processes occurring either before, during or after the meal. This ranged from very early processes relating to the design of the menu, to the serving of meals and the clean-up process. Two themes sit within the theme 'Processes of the mealtime': Before and during the mealtime, and after the mealtime.

#### Before and during the mealtime

Most participants considered the processes either before or during mealtime with varying levels of involvement.

One story demonstrated children being included in the process of designing the menu and having input into the meals on offer.

*"This week was his class's week! Every Wednesday a class would vote on the meal to be served."* – Participant 7, girl, interested in school meals

Several participants described the process of how the children would access their food in terms of lining up for food and in what order this might occur.

*"The students walk up in a big, long line waiting. There would be a junior section and a senior section. The kids just walk up in a long line to collect their food."* – Participant 5, girl, unsure about school meals

*"The teacher starts calling out year levels to get the food"* – Participant 10, girl, interested in school meals

Several participants also provided varying ideas about how the food would be served. Some suggested children would serve their own food, however, more commonly participants described being served food by staff, most often being described as 'lunch ladies'.

*"Ladies behind all the food and lots of children lining up for their food with their big blue trays."* – Participant 5, girl, unsure about school food

*"He asks the lunch lady if he could have pasta, chocolate milk, salad and jelly."* – Participant 6, girl, interested in school meals

#### After the mealtime

A minority of participants also considered the processes that occur at the conclusion of the mealtime. They similarly demonstrated that children expected to be involved in the process of packing up after mealtime, rather than solely relying on staff or volunteers.

*"After the students have finished there would be a big sink or something that you could put your dirty trays on."* – Participant 5, girl, unsure about school food

*"The bell rang, and everyone stood up, went to wash their own cutlery and plate, then filed out of the hall."* – Participant 7, girl, interested in school meals

#### Time

Children often described elements of time allocations and a sense of urgency in their stories, either relating to school lunches themselves or the play/exercise break.

In their stories, participants described the distribution of time during the lunch break. In some instances, this included having a designated amount of time to eat and play, as indicated by a bell ringing.

*"Sammi has finished, the bell goes and he starts playing."* – Participant 3, boy, interested in school meals

*"Sammi finishes her food and waits for the bell goes so they can go out into the yard."* – Participant 16, girl, interested in school meals

Most participants described a sense of rushing or racing to get to the meal, with some stories suggesting that the children needed to hurry, or they would run out of time to eat. In doing so, they described having to balance their time to ensure they could eat as well as exercise and play.

*"but she has to be quick or her eating time will run out and she will be hungry for the rest of the break or until she gets her next meal."* – Participant 2, girl, interested in school meals

*"The kids at the end of the line hardly get any eating in before the bell and the poor students don't get any time to run around and exercise."* – Participant 15, gender not specified, not interested in school meals

Other stories suggested the need to hurry to be first in line. This was deemed important to avoid a long wait and to avoid missing out on the desired food which could potentially run out.

*"She sprinted to the lunch hall, determined to be in time for the good food."* – Participant 1, girl, interested in school meals

### Overarching theme; children desire choice

Most participants described having the opportunity to choose foods from a variety of options positively. This was more common in participants who indicated that they would be interested in a school-provided meal.

*"She gets a tray from the stack and starts picking what she wants. Sammi is really excited for her meal because Wednesday's special is... Chicken nuggets, a choice of sauce, two Tim Tam's and a drink of choice!"* – Participant 16, girl, interested in school-provided meals

Other stories that implied there was no choice, or that the ability to choose from different options would be limited, were associated with the children in the stories feeling disappointed or unsatisfied. These stories were more common from participants who were unsure of whether they were interested in school-provided meals or answered that they were not interested.

*"And all the students sprint to the cafeteria. In Sammi's school all of the classes close to it get to pick first, while the classes far from it trudge slowly towards the cafeteria knowing that they have no chance at all the better food."* – Participant 15,

gender not specified, not interested in school-provided lunch

Choice also related to how the children in the stories used their time with a minority of participants demonstrating a desire to choose when the mealtime was over and when it was time to play.

*"Sammi sits down at the benches and eats for a while before going out to break."* – Participant 18, gender not specified, unsure about school-provided meals

Additionally, most participants described children selecting where and with whom they ate, demonstrating their desire for choice over their seating arrangements and using mealtime to engage with friends.

*"He decided to sit on a table with his friends"* – Participant 17, girls, unsure about school meals

## DISCUSSION

This study aimed to explore Australian children's perceptions of a novel school-provided lunch model. Four themes were identified: the eating environment, the food provided, processes of the mealtime and time. Children's desire for choice was an overarching theme expressed in participant's stories, particularly relating to food choice and seating arrangements. Participants consistently demonstrated the importance of needing adequate time during the lunch break to eat and play. Our findings show the importance of friendship and social connection for children, highlighting the significance of the social aspects of mealtime. This study provides valuable insight into children's perceptions, demonstrating aspects of a school-provided model that are important to children and can inform future potential transformation to a school-provided lunch model in Australia.

As demonstrated through the participant's stories, children value choice over various aspects of a school-provided lunch model. Children in the stories expressed a desire to choose where they sit to eat and with whom. This is consistent with a study of Norwegian school lunches that found children described the best lunch breaks were when they could choose where and with whom they sit (Fossgard *et al.*, 2021). Most stories described children having a choice of foods, which is consistent with literature with children from across varying school food models in studies internationally expressing a desire for more involvement in what foods are offered, more variety and to have a choice in the foods they eat at school (Benn and Carlsson, 2014; Berggren *et al.*, 2020; Colley *et al.*, 2021; Fossgard *et al.*, 2021). Another key consideration highlighted in a Norwegian study of

school-provided meals is the importance of incorporating children's food preferences into the choices available, whereby foods provided which are not in line with preferences may be rejected by children (Mauer *et al.*, 2022). The overarching theme around choice in the present study is not surprising given that children seek autonomy over their choices as they grow and develop their independence (Bagattini and Macleod, 2015). Preadolescence is a time when children rapidly gain exposure to a world outside of their family home and may seek more autonomy over food choices to fit in with their peers (van Nee *et al.*, 2021; Neufeld *et al.*, 2022). As is evident from the literature and the present study it is vital to provide children with variety and choice in line with their preferences when designing a school-provided lunch model. A school-provided lunch model that has policies which support the capacity of children to have autonomy and make choices, while offering a range of healthy options, may provide mutual benefit to both children's personal development and their dietary intake. Given the current model of food at the school that participated in this study, it is not known how much choice children have in what they eat. As such, children may desire choices where they currently do not have any, or conversely, may want to protect the current autonomy they have with their lunch choices. Furthermore, it is important to consider that the school being in a high socio-economic area may impact the children's interest in the choice of foods, which may be less of a consideration for children from a lower socio-economic demographic where the choice of foods may be reduced due to cost or availability of foods.

Time was an important consideration highlighted through the stories, with many scenarios describing the sense of urgency or time pressure during the meal. A possible explanation for this finding may consider the current context of the school whereby children currently experience time constraints regarding their eating time, with only 10 minutes allocated for eating. This is consistent with Australian literature, with Burton *et al.* (2022) reporting the same eating allocation of 10 minutes, with parents and teachers suggesting this is inadequate for children to finish eating their meals. This idea is further supported by Aydin *et al.* (2022), who similarly found that Australian parents feel their children have inadequate time to eat their food at school. The limitation of time is not exclusive to the Australian context. Children from a school-provided lunch model in Sweden described the time pressures of lining up for meal collection resulting in insufficient time to eat or reduced play time (Berggren *et al.*, 2020), and adolescents in Northern Ireland described missing out on their desired food if they were allocated to the second lunch sitting (McEvoy *et al.*, 2014). Conversely,

some Danish children from a school-provided lunch intervention felt there was too much time allocated as they were eager to start their play time (Benn and Carlsson, 2014). These concerns were mirrored by the participants in the present study, with descriptions of long waiting times, missing out on their desired foods due to the order being served, and a desire to finish eating quickly so they could play. The importance of having enough time to eat, socialize and play has been recognized in an Australian pilot trial of a school-provided food model that recommended a 20-minute allocation to eat before playtime based on the outcomes of the trial (Dunbabin, 2020). This pilot trial was able to allocate more eating time by starting lunch time earlier, whilst the evaluation of the trial acknowledged that this impacted the routine of the day it was also suggested that improved productivity from improved concentration from children may counterbalance this (Smith, 2021). Time is clearly an important factor to consider for any school lunch model and needs to be considered holistically in terms of the benefits that may be provided such as improved concentration for children who have had an adequate meal and play break. Furthermore, the learning opportunities that school meals may provide could be further explored and incorporated into the school curriculum to allow the extra time allocated to be of multifactorial benefit, teaching transferable life skills.

As is consistent across literature from varying school food models, the social aspects of mealtime were a priority for children, as demonstrated through the stories. Additionally, sharing a meal with others has been shown to enhance and strengthen friendships and bonds (Dunbar, 2017). In the school context specifically, American children have described school lunches as providing important opportunities for social development in a time that is often without structured learning (Mason, 2021). Fossgard *et al.* (2019) discussed the importance of sitting together to eat, regardless of the school food model as an essential opportunity to allow for socialization amongst children. This is consistent with a Swedish study of the school lunch environment which found that the social aspects of mealtime were part of the joy of sharing a meal and of primary importance to children (Berggren *et al.*, 2020). However, Berggren *et al.* (2020) have highlighted that this social environment is not always experienced positively, where the volume of chatting or at times shouting becomes an annoyance for children. Osowski *et al.* (2012) further suggest that while children value social interactions with peers in the lunch room, the presence of adults to encourage a calmer meal environment is appreciated. These studies highlight the importance of considering sociality and peer interaction during mealtime, as is consistent with the findings from the present study.



## Strengths and limitations

A strength of this study is the story completion data collection method used with children, as it allows for the collection of data that is difficult to collect using typical qualitative methods (e.g., interviews or focus groups), which could lend to social desirability bias. Another strength is the rigorous processes undertaken to ensure data collection was successful including pilot testing the story stem and working collaboratively with classroom teachers. The steps taken to build rapport and engagement between the children and the researcher served as a strength, in line with best-practices for child-centred research (Prior and Van Herwegen, 2016). All efforts were taken to ensure that children were not provided with any pre-conceived ideas around a school-provided lunch model and data collection occurring under test conditions ensured that the stories were their own. A limitation of the study includes the single school sample, meaning that all participants have a similar school food experience. Another limitation was the lack of consent from parents and child assent meant there were fewer male participants, which was not representative of the classroom population. Further to this, the school is within a high socioeconomic area, therefore children's perspectives from diverse socioeconomic backgrounds or experiences were likely not captured.

## Further research and implications for future practice

This study allows the key aspects identified as important to children to be captured to facilitate the potential transition to a school-provided lunch model successfully. Children are key stakeholders that are often overlooked when conducting research in this space, and this research has allowed their voice on this issue to be captured. Future research on school-provided meals should ensure that children's voices are heard and positioned with as much importance as other stakeholders, and worth through the logistics of incorporating the current study themes. There is the potential to expand this research to capture a broader sample of the population, for example, to explore if there are differences in children's perceptions of school-provided meals by age, socioeconomic or cultural background.

## CONCLUSION

Developing a school-provided lunch model in Australia requires an understanding of children's perceptions and preferences to allow for a successful transition that will be accepted and valued by children. This study provides the first exploration of Australian children's perceptions of hypothetical school-provided meals. Findings

revealed that children think about various aspects of food, their physical and social environment, time allocated to eating and the various processes involved when imagining school-provided meals. Importantly, children desire choice and autonomy regarding what, where and with whom they eat their meals.

## SUPPLEMENTARY MATERIAL

Supplementary material is available at *Health Promotion International* online.

## AUTHORS' CONTRIBUTIONS

This study was conceived by B.J.J. and S.V. B.J.J., S.V., G.M. and E.C. designed the study. E.C. collected, analysed and interpreted the data with the guidance and support of supervisors B.J.J., S.V. and G.M. E.C. drafted the final report. B.J.J., S.V. and G.M. reviewed the manuscript draft.

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## AVAILABILITY OF DATA AND MATERIALS

Data available from authors upon reasonable request, pending additional ethics permission.

## INSTITUTIONAL ETHICS APPROVAL

Ethics approval was granted for this study by the Flinders University Human Research Ethics Committee (approval number 5235). Further to this, the Department for Education, Government of South Australia, provided approval to conduct research in schools (reference number 0022-0028).

## ETHICAL STANDARDS DISCLOSURE

This study was conducted according to the guidelines laid down in the Declaration of Helsinki and all

procedures involving research study participants were approved by the Flinders University Human Research Ethics Committee (approval number 5235). Further to this, the Department for Education, Government of South Australia, provided approval to conduct research in schools (reference number 0022-0028). Written informed consent was obtained from the parents or guardians of all participants, given they are children and written assent was provided from all participants.

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