Appetite 96 (2016) 203–208

Contents lists available at ScienceDirect

Appetite

journal homepage: www.elsevier.com/locate/appet

Food depictions in picture books for preschool children: Frequency, centrality, and affect

Jane A. Goldman [a, *], Lara Descartes [b]

[a] University of Connecticut, 348 Mansfield Road, Storrs, Connecticut, 06269-1058, USA
[b] Brescia University College, 1285 Western Road, London, Ontario, N6G1H2, Canada

ARTICLE INFO

Article history:
Received 18 October 2014
Received in revised form
28 July 2015
Accepted 14 September 2015
Available online 18 September 2015

Keywords:
Children's books
Food messages
Media
Nutrition
Preschool
Young children

ABSTRACT

The food content and messages depicted in popular children's picture books were examined using a set of 100 "Favorite Books for Preschoolers." Sixty-nine of these books depicted food and comprised the sample. Examined were: the types and frequencies of food depicted in the text and/or illustrations of the books; the centrality (central, background); and the affect (positive, neutral, or negative) of those depictions. Each food item was counted, categorized by type, and where possible, coded for centrality and affect. Fruit was the most frequently depicted food, followed by sweetened baked goods, dairy, and vegetables. However, centrality and affect differed for these foods. For example, sweet baked goods were high in both centrality and affect. In contrast vegetables were relatively high in centrality but most often neutral in affect. Ice cream, although not in many books, always was associated with positive outcomes. Results were compared to findings in the literature on food messages presented in children's television programs. The ratio of healthy foods to nutrient-poor foods was higher in the books. However, as in television, the books emphasized the desirability of sweetened foods. The results point to the need for detailed analyses of the types of presentations associated with different foods presented in books for children, as well as for continued investigations into food messages in the growing range of media available to young children.

1. Introduction

It is well-documented that as early as the preschool years (ages three to five) children develop concepts of healthy and unhealthy food choices (Holub & Musher-Eizenman, 2010; Institute of Medicine, 2006; Sigman-Grant et al., 2014; Tatlow-Golden, Hennessy, Dean, & Hollywood, 2014) and that exposure to food messages in media can influence children's food preferences (e.g., Dorey & McCool, 2009; Halford et al., 2007; Halford, Gillespie, Brown, Pontin, & Dovey, 2004; Harris, Bargh, & Brownell, 2009). In the preschool years, television is children's foremost media source (Rideout, 2013). Two-to-four year olds, for example, spend over an hour a day on average watching television (Rideout, 2013).

Research has shown that a large percentage of the food messages in television programs aimed at children depict foods that are high in fat, salt, and especially sugar. Healthy, nutrient-dense foods are portrayed relatively infrequently (Korr, 2008; Radnitz et al., 2009). Radnitz et al., (2009) for example, reported twice as much airtime devoted to unhealthy foods as healthy foods in their survey of public television programming for children. The situation is even more extreme in commercials aired during the shows children watch. The vast majority of ads are for unhealthy, non-nutritive foods (e.g., Cairns, Angus, Hastings, & Caraher, 2013; Halford et al., 2007, 2004; Harris, Sarda, Schwartz, & Brownell, 2013; Harrison & Marske, 2005; Kotz & Story, 1994; Kuribayashi, Roberts, & Johnson, 2001; Powell, Szczypka, & Chaloupka, 2010; Powell, Szczypka, Chaloupka, & Braunschweig, 2007). Harrison and Marske (2005) found, for example, that 83% of the foods advertised during popular children's programs were for sweets and other nutrient-poor foods. In a similar study, Powell et al. (2007) reported a figure of 98%. Research shows that such food promotions not only affect children's nutrition knowledge but their likelihood for obesity (Boyland & Halford, 2013; Halford et al., 2007; Sixsmith & Furnham, 2010).

* Corresponding author. University of Connecticut, Department of Human Development and Family Studies, Unit 1058, 348 Mansfield Road, Storrs, Connecticut, 06269-1058, USA.
E-mail addresses: jane.goldman@uconn.edu (J.A. Goldman), ldescart@uwo.ca (L. Descartes).

http://dx.doi.org/10.1016/j.appet.2015.09.018
0195-6663/

Along with television, books are a part of children's media world. Rideout (2013) reports that books are the second-most common media source for two-to-four year olds, who spend on average nearly half an hour daily reading or being read to. The picture books that are written for the preschool age group often contain images and messages about food. These deserve analytic attention, but to date, only two studies, Byrne and Nitzke (2000) and England, Linchey, Madsen, and Patel (2015), have examined picture books in this way. The two studies were coded somewhat differently, with Byrne and Nitzke counting individual food mentions and England et al. recording the percentage of books in which a food type appeared. Byrne and Nitzke reported that 38% of the foods depicted in their sample were nutrient-dense and 33% were nutrient-poor. Although nearly ninety percent of England et al.'s sample did depict at least one healthy item, 55% portrayed unhealthy foods. These picture book depictions of food, like the ones in television, may affect children's perceptions of foods.

Two theoretical perspectives, cultivation theory and social learning theory, have been identified as helpful in explaining the influence of media depictions. First, the media cultivation effect proposes that: "repeated exposure to food advertising can affect food preferences through its influence on normative beliefs. According to the cultivation theory of media exposure, the cumulative effect of messages portrayed in the media leads to views of the world similar to the "symbolic world" seen in the media (see Gerbner, Gross, Morgan, Signorielli, & Shanahan, 2002)" (Harris, Brownell, & Bargh, 2009, p. 241). Second, reviewing psychological theories, Harris and Graff (2012) point to the basic postulates of social learning theory that "children learn and model behaviors, attitudes, and emotions by observing others' actions and the consequences of those actions" (2012, p. 217). They state that the "symbolic environment of the media also provides vicarious learning about social behaviors and attitudes" (2012, p. 217).

Both cultivation and social learning theory can help to explain how television and picture book content may affect children's perceptions about foods through normalizing the foods that are depicted and through modeling attitudes and emotions associated with various food choices. These theories may help explain why, for instance, researchers Tapper, Horne, and Lowe (2003) found that children were more likely to consume fruits and vegetables after observing television characters enjoying them and being empowered by doing so. Similarly, Byrne and Nitzke (2002) reported that children were more likely to try an unfamiliar vegetable after seeing it positively portrayed in a picture book.

The study presented here categorized the types of foods found in a sample of popular, widely accessed children's books, and, relevant to both social learning theory and cultivation theory, the centrality and affect of the depictions. This study's domains of inquiry thus included the frequency with which different foods were depicted in children's picture books and the ways in which foods were shown: centrally, as focal points of the text or illustrations, or in the background. Of interest was how the foods were presented, with respect to capturing children's attention. The affect of the depictions also was considered: in other words, the emotional tones accorded to the different types of foods, as foods presented in a positive manner may be more likely to be perceived by children as desirable (Byrne & Nitzke, 2002).

2. Methods

This project did not require review by an Institutional Review Board as human subjects were not involved, per US Department of Health and Human Services guidelines (2004). The sampling goal was to select a set of books widely accessed by young children. Based on recommendations from local children's librarians and book store staff, the authors contacted Scholastic Books. Scholastic Books is an international powerhouse. They are "the largest publisher and distributor of children's books in the world" (Scholastic.com, 2013), with operations in 150 countries (Scholastic.com, 2015). Scholastic has a presence in at least 90% of American schools (Scholastic.com, 2013), with their books promoted heavily via school book fairs, school classroom and library purchases, and take-home flyers. The authors thus decided that for sampling purposes, Scholastic provided an ideal vendor. In consultation with Scholastic's staff, their collection "Favorite Books for Preschoolers, Sets, I, II, and III" was selected. The set is widely purchased for preschool and kindergarten classrooms. This collection of 100 picture books includes both classic and more recent books, and fiction and non-fiction. Of the 100 books in the set, 69 included one or more food items in the text and/or illustrations. These 69 books comprised the sample for this study.

2.1. Coding depictions of foods in text and/or illustrations

Both researchers simultaneously performed the coding. Disagreement on a coding category was rare and was resolved via discussion until consensus. Both went through each book page-by-page, including covers and title pages, counting and classifying each depiction of a food in text and illustrations. The coding approach was guided by those of other researchers who have conducted media content analyses of food, such as Korr (2008), who counted the types of food appearances in children's television cartoons and their commercials. He included all food references, both visual and verbal. This study's coding categories (e.g., "salty snacks," "fruits") were based on a review of others' media food content analyses (e.g., Harris et al., 2013; Korr, 2008; Story & Faulkner, 1990). Identifying foods as healthy (fruit, fruit juice, vegetables, protein, dairy (not ice cream), grains/baked goods (not sweet), water), unhealthy (baked goods (sweet), sweeteners, sweet drinks, ice cream, salty snacks, candy), or other (e.g. coffee) was based on MyPlate guidelines (Choosemyplate.gov, 2014).

2.2. Subdivision of sample into "Food mention" and "Theme" books

Foods were incorporated into the books' storylines in two distinct ways, necessitating a subdivision of the sample. For the majority of the books ($n = 48$) the story did not center on food, but food appeared one or more times in the book. An example is *Peter's Chair* (Keats, 2000) in which a child considers running away from home. One page mentions the cookies he packs to bring along. This category of books was labelled "food mention." In this set of books the maximum number of times a specific food was mentioned was six. For the other books ($n = 21$), there was a theme or sub-theme involving food. In these the food was present on all or nearly all pages. For example, in *The Doorbell Rang* (Hutchins, 1987) cookies appear on every page. These were labelled "theme" books. Grouping the "theme" books' content together with the "food mention" books would have skewed the analyses by over-representing the counts of certain foods. Thus, separate analyses were conducted for the two sets of books. Page-by-page analyses were completed for the "food mention" books. Analyses of the "theme" books concentrated on the types of food that were the books' foci.

2.3. Assessment of centrality and affect

For the 48 "food mention" books the authors tallied the number of pages on which a given food appeared in text or illustration, and each instance was coded for centrality and affect. Food items' relative prominence on the books' pages was classified into two