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# Children as food designers: The potential of co-creation to make the healthy choice the preferred one

## ABSTRACT

*According to the WHO, childhood obesity is one of the most serious public health challenges of the twenty-first century. In this context, finding ways to make the healthier food choices the preferred ones can be a valuable contribution to solving this multifaceted problem. Sensory and consumer science offers a wide range of tools that can support the development of healthy and well-accepted food alternatives. In traditional sensory and consumer science, children would be involved in the product development process either as testers or informants. However, in our opinion, it would be valuable to extend their role to co-creators or co-designers, an approach already more established in the field of innovation and design, where children actively participate in the idea generation and development of healthy food that they will like and choose. Our own experience has shown that involving*

## KEYWORDS

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*children in the idea-generation step for healthy food can be highly motivating and stimulating for them. In this opinion article, we discuss why it is important to include children actively as a relevant consumer segment in product development and suggest a process and methods that could be valuable for brainstorming about food ideas with children.*

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Nearly one in five children is overweight or obese world-wide and the numbers are growing (WHO 2018). Regulation measures recommended by the WHO, such as restricting promotional marketing of unhealthy food to children, taxing sugar-sweetened beverages and front-of-pack labelling, are being implemented around the globe and are hopefully going to accelerate the development of healthy food alternatives in the coming years.

It is important to involve children in new product development in order to make sure that healthy alternatives meet children's needs. Healthiness alone will not convince children, who place a high focus on immediate pleasure opposed to long-term health goals, because their brain area linked to self-regulation is still developing (Lowe et al. 2020). Further, it is well known that children's preferences can be different from those of adults. Children display, for example, a preference for a higher sweetness level than adults, a stronger disliking of bitter food (Forestell and Mennella 2015) and many times, reject certain textures (Laureati et al. 2020; Dovey et al. 2008). Also, extrinsic product properties, such as packaging design (Pires and Agante 2011) and the arrangement of dishes on a plate (Zampollo et al. 2012), play a crucial role in their food choice. A good product development should study and respect children's preference patterns while finding mechanisms to spark children's curiosity towards a broader food palate, the so-called acquired tastes.

Almost 30 years ago, the initiative 'Cities of Children' was started to consider children as point of reference for urban development in order to transform the way we use cities (Tonucci 2019; Tonucci and Rissotto 2001). The initiative was started in Fano, Italy and has now been applied in more than 200 cities world-wide. In these cities, children have been actively involved in 'Children's Councils' as well as in the design of architecture and urban planning projects (Tonucci 2019; Tonucci and Rissotto 2001). In our opinion, this approach, taking children as 'sensitive indicators', could serve as role model to transform the way we eat which is today heavily focused on adults' preferences and needs. Maybe it is time to create the future of eating with children.

Interesting to note is that Tonucci and colleagues are not in favour of compartmentalizing playgrounds to designated areas in a city, stating that designed playgrounds do not offer nearly as much excitement and spontaneous learning as the mingling with the adult world. It is worth evaluating if this applies to the food domain where the sector specifically targeted at children is growing. A more integrative approach where children are simply regarded as a relevant and demanding consumer segment for food consumed by everyone might be a valuable second path to consider. In their review about picky

eating and food neophobia, Dovey et al. (2008) describe that a child might learn to accept food through observing significant others (the more the better) eating the same food. Studies on baby-led weaning suggest that weaning infants with family food instead of purées is possible and may lead to a better self-regulation of energy intake (Cameron et al. 2012). The Hindu ceremony Annaprashan is an interesting tradition to initiate an infant into the family's eating tradition; the ceremony celebrates the infant's first solid food eaten by presenting a variety of popular dishes to taste (Srividya 2018).

Ideally, children's needs and preferences are integrated in family meals as well as the 'outside food world', such as food retail and restaurants. For a child-centred product development we regard the participatory and interactive co-creation approach as particularly promising. Involving consumers in the early creative stage of product development has a long history in the design and innovation disciplines (Sanders and Stappers 2008; Von Hippel 1986) and has recently gained attention in food product development and consumer research to increase the market success of new products (Busse and Siebert 2018; Grunert et al. 2008; Schifferstein 2015). Co-creation extends the traditional more passive involvement of consumers as users, testers or informants to a more active role by including them in the creative idea generation stage of new product development as partners (Druin 2002; Sanders and Stappers 2008). This calls for new methods and approaches to brainstorm with consumers about food; a publication by Banovic et al. (2016) offers insights, focusing on adults. Co-creating food with children has the potential of generating ideas that adult product developers could not develop themselves. At the same time participatory co-creation initiatives can empower participating children to find their own way to pleasurable healthy eating thus laying the foundation for change.

Ind and Coates (2013) argue that basically everyone can co-create, as long as the motivation is high, and the right conditions and processes exist. According to them, the main prerequisites are knowledge and motivation. The co-creation goal as well as the setup should appeal to intrinsic motivation to participate. The goal of the co-creation project has to mutually benefit the organizer of the project as well as the participating children (Ind and Coates 2013). Further, gamification elements, e.g., described in Chou (2015), can enhance task absorption during the co-creation session, which contributes to a pleasurable participation experience.

In our co-creation study, we focused on the first stage of product development – idea generation – with child participants who were between nine to twelve years old, an age group that is starting to be more autonomous in making food choices. We defined three steps: *Show and Tell*, *Reflect and Create*, applied via two setups: a focus group setting (three focus groups of six to eight participants) and an interactive online platform (with one school class of 52 children). The first two steps laid the foundation for the last creative step by generating group knowledge about the current eating situation.

- (1) *Show and Tell*: Photovoice and photo elicitation are methods from participatory action research that enable children and youth to record and reflect on their realities. The methods have been used in previous research about food habits of children and youth by Findholt et al. (2011) and Martin Romero and Francis (2020). In our study children took photos of snacks they ate and then either described their snacks in a guessing game or posted them on an interactive food blog with a description.



We hope to publish detailed accounts of our brainstorming study soon and would like to encourage product developers as well as chefs to further include children's needs and ideas for healthy eating. The intersection of consumer science, innovation and design offers the tools for human centric approaches to make people's, and particularly children's, lives better and healthier. Future research could draw on the knowledge from these disciplines for new co-creation experiences with the aim of understanding children's needs, empowering them to eat healthy and developing healthy products for and with children.

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