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Research report

Kindergarten food familiarization. An exploratory study of teachers' perspectives on food and nutrition in kindergartens ☆

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ABSTRACT

This exploratory study employed a netnographic approach (netnography being a research methodology that adopts the practices of ethnography in an Internet-based setting) to reveal opportunities for kindergarten food familiarization. The study analyses kindergarten teachers' discussions on seven Internet message boards regarding the various food and nutrition experiences in their classes. Semi-structured interviews were then conducted with seven kindergarten teachers to explore further the message board findings. Five opportunities for how food familiarization occurs in kindergartens emerged from the analysis. These opportunities were categorized as being either "overt": (1) nutrition lessons, (2) snack times, (3) cooking experiences, or "covert" (4) food as teaching materials, and (5) dramatic play centres. Overt refers to any opportunity centred on food, healthy eating, or nutrition, whereas covert refers to opportunities where food was involved but in a non-exclusive manner. The five opportunities are examined and discussed in terms of their implications for children's food preference development. Results should be useful for future researchers for two main reasons. First, the results demonstrate the wide variety of food and nutrition experiences kindergarten students encounter throughout the day, beyond healthy eating interventions or foods served during meals. And second, because the findings are preliminary they require further research using various methods of data collection and samples of teachers.

Introduction

Even with a reported stabilization in childhood overweight and obesity rates in developed countries over the past decade, rates remain significantly higher than they were prior to the 1980s and continue to represent a significant public health issue (Olds et al., 2011; Wabitsch, Moss, & Kromeyer-Hauschild, 2014). Due to these high childhood overweight and obesity rates, interest has been growing in the different settings where children have opportunities to develop eating behaviours beyond just the home setting (Mikkelsen, 2011). Early childhood – under six-years of age – is a critical time in eating behaviour development, as children's experiences during this period play a major role in shaping their lifelong eating behaviours and food preferences (Schwartz & Puhl, 2003; Skinner, Carruth, Bounds, & Ziegler, 2002).

While a multitude of healthy eating interventions have been developed for elementary schools, researchers remain divided on the effectiveness of school-based interventions. Some researchers contend that schools represent a popular and useful setting for intervention because schools offer continuous, intensive contact with children during their early years (Anzman, Rollins, & Birch, 2010; Katz, 2009). Additionally, the school setting has been described as providing the most effective and efficient way to reach a large segment of the population (Perez-Rodrigo & Aranceta, 2001). On the other hand, many researchers have concluded that school-based interventions result in minimal effectiveness for reducing child overweight and obesity rates or for developing healthy, long-lasting eating behaviours (Ammerman, Lindquist, Lohr, & Hersey, 2002; Jaime & Lock, 2009; Kropski, Keckley, & Jensen, 2008; Sharma, 2006; Thomas, 2006; Wadden, Brownell, & Foster, 2002).

Different causes have been suggested for the inability of these school-based interventions to develop children's long-lasting eating behaviours (Cole, Waldrop, D'Auria, & Ganer, 2006; Greenberg, 2004; Thomas, 2006). One important consideration is that such interventions are not the only food and nutrition experiences children encounter throughout the school day. In kindergarten classes particularly, food is not simply provided at meals or only discussed during healthy eating interventions; it is often embedded in the curriculum and a focal point of various celebrations (Isoldi, Dalton, Rodriguez, & Nestle, 2012; Johansson et al., 2009; Mikkelsen, 2011). These experiences are important because they can influence children's development of food preferences through the concept of "food

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familiarity," which refers to children preferring foods that are familiar to them (Cooke, 2007). However, little research has examined food familiarization in kindergartens.

Additionally, researchers typically use interviews or questionnaires to learn teachers' perspectives on healthy eating and nutrition in kindergarten, even though these methods are often problematic, due to self-representation biases (Henry, White, Smith, & LeDang, 2010; Watts, Pinero, Alter, & Lancaster, 2012). Consequently, a wider variety of methods has been recommended for educational research, particularly research on nutrition (Carraway-Sage et al., 2013; Parker & Neuharth-Pritchett, 2006; Watts et al., 2012). A promising alternative to traditional methods can be found in social media discussions (Wilkinson & Thelwall, 2011). Social media discussions, such as message boards, have been found to encourage participants to reveal more information than do traditional methods, such as focus groups (Hookway, 2008; Williams & Merten, 2008). Social media discussions offer qualitative researchers a wealth of raw textual data (Krippendorf, 2004) that can be examined through "netnography," an innovative methodology that applies ethnography to the Internet (Kozinets, 2010).

Therefore, the purpose of the present exploratory study was to reveal opportunities for kindergarten food familiarization by examining the various food and nutrition experiences children encounter in kindergartens. As little is known about kindergarten food familiarization experiences, the present study begins to fill this knowledge gap through a netnographic study (combining social media analysis and interviews) that examined kindergarten teachers' descriptions of experiences in their classes involving food and nutrition.

Conceptual foundation

This section provides information on two areas that formed the conceptual foundation of the present study: (1) the concept of food familiarity and its importance for food preference development, and (2) the use of social media data in research.

Impact of food familiarity on food preference development

Examining the different food and nutrition experiences in kindergartens is important because children's food preference formation is linked with their familiarity with foods during early childhood – the more familiar the food, the more it is preferred (Aldridge, Dovey, & Halford, 2009; Birch & Marlin, 1982; Cooke, 2007; Skinner et al., 2002; Wardle & Cooke, 2008). For example, Skinner et al. (2002) found that children who were exposed to a wide variety of fruits and vegetables during the first two years of life continued with this type of diet. Introducing young children to new foods is especially critical because biological factors influencing children's food preferences include a resistance to unfamiliar foods (Schwartz & Puhl, 2003), a predisposition known as food neophobia (Birch, 1998; Cooke, 2007). Children's neophobic reactions to new foods can be overcome by providing them with repeated opportunities to taste the resisted foods, as children learn what to like, dislike, avoid, etc. (Birch, 1998; Birch & Davidson, 2001; Rozin, 1990; Sullivan & Birch, 1994). Additionally, repeatedly presenting a food in a positive context results in increased preference for that food (Birch, 1998).

Further, research on the promotion of children's food preferences suggests that the concept of "visual familiarity" may be a useful strategy for reducing neophobic responses and encouraging healthy food preferences (Dazeley, Houston-Price, & Hill, 2012). Visual familiarity is a concept that refers to children's preferences for foods that they frequently *see* in their environments; simply seeing a food on a regular basis can be key in children's decisions to try novel foods (Story, Neumark-Sztainer, & French, 2002). Houston-Price, Butler, and Shiba (2009) explored how picture books featuring vegetables could be used to encourage children to try new foods. They found that children who were exposed to vegetables via the picture books had a reduced aversion to unfamiliar foods compared to familiar foods, and an increased willingness to taste foods to which they had been exposed. The researchers posited that visual exposure could reduce the number of exposures needed to increase children's willingness to eat novel foods (Houston-Price et al., 2009).

Consequently, it is essential that those in children's social environments understand that children's initial rejections of new foods do not represent innate food preferences, but signal transient reactions that can be changed and developed through food familiarity experiences (Birch, 1998). In fact, increasing children's familiarity with healthy foods is a recommended component of school-based nutrition education curricula (Centers for Disease Control and Prevention (CDCP), 2011; Wardle & Cooke, 2008).

Social media in research

Message boards

The descriptor "social media" refers to a number of online tools and systems, such as weblogs, chat rooms, and message boards (Norman, 2012). While social media can take many forms, the particular type of social media used in the present study was message boards. Message boards consist of text-based exchanges between participants on commonly shared interests (Kozinets, 2010). Message boards are reliant upon public participation to operate successfully: participants post messages, others reply, and over time an asynchronous conversational thread develops (Hagen & Robertson, 2009; Kozinets, 2010; Norman, 2012).

Recent years have seen a rapid increase in the number of social media discussion sites (Krippendorf, 2004; Rowe, Hawkes, & Houghton, 2008). Health researchers have analysed social media discussions to understand public perceptions of various issues including perceptions of antibiotics and influenza (Corley, Cook, Mikler, & Singh, 2010; Scanfeld, Scanfeld, & Larson, 2010) and to understand online peer support systems (Coulson, 2014; Meier, Lyons, Frydman, Forlenza, & Rimer, 2007).

Most relevant to the present study is that teachers have been increasingly turning to online discussions because of perceived limitations on their freedom of speech (Stitzlein & Quinn, 2012). Teachers have described the convenience and support of message boards as allowing them to overcome barriers of time and distance (Hur & Brush, 2009; Kidd, 2013; Nicholson & Bond, 2003; Stitzlein & Quinn, 2012). Additionally, these discussions enable teachers to discuss their opinions with a wider range of teachers than those in their immediate physical environments, which is significant, as teachers have described feeling isolated from other teachers who share their views (Hur & Brush, 2009; Stitzlein & Quinn, 2012). Given the advantages of social media discussions, it is surprising that few researchers have taken advantage of these innovative data sources to examine teachers' perspectives on such topics as the focus of the present study (Kulavuz-Onal & Vasquez, 2013; Wilkinson & Thelwall, 2011).

Netnography

To qualitatively study message board discussions, researchers may use the aforementioned "netnography." Netnography is a methodology that shares the goals of ethnography but adapts the latter's practices to study social media, for present purposes, the message board discussions described earlier (Kozinets, 2002). Thus, a netnographic study follows a process that resembles an ethnographic study; that is, researchers study the specific meanings and practices of particular social groups (Kozinets, 2010). However, instead of studying real-life community sites, netnographers examine relevant social media discussion sites. Those social media discussions are then saved and analysed similarly to data from other qualitative data methods (Kozinets, 2010). As a qualitative