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What motivates their food choice? Children are key informants

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ABSTRACT

In Australia, children are not eating according to the Australian Dietary Guidelines despite the incorporation of numerous public health initiatives in the school setting. Literature regarding children's views about what influences their food choice is limited. Incorporating children in the creation of strategies to build healthy public policy aligns with the World Health Organisation (WHO) Ottawa Charter framework. In this qualitative study we used participatory action research to determine why children make the food choices they do. Five action cycles were used to collect data from school children and the school canteen. Two of the action cycles, which are the focus of this paper, used Discovery Days (where children worked in groups to design a canteen menu) to collect data from 100 students on each day across grades two to six. Each group recorded and presented the reasons they made the food choices for the menu. Each day was captured by video and audio recordings were transcribed then analysed using a Conventional Content Analysis to identify themes and then theoretical concepts. Emerging theoretical concepts describing children's decision-making criteria included pleasure, texture, social acceptability, versatility and eating context. Our study found children are reliable informants about factors that influence their food choice. Using theoretical concepts as reported by children could be the foundation required to build more effective programs to facilitate healthy decision-making, supportive environments and health policy in the school setting to create healthy food that is desirable to children.

1. Introduction

Healthy eating habits established early in life persist into adulthood (Andersen et al., 2016; Australian Bureau of Statistics [ABS], 2014; Mensink, Schwinghammer, & Smeets, 2012; Venn et al., 2007). A focus on improving children's eating habits is crucial for the health of our children now and into their future (Mikkila, Rasanen, Raitakari, Pietinen, & Viikari, 2004; Nader et al., 1999; National Health and Medical research Council [NHMRC], 2013; World Health Organisation [WHO], 2009). Poor eating habits affect children's growth potential and increase the risk of chronic conditions including cardiovascular disease (CVD), type 2 diabetes and excess weight (Australian Institute of Health & Welfare [AIHW], 2014; Halpin, Morales-Suárez-Varela, & Martin-Moreno, 2010; National Health Priority Action Council [NHPAC], 2006). Childhood nutrition is central to healthy human development and is an important public health issue worldwide (WHO, 2002; 2009), however, public health initiatives are typically short-term and under-resourced (AIHW, 2014; Hancock, 2011).

Despite the implementation of several Australian programs over the last 20 years with the aim of improving children's eating behaviour (Bathgate & Begley, 2011; Campbell, Waters, O'Meara, Kelly, & Summerbell, 2001; Cashel, 2000; Cleland, Worsley, & Crawford, 2004; Hesketh, Waters, Green, Salmon, & Williams, 2005; Pettigrew, Pescud, & Donovan, 2012; Rana & Alvaro, 2010), many children are not eating according to the Australian Dietary Guidelines (ADGs) (AIHW, 2014; Australian Bureau of Statistics [ABS], 2016; NHMRC, 2013). The ADGs represent a diet that is healthy and high in nutritional quality (NHMRC, 2013; Pettigrew et al., 2012). Healthy food refers to foods that have no, or very little, processing and contain a range of essential nutrients that the body needs daily to maximise growth and provide protection from illness (AIHW, 2016; NHMRC, 2013; 2014; WHO, 2009). Nutritional quality refers to the level of everyday, essential nutrients a food contains; food low in nutritional quality contain low levels, or absence of, essential nutrients and/or levels of nutrients that are beyond what is required on a daily basis (excess sugar, fat, salt) or non-essential nutrients (added sugars, preservatives, colouring,

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flavour enhancers, trans fatty acids) (AIHW, 2016; NHMRC, 2013; 2014). In general, children's diets tend to be higher in total energy and lowerer in nutritional quality than in past decades, including low vegetable and fruit consumption ([ABS, 2014; Department of Health and Ageing [DoHA], 2008; Magarey, Daniels, & Boulton, 2001). The 2015 National Health Survey, based on the 2013 ADGs, reported only 5.1% of children aged 2–18 years of age ate the recommended serves of vegetables and fruit (ABS, 2016).

An important aspect of establishing an eating habit is food choice (Ludvigsen & Scott, 2009; Mikkila et al., 2004; Satter, 2008; Scaglioni, Arrizza, Vecchi, & Tedeschi, 2011; Strauss, 2006). Food choice refers to what foods are offered to children and what food children choose. Children like the power to make a choice (Ludvigsen & Scott, 2009). Completely restricting unhealthy food, also referred to as 'forbidden foods' can have a negative effect on children's eating habits because it evokes a desire to want that food (Fisher & Birch, 1999; Scaglioni, Salvioni, & Galimberti, 2008; Scaglioni et al., 2011). Unlimited access to unhealthy foods does not support healthy food choices either (Beets et al., 2014; Cleland et al., 2004; Hesketh et al., 2005). Australian school canteen guidelines have addressed this by advising that canteens offer healthy 'green' foods and 'amber' foods thus giving children a choice while reducing unhealthy options (DoHA, 2010). Despite these efforts, children are still not choosing healthier options (Bell & Swinburn, 2005; Pettigrew et al., 2012). Having a better understanding of what motivates children to make food choices can inform strategies to improve eating habits among children (Andersen et al., 2016; Gosling, Stanistreet, & Swami, 2008; Hanks, Just, & Wansink, 2013; Hesketh et al., 2005; Hill, 2006; Ludvigsen & Scott, 2009; Wansink, Just, Hanks, & Smith, 2013). Rather than adults trying to determine motivation through guess work and assumptions, it makes sense to ask the children themselves (Hill, 2006; Wansink et al., 2013) for key pieces of information that may be crucial to succeed in sustainable positive eating behaviour. While several researchers highlight the value of incorporating the views of children when planning health promotion programs targeted at children, many studies are based on parent, carer or researcher interpretations about why children make the food choices they do (Gosling et al., 2008; Hesketh et al., 2005; Khanom et al., 2015; Reich, Kay, & Lin, 2015; Wansink et al., 2013).

Research has explored different aspects of influence over children's food choice and has provided insights into the influence of innate tastes (Birch & Fisher, 1998; Drewnowski, 1997; Ludvigsen & Scott, 2009; Mennella, 2014), other sensory properties such as texture (Krolner et al., 2011; Mennella, 2014), the food industry and media (Gosling et al., 2008; Mennella, 2014), aspects of versatility (Liem & Zandstra, 2009; Wansink et al., 2013), social acceptability (Bazillier, Verlhiac, Mallet, & Rouëssé, 2011; Bevelander, Engels, Anschütz, & Wansink, 2013; Gosling et al., 2008; Polivy, 1988), peer influence (Andersen et al., 2016; Lowe, 2009), the home environment (Gosling et al., 2008; Huon, Wardle, & Szabo, 1999; Khanom et al., 2015) and other environments (Halpin et al., 2010; Krolner et al., 2011; WHO, 2016). There is a solid understanding of innate taste preferences in babies and toddlers and how these can change with repeated exposure as children approach school years (Lakkakula, Geaghan, Zanovec, Pierce, & Tuuri, 2010; Mennella, 2014; Satter, 2008). However, knowledge about what motivates children's food choice is unclear. The influence of the environment and the other elements named above have provided evidence-informed guidance and insight with respect to how healthy eating behaviours can be supported among children, however, these guides are void of a child's perspective.

Given eating habits established early in life persist into adulthood, it stands to reason that from a public health perspective, a long-term allocation of resources that invests in creating healthy eating habits for all children should be a priority (Khanom et al., 2015; Larsen, McArdle, Robertson, & Dunton, 2015; WHO, 2009). Many researchers support a whole-of-school approach to improve the food environment, including the canteen (Arriscado Alsina, Muros Molina, Zabala Díaz, & Dalmau Torres, 2015; Cleland et al., 2004; Hanks et al., 2013; Pettigrew et al., 2012; Reich et al., 2015). In Australia, 'health and physical activity' is a learning area in the national curriculum (Education Services Australia, 2016). In addition, a focus on improving childhood nutrition in the school setting is recognised nationally, and a stated strategic direction of state governments, such as the Tasmania Health Plan (DoHA, 2010; Department of Health and Human Services [DHHS], 2016; Pettigrew et al., 2012; Reich et al., 2015). National Guidelines for healthy food and drinks supplied in school canteens were developed to promote the availability of healthy food by advising canteens what food to offer (DoHA, 2010). The guidelines use a traffic light system where healthy foods are referred to as 'green' options, unhealthy are 'red' options and 'amber' choices are somewhere in the middle with healthy and unhealthy elements (DoHA, 2010). The guide promotes that foods offered in the canteen are predominantly healthy 'green' foods and 'amber' foods, thus giving children a choice while reducing unhealthy options (DoHA, 2010). Children are still opting for the unhealthier options in the school-setting (Beets et al., 2014; Carter & Swinburn, 2004; Rana & Alvaro, 2010).

The school setting provides a prime time to work with children to improve their eating behaviours (Arriscado Alsina et al., 2015; Baur, 2004; Brown & Summerbell, 2008; Carter & Swinburn, 2004; Morin, Demers, Gray-Donald, & Mongeau, 2012) given the continuous and resolute contact schools have with children from four years of age (Baur, 2004; Birch, 1999; Brown & Summerbell, 2008; Carter & Swinburn, 2004; Nader et al., 1999; Rana & Alvaro, 2010). Within a school setting, the food environment can also become a place for children to experience food and food choice (Mensink et al., 2012; Morin et al., 2012; Williamson, Han, Johnson, Martin, & Newton, 2013). Children's food experience at school is important to develop healthy eating habits (Arriscado Alsina et al., 2015; Birch, 1999; Morin et al., 2012; Nader et al., 1999).

From a public health perspective, to understand children's decision-making around food choices, we aimed to discover from children in the school setting, why they make the food choices they do. This in turn, can inform school-based policy and strategies that aim to establish healthy eating habits in childhood. We contend that adults need to improve their understanding of children's decision-making, as reported by the children, to build effective health promotion programs, supportive environments and health policy that make healthy options desirable to children.

2. Study design

Participatory Action Research (PAR) was used to explore children's motivations around food choice directly from the children. PAR is an iterative approach that is qualitative in nature (Brydon-Miller, 2003; Dick, 2014). The version of PAR used for this research was developed from Lewin's seminal work in 1946, which was adapted further by Lewin (Lewin, 1951) and again by Kemmis (Kemmis & McTaggart, 1990, 2005). Since then there has been a range of other PAR researchers that have developed the study design (Bradbury, 2001; Brydon-Miller, 2003; Dick, 2014; Greenwood and Levin, 1998; Koshy et al., 2010). A qualitative, inductive and participatory philosophical approach not only aligns with public health, it also aligns tightly with conducting research ethically among children in relation to the National Statement on Ethical Conduct in Human Research (NSECHR) (Gosling et al., 2008; Hill, 2006; Kemmis & McTaggart, 1990; Koshy et al., 2010; NHMRC,