

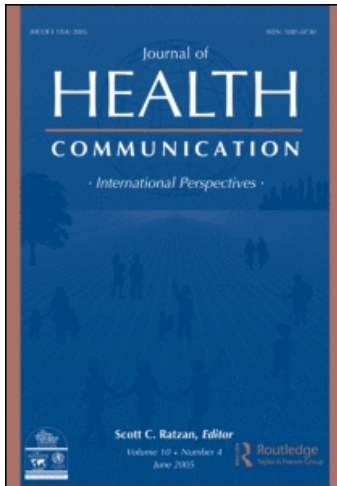
This article was downloaded by:

On: 3 January 2011

Access details: *Access Details: [subscription number 929166118]*

Publisher *Taylor & Francis*

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Journal of Health Communication

Publication details, including instructions for authors and subscription information:

<http://www.informaworld.com/smpp/title~content=t713666566>

### Using Brand Characters to Promote Young Children's Liking of and Purchase Requests for Fruit

Simone M. de Droog<sup>a</sup>; Patti M. Valkenburg<sup>a</sup>; Moniek Buijzen<sup>a</sup>

<sup>a</sup> The Amsterdam School of Communications Research, University of Amsterdam, Amsterdam, The Netherlands

First published on: 05 November 2010

**To cite this Article** de Droog, Simone M. , Valkenburg, Patti M. and Buijzen, Moniek(2011) 'Using Brand Characters to Promote Young Children's Liking of and Purchase Requests for Fruit', *Journal of Health Communication*, 16: 1, 79 – 89, First published on: 05 November 2010 (iFirst)

**To link to this Article:** DOI: 10.1080/10810730.2010.529487

**URL:** <http://dx.doi.org/10.1080/10810730.2010.529487>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.informaworld.com/terms-and-conditions-of-access.pdf>

This article may be used for research, teaching and private study purposes. Any substantial or systematic reproduction, re-distribution, re-selling, loan or sub-licensing, systematic supply or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## Using Brand Characters to Promote Young Children's Liking of and Purchase Requests for Fruit

SIMONE M. DE DROOG, PATTI M. VALKENBURG,  
AND MONIEK BUIJZEN

The Amsterdam School of Communications Research, University of  
Amsterdam, Amsterdam, The Netherlands

*The aim of this experiment was to investigate whether brand characters can enhance children's liking of and purchase request intent for fruit compared to candy. The authors assigned 216 preschool students between the ages of 4 and 6 years to 9 experimental conditions in which they were presented with a healthy snack (chopped bananas) and an unhealthy snack (banana candy). The packages of these snacks portrayed a familiar character (i.e., Dora from Dora the Explorer or SpongeBob from SpongeBob SquarePants), an unfamiliar character, or no character (control group). The authors' results showed that brand characters can increase children's liking of and purchase request intent for fruit up to a level similar to candy. However, the effects on liking and purchase request intent did not differ between familiar and unfamiliar characters. These results may be helpful for future marketing campaigns to promote children's consumption of healthy foods.*

In most welfare states, there is a growing concern about the weight of children. Approximately 20–30% of children up to 19 years of age in Europe and the United States are overweight. If these trends continue on a linear basis, it is expected that as of 2010, 1 in 10 European children and 1 in 7 American children will be obese (Wang & Lobstein, 2006). Because overweight children have a higher risk of developing type 2 diabetes, heart problems, and psychological problems, specialists foresee a generation of children who may not outlive their parents (Laing, 2002; Wakefield, 2004; Wang & Lobstein; World Health Organization, 2006).

Children's weight gain in recent years has been paralleled with an explosive growth of child-directed food advertising. The majority of these food advertisements are about high-calorie foods and soft drinks (Buijzen, Schuurman, & Bomhof, 2008; Hastings, et al., 2003; Holt, Ippolito, Desrochers, & Kelley, 2007). As a result, child-directed food advertising is often considered as one of the main causes of child obesity, which has led to a range of measures reducing children's exposure to advertising for unhealthy foods. Many countries have adopted self-regulatory advertising rules. For example, in the United States and several European countries, advertisers are strongly advised not to use child idols to promote food products in television commercials for children. Besides self-regulation, some countries—such as Sweden

Address correspondence to Simone M. de Droog, The Amsterdam School of Communications Research, University of Amsterdam, Kloveniersburgwal 48, 1012 CX Amsterdam, The Netherlands. E-mail: S.M.deDroog@uva.nl

and Norway—have explicit bans on child-directed advertising (Children's Advertising Review Unit, 2006; Garde, 2008; Jardine & Wentz, 2005).

Apart from measures focused on reducing the consumption of unhealthy foods, one could also think of measures aimed at promoting the consumption of healthy foods. For example, the World Health Organization (2005, 2006) emphasized that obesity should be tackled not just by reducing the intake of fat and sugar, but also by stimulating the intake of fruit and vegetables. Children who eat fruit and vegetables on a daily basis usually have a healthier weight, because these healthy foods are high in fiber and reduce the craving for high-calorie snacks (Lin & Morrison, 2002; Tohill, 2005). However, although there have been many studies on the effects of advertising on children's unhealthy food consumption, there is hardly any research on whether and how advertising could stimulate the consumption of healthy foods.

The few studies that have looked at health-promoting marketing techniques seem promising. Robinson, Borzekowski, Matheson, and Kraemer (2007) showed that children's preference for milk and carrots increased when the McDonald's logo was placed on the wrappings. French and Stables (2003) found that fruit promotion in cafeterias (e.g., attractive packages) stimulated adolescents' fruit consumption. Tapper, Horne, and Lowe (2003) found an increase of children's fruit and vegetable consumption when they were given a premium. Last, Pempek and Calvert (2009) showed that children who played an advergame promoting healthy food consumption chose more healthy snacks than did children who played the less healthy advergame version.

The aim of this experimental study was to extend on this new line of research and investigate how a marketing technique can stimulate children's liking of and purchase request intent for fruit. We focused on brand characters as the marketing technique, because previous studies have shown that brand characters can be successful in stimulating children to consume unhealthy foods, such as presugared cereals, junk food, soft drinks, and candy (Atkin, 1975; Bahn, 1989; Carruth, Skinner, Moran, & Coletta, 2000; Macklin, 1994; Mizerski, 1995; Neeley & Shumann, 2004). More specifically, we focused on two types of brand characters—familiar and unfamiliar—because children have shown to relate differently to these two types of characters (Callcott & Alvey, 1991; Callcott & Lee, 1995; Hoffner, 1996).

### **Brand Characters as a Marketing Technique for Preschool Students**

The use of brand characters is a marketing technique that gives a product a child-friendly appearance (Chapman, Nicholas, Banovic, & Supramaniam, 2006; Valkenburg, 2004). Advertisers place a colorful picture of a character on the front panel of the package, like an animated bee on a cornflakes package or a Disney character on a dessert. Earlier studies on the effects of brand characters on unhealthy snacks have shown that these characters can increase preschool students' attention for, and recognition and liking of, the product or brand (Bahn, 1986, 1989; Macklin, 1994; McNeal & Ji, 2003; Mizerski, 1995; Neeley & Schumann, 2004). This success of brand characters can be explained by the specific appeals that these characters have on preschool students.

Brand characters are appealing to preschool students on two levels. On a more basic perceptual level, children simply like the characters for their appearance. Characters are usually funny, brightly colored, and simply drawn animations. This is especially appealing to preschool students because of their limited cognitive abilities. Preschool students are not able to evaluate stimuli on more than one or two

dimensions and focus only on the most salient attributes (Valkenburg, 2004). Because preschool students do not understand abstract or multileveled stimuli and messages, the things that stand out are characterized by simplicity (Acuff & Reiher, 1997; Valkenburg). Several studies have shown that products with colorful characters on the package stand out to preschool students (Acuff & Reiher; Bahn, 1989; Carruth et al., 2000; McNeal, 1999; McNeal & Ji, 2003; Rust, 1993).

Characters can also be appealing on an emotional level. From the age of 2 years, children become less dependent on their parents and start to allow other people into their lives (Damon, 1983; McNeal, 2007). These people may be real-life persons, but they also may be cartoon characters that they encounter in the media (McNeal). Children can develop a special relationship with these characters, referred to as *para-social interaction*: after a period of media exposure, children think they know the character as a close friend and wish to be part of the character's social world (Hoffner, 1996; Lemish, 2007). A way for preschool students to be close to their (character) friend is to collect products that refer to the character, such as stuffed toys resembling the character or products with a picture of the character on it. Consequently, the more presence a character gains in a child's world, the more influence it can have on his or her consumption (Acuff & Reiher, 1997; McNeal).

Whether a character is appealing on a perceptual or emotional level depends on the familiarity of a character. Familiar characters originate from movies, comic books, television programs, or other media (Callcott & Lee, 1995). They are usually vivid persona with whom children easily form friendships. This special relationship with characters motivates continued media exposure, making the character a well-known personality for the child (Callcott & Phillips, 1996; Hoffner, 1996). Unfamiliar characters or noncelebrities are developed only for the purposes of marketing (Callcott & Lee). Similar to familiar characters, unfamiliar characters can be appealing on a perceptual level and generate great product attention. However, because unfamiliar characters are usually static characters on products, without the widespread media exposure or merchandise, it will take longer for children to develop relationships with them. Consequently, unfamiliar characters may be less emotionally appealing than familiar characters.

Characters with great emotional appeal are expected to have a higher effect on a child's product liking and purchase request intent than characters with less emotional appeal (Callcott & Lee, 1995; McNeal, 1999, 2007). One reason is that children are more susceptible to information from friends and idols than to information from unfamiliar individuals (Hoffner, 1996; Valkenburg, 2004). Another reason is that a familiar character can be so impressive to a preschool student that it distracts attention from the product inside the package (Callcott & Alvey, 1991). Irrespective of the content inside, children want to have as many products of their favorite character as possible (Acuff & Reiher, 1997). This distraction of the content of the package could be beneficial to overcome children's initial resistance to healthy products.

### ***The Development of Children's Liking of and Purchase Request Intent for Fruit***

Children's food preferences emerge at the age of 2 years, when they become independent eaters and start to reject certain foods (Zeinstra, Koelen, Kok, & De Graaf, 2007). The age span between 2 and 7 years is particularly important because during this time, children construct their first food ideas, which often last into adulthood (Rasmussen et al., 2006; Zeinstra et al.). Because the reasoning capacities of these

young children are not yet fully developed, it is difficult for them to use conceptual motives to choose foods (Acuff & Reiher, 1997). For example, they do not fully understand the concept of *health* and that eating fruit is good for the body (Zeinstra et al.). The first food ideas of preschool students are usually based on perceptual attributes, which could be the appearance of the product or its package. As a result, preschool students may simply dislike a product with a strange shape or ugly color and like a product because it has a nice picture on the package. Furthermore, a positive product attitude (liking) is usually a good predictor for higher level consumption behavior, such as purchase request intent (Macklin, 1994; Zeinstra et al.).

Preschool students' focus on perceptual attributes could explain their low motivation to consume fruit. Whereas in the past two decades manufacturers of unhealthy products have developed a wide array of marketing strategies to persuade children, the presentation of fruit has hardly changed (O'Dougherty, Story, & Stang, 2006). However, previous studies have indicated that the appeal for fruit could increase when popular marketing techniques are used (French & Stables, 2003; Pempek & Calvert, 2009; Tapper, Horne, & Lowe, 2003). These earlier studies suggest promising outcomes for the use of brand characters to stimulate children's fruit consumption.

### **Aim of This Study**

In summary, there is little empirical evidence on children's healthy food consumption induced by brand characters in general or specific types of characters. Therefore, we investigated the extent to which familiar and unfamiliar characters are successful in creating product liking and purchase request intent. In an experimental study, we presented preschool students with two types of snacks (healthy vs. unhealthy) and investigated the effects of familiar and unfamiliar characters on the package. Specifically, we hypothesized that fruit with a familiar character or an unfamiliar character on the package will elicit more liking of fruit than fruit without a character on the package (Hypothesis 1a), that the familiar character will elicit more liking of fruit than the unfamiliar character (Hypothesis 1b), that fruit with a familiar character or an unfamiliar character on the package will elicit higher purchase request intent for fruit than fruit without a character on the package (Hypothesis 2a), and that the familiar character will elicit higher purchase request intent for fruit than the unfamiliar character (Hypothesis 2b).

### **Method**

#### ***Sample***

In March and April of 2008, we recruited 216 children (50% boys, 50% girls) between the ages of 4 to 6 years from three kindergarten schools in urban and suburban districts in The Netherlands, which consisted of students with various socioeconomic and cultural backgrounds.

#### ***Stimulus Materials***

Prototypes of the healthy and unhealthy snack were designed by an art director specialized in kids marketing, and the prototypes resembled products that could

be sold in a supermarket. The healthy snack was a banana, which was chopped into slices and with a little fruit juice sealed in a one-portion-size transparent plastic cup. To diminish the effect of taste preferences, banana candy was selected as the unhealthy snack. The banana candy was packed in a one-portion-size transparent plastic bag. For the familiar character, we used the most popular characters among 4- to 6-year-old children (IPM KidWise, 2007). Because boys and girls differed in their character preference, for boys we used an image of SpongeBob, a male character from the cartoon *SpongeBob SquarePants*, and for girls we used an image of Dora, a female character from the cartoon *Dora the Explorer*. The unfamiliar character did not differ for boys and girls; it was a monkey (see Figure 1).

For the healthy snack, the pictures were printed on a green-colored paper wrapping that was placed around the plastic cup, leaving see-through openings on both sides that showed the banana slices inside (see Figure 1). The character was depicted next to the product name. For the unhealthy snack, the pictures were placed as a sticker on the plastic bag. The background of the sticker had a similar green color as did the healthy snack's wrapping. Although the sticker was big, the candy inside



**Figure 1.** The fruit and candy packages with the unfamiliar character used in the study.

the bag was still visible (see Figure 1). The character was depicted next to the product name. Product names were left on the package to make the packages look real, although none of the children in the experiment was yet able to read.

### ***Design***

To test whether brand characters can increase children's liking of and purchase request intent for fruit, we performed an experiment with a 3 (character on package condition: familiar vs. unfamiliar vs. no character)  $\times$  2 (snack condition: healthy vs. unhealthy) mixed factorial design. Character on package was a between-subjects factor: The type of character on each snack package varied across the experimental groups. Snack condition was a within-subjects factor: Each child reported their liking and purchase request intent scores to both the healthy and unhealthy snack. With three different character packages for the healthy snack and three different character packages for the unhealthy snack, the mixed factorial design resulted into nine different experimental conditions, to which the children were randomly assigned.

### ***Procedure***

Before the experiment took place, parents received an information letter and were asked to fill out a parental consent form. Children were interviewed individually during school hours in a quiet room near the classroom. First, children were asked for their name and age. Then the interviewer asked them what they did last weekend to make them feel more at ease. During the introduction, the interviewer emphasized that there were no right or wrong answers and that their own opinion was valued the most. A smiley board, depicting four faces that differed in emotions from happy to unhappy, was used to help children respond to the questions. Before starting the experiment, the purpose of the smiley board was explained and tested. None of the children had problems with these visual response options.

The experiment started by showing the two snacks from all sides. When asking questions about a particular character or snack, the interviewer specifically pointed at that character or snack. Because each question was asked specifically for each snack, all of the questions were counterbalanced: 50% first answered the questions for the healthy snack; the other 50% first answered the questions for the unhealthy snack.

### ***Measures***

#### ***Liking of Snack***

We measured liking of snack for the healthy and unhealthy snack by asking children, "How much do you like this one [pointing at snack]?" Children could respond by pointing at a face on the smiley board, which symbolized a following 4-point-scale ranging from 1 (*not at all*) to 4 (*very much*). For healthy snack,  $M = 2.98$ ,  $SD = 1.11$ ; for unhealthy snack,  $M = 3.39$ ;  $SD = 0.90$ .

#### ***Purchase Request Intent for Snack***

Although preschool students are yet not able to purchase their favorite products, they do show their purchase preferences in retail environments by selecting and picking up products (Buijzen & Valkenburg, 2008). Therefore, we measured purchase

request intent for snack for the healthy and unhealthy snack by asking children, “Would you pick out this one [pointing at snack] the next time you are in the supermarket?” Again the smiley board was used, symbolizing a different 4-point scale ranging from 1 (*no*) to 4 (*yes*). For healthy snack,  $M = 2.21$ ,  $SD = 1.42$ ; for unhealthy snack,  $M = 3.50$ ,  $SD = 1.05$ . Because children’s purchase request intent for the unhealthy snack was highly skewed, a square root transformation was performed (Field, 2005). The transformation changed the range of the purchase request intent scale from 1 to 4 into 1 to 2 (for purchase request intent for healthy snack,  $M = 1.41$ ,  $SD = 0.48$ ; for purchase request intent for unhealthy snack,  $M = 1.60$ ,  $SD = 0.47$ ).

## Results

### *The Influence of Character on Liking of Fruit*

To test whether the character conditions would elicit more liking of the fruit snack than the non-character condition (Hypothesis 1a) and whether the familiar character would elicit more liking of the fruit snack than the unfamiliar character (Hypothesis 1b), we performed a mixed-design analysis of variance with *liking of snack* as the dependent variable, *type of snack* as the within-subjects factor, and *type of character* as the between-subjects factor. The within-subjects factor was constructed from the dependent variables *liking of healthy snack* and *liking of unhealthy snack*. The between-subjects factor referred to the experimental conditions and consisted of the independent variables, character on healthy snack and character on unhealthy snack. The results of this analysis are shown in Table 1.

The analysis of variance showed that there was a significant main within-subjects effect for type of snack,  $F(1, 207) = 14.04$ ,  $p < .001$  (one-tailed), indicating that in general children liked the unhealthy snack more than the healthy snack. There was also a significant main between-subjects effect for character on healthy snack,  $F(2, 207) = 3.50$ ,  $p < .01$  (one-tailed). The estimated marginal means indicated that children confronted with the healthy snack without a character on the package gave lower liking scores than did children confronted with a character on the package. More important, there was a significant Type of Snack  $\times$  Type of Character interaction,  $F(2, 207) = 3.44$ ,  $p < .01$  (one-tailed). The estimated marginal means indicated that the difference in liking between the healthy and unhealthy snack only held for the condition in which the healthy snack had no character. This means that only when children were confronted with the healthy fruit snack without a character on the package did they give fruit a considerably lower liking score than

**Table 1.** Children’s liking of the healthy and unhealthy snack, by type of character

Character on healthy snack	Liking healthy snack		Liking unhealthy snack	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No character	2.63 <sup>a</sup> <sup>x</sup>	1.22	3.44 <sup>y</sup>	1.01
Unfamiliar character	3.11 <sup>b</sup>	1.00	3.40	0.78
Familiar character	3.19 <sup>b</sup>	1.04	3.33	0.92

<sup>a, b</sup>Row differences are significant at least at  $p < .01$  (one-tailed).

<sup>x, y</sup>Column differences are significant at least at  $p < .01$  (one-tailed).



candy. When the healthy fruit snack had a character on the package (either familiar or unfamiliar), fruit was liked just as much as candy. Although boys and girls were presented with a different familiar character, the results were equal for both genders.

### ***The Influence of Character on Purchase Request Intent for Fruit***

To test whether the character conditions would elicit higher purchase request intent for the fruit snack than the non-character condition (Hypothesis 2a) and whether the familiar character would elicit higher purchase request intent for the fruit snack than the unfamiliar character (Hypothesis 2b), we performed a second mixed-design analysis of variance with *purchase request intent for snack* as the dependent variable, and again *type of snack* as the within-subjects factor, and *type of character* as the between-subjects factor. The within-subjects factor was constructed from the dependent variables, purchase request intent for healthy snack and purchase request intent for unhealthy snack. The results of this analysis are shown in Table 2.

The analysis of variance yielded a significant main within-subjects effect for type of snack,  $F(1, 207) = 8.97, p < .01$  (one-tailed), indicating that in general children showed higher purchase request intent for the unhealthy snack than the healthy snack. However, again a significant Type of Snack  $\times$  Type of Character on Healthy Snack interaction,  $F(2, 207) = 3.20, p < .05$ , indicated that the difference in purchase request intent between the healthy and unhealthy snack only held for the condition in which the healthy snack had no character. This means that only when children were confronted with the healthy fruit snack without a character on the package did they show lower purchase request intent for fruit. When the healthy fruit snack had a character on the package (either familiar or unfamiliar), the purchase request intent for fruit was similar to that of candy. Again, the results were equal for both genders.

## **Discussion**

The aim of this study was to investigate whether preschool students' liking of and purchase request intent for fruit increases when fruit is given a character-branded package. In our hypotheses, we expected that fruit with a character on the package would elicit more liking (Hypothesis 1a) and higher purchase request intent (Hypothesis 2a) than fruit without a character on the package. We also expected that

**Table 2.** Children's purchase request intent for the healthy and unhealthy snack, by type of character

Character on healthy snack	Purchase request intent for healthy snack		Purchase request intent for unhealthy snack	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
No character	1.29 <sup>x</sup>	0.45	1.71 <sup>y</sup>	0.44
Unfamiliar character	1.48	0.49	1.52	0.49
Familiar character	1.45	0.48	1.56	0.47

<sup>x, y</sup>Column differences are significant at least at  $p < .05$  (one-tailed).

the familiar character would elicit more liking (Hypothesis 1b) and higher purchase request intent (Hypothesis 2b) than the unfamiliar character. These hypotheses were partly supported by our results. Consistent with Hypothesis 1a and Hypothesis 2a, the healthy snack with a character generated more liking and higher purchase request intent than the healthy snack without a character. More specifically, fruit with a character on the package was just as appealing as candy, whereas fruit without a character was no match for the already highly preferred candy. In conclusion, brand characters can indeed increase a preschool student's appeal of healthy products such as fruit.

Contrary to Hypothesis 1b and Hypothesis 2b, the type of character (familiar vs. unfamiliar) did not significantly alter preschool students' liking of and purchase request intent for fruit. The familiar characters were expected to generate higher advertising effects than the unfamiliar character. However, we did not find any difference in product liking and purchase request intent between the familiar and unfamiliar characters. A possible explanation for this unexpected result could lie in the high character-product congruence of the unfamiliar character (i.e., monkey-bananas). Apart from the emotional appeal of a brand character, characters may also be more successful when they are congruent with the product or brand they endorse (Acuff & Reiher, 1997; Callcott & Philips, 1996). We used a monkey as a brand character for both the banana and the banana candy. It might be that the preschool students in our study especially liked the monkey character, because the combination of a monkey and a banana is a familiar script in cartoons and comic books. This familiarity, in turn, may have stimulated their liking of the product.

### ***Conclusions and Implications***

We started our study with a discussion regarding the growing concern about overweight children and the international focus on measures to reduce the intake of unhealthy foods. We hoped to contribute to the discussion on childhood obesity-preventing measures by exploring a measure that could stimulate children's intake of healthy foods. Our results are promising. They indicate that by using a perceptually appealing stimulus on a fruit package, preschool students like fruit—and intend to make a request for it—just as much as candy. Instead of developing negative fruit attitudes (e.g., “Fruit is boring”), the brand character technique might stimulate preschool students to develop positive fruit attitudes that could continue into adulthood. However, our study may bring up ethical issues in using brand characters at all, even if it is to promote their health. Such ethical issues cannot be ignored in this field, and they should take place within the wider debate on child-directed health promotion. We therefore hope that our study inspires policy-makers, interest groups, and academics to explore media-related policies other than just advertising regulations and bans.

On a theoretical level, our study is unique in testing different types of products and different types of characters. We have shown that the brand character technique can be effective for a healthy product such as fruit. However, we did not find support for the theoretical assumption that for a product, familiar characters can elicit more liking and higher purchase request intent than can unfamiliar characters. Future research on different types of brand characters should include a character's degree of character-product congruency. Furthermore, the effect of brand characters

should also be tested for different types of fruit and other healthy products such as vegetables and milk.

## References

- Acuff, D. S., & Reiher, R. H. R. (1997). *What kids buy and why*. New York: Free Press.
- Atkin, C. K. (1975). *First year of experimental evidence: The effects of television advertising on children, Report 1*. East Lansing: Michigan State University. (ERIC Document Reproduction Service No. ED 116 783)
- Bahn, K. D. (1986). How and when do brand perceptions and preferences first form?: A cognitive developmental investigation. *The Journal of Consumer Research*, *13*, 382–393.
- Bahn, K. D. (1989). Cognitively and perceptually based judgments in children's brand discriminations and preferences. *Journal of Business and Psychology*, *4*, 183–197.
- Buijzen, M., Schuurman, J., & Bomhof, E. (2008). Associations between children's television advertising exposure and their food consumption patterns: A household diary-survey study. *Appetite*, *50*, 231–239.
- Buijzen, M., & Valkenburg, P. M. (2008). Observing purchase-related parent-child communication in retail environments: A developmental and socialization perspective. *Human Communication Research*, *34*, 50–69.
- Callcott, M. F., & Alvey, P. A. (1991). Toons sell and sometimes they don't: An advertising spokes-character typology and exploratory study. In R. Holman (Ed.), *Proceedings of the 1991 conference of the American Academy of Advertising* (pp. 42–52). New York: D'Arcy Masius Benton and Bowles.
- Callcott, M. F., & Lee, W. N. (1995). Establishing the spokes-character in academic inquiry: Historical overview and framework for definition. *Advances in Consumer Research*, *22*, 144–151.
- Callcott, M. F., & Phillips, B. J. (1996). Observations: Elves make good cookies: Creating likable spokes-character advertising. *Journal of Advertising Research*, *36*(5), 73–79.
- Carruth, B. R., Skinner, J. D., Moran, J. D., & Coletta, F. (2000). Preschoolers' food product choices at a simulated point of purchase and mothers' consumer practices. *Journal of Nutrition Education*, *32*, 146–151.
- Chapman, K., Nicholas, P., Banovic, D., & Supramaniam, R. (2006). The extent and nature of food promotion directed to children in Australian supermarkets. *Health Promotion International*, *21*, 331–339.
- Children's Advertising Review Unit. (2006). *Self-regulatory program for children's advertising*. Retrieved December 11, 2008, from <http://www.caru.org/guidelines/guidelines.pdf>
- Damon, W. (1983). *Social and personality development: Infancy through adolescence*. New York: W. W. Norton & Company.
- Field, A. (2005). *Discovering statistics using SPSS*. London: Sage.
- French, S. A., & Stables, G. (2003). Environmental interventions to promote vegetable and fruit consumption among youth in school settings. *Preventive Medicine*, *37*, 593–610.
- Garde, A. (2008). Food advertising and obesity prevention: What role for the European Union? *Journal of Consumer Policy*, *31*, 25–44.
- Hastings, G., Stead, M., McDermott, L., Forsyth, A., MacKintosh, A. M., Rayner, M., et al. (2003). *Review of research on the effects of food promotion to children: Final report*. Glasgow, UK: Centre for Social Marketing, University of Strathclyde.
- Hoffner, C. (1996). Children's wishful identification and parasocial interaction with favorite television characters. *Journal of Broadcasting & Electronic Media*, *40*, 389–403.
- Holt, D. J., Ippolito, P. M., Desrochers, D. M., & Kelley, C. R. (2007). *Children's exposure to TV advertising in 1977 and 2004: Information for the obesity debate*. Washington, DC: Federal Trade Commission.
- IPM KidWise. (2007). *CharacterMonitor 2007*. Rotterdam, The Netherlands: Author.

- Jardine, A., & Wentz, L. (2005). It's a fat world after all. *Advertising Age*, 76(10), 3.
- Laing, P. (2002). Childhood obesity: A public health threat. *Pediatric Nursing*, 14(10), 14–16.
- Lemish, D. (2007). *Children and television: A global perspective*. Oxford, UK: Blackwell.
- Lin, B. H., & Morrison, R. M. (2002). Higher fruit consumption linked with lower body mass index. *Food Review*, 25(3), 28–32.
- Macklin, M. C. (1994). The effects of an advertising retrieval cue on young children's memory and brand evaluations. *Psychology & Marketing*, 11, 291–311.
- McNeal, J. U. (1999). *The kids market: Myths and realities*. New York: Paramount Market.
- McNeal, J. U. (2007). *On becoming a consumer: Development of consumer behavior patterns in childhood*. Oxford, UK: Butterworth-Heinemann.
- McNeal, J. U., & Ji, M. F. (2003). Children's visual memory of packaging. *Journal of Consumer Marketing*, 20, 400–427.
- Mizerski, R. (1995). The relationship between cartoon trade character recognition and attitude toward product category in young children. *Journal of Marketing*, 59, 58–70.
- Neeley, M., & Schumann, D. W. (2004). Using animated spokes-characters in advertising to young children. *Journal of Advertising*, 33(3), 7–23.
- O'Dougherty, M., Story, M., & Stang, J. (2006). Observations of parent-child co-shoppers in supermarkets: Children's involvement in food selections, parental yielding, and refusal strategies. *Journal of Nutrition Education and Behavior*, 38, 183–188.
- Pempek, T. A., & Calvert, S. L. (2009). Tipping the balance: Use of advergames to promote consumption of nutritious foods and beverages by low-income African American children. *Archives of Pediatrics and Adolescent Medicine*, 7, 633.
- Rasmussen, M., Krølner, R., Klepp, K. I., Lytle, L., Brug, J., Bere, E., et al. (2006). Determinants of fruit and vegetable consumption among children and adolescents: A review of the literature. Part I: Quantitative studies. *International Journal of Behavioral Nutrition and Physical Activity*, 3, 41.
- Robinson, T. N., Borzekowski, D. L. G., Matheson, D. M., & Kraemer, H. C. (2007). Effects of fast food branding on young children's taste preferences. *Archives of Pediatrics & Adolescent Medicine*, 161, 792–797.
- Rust, L. (1993). How to reach children in stores: Marketing tactics grounded in observational research. *Journal of Advertising Research*, 33(6), 67–72.
- Tapper, K., Horne, P. J., & Lowe, C. F. (2003). The Food Dudes to the rescue! *The Psychologist*, 16(1), 18–21.
- Tohill, B. C. (2005). *Dietary intake of fruit and vegetables and management of body weight*. Geneva, Switzerland: World Health Organization.
- Valkenburg, P. M. (2004). *Children's responses to the screen: A media psychological approach*. Mahwah, NJ: Erlbaum.
- Wakefield, J. (2004). Fighting obesity through the built environment. *Environmental Health Perspectives*, 112, 616–618.
- Wang, Y., & Lobstein, T. (2006). Worldwide trends in childhood overweight and obesity. *International Journal of Pediatric Obesity*, 1, 11–25.
- World Health Organization. (2005). *Fruit and vegetables for health: Report of a joint FAO/WHO Workshop, 1–3 September 2004, Kobe, Japan*. Geneva, Switzerland: Author.
- World Health Organization. (2006, November). *10 things you need to know about obesity*. WHO European Ministerial Conference on Counteracting Obesity. Geneva, Switzerland: Author.
- Zeinstra, G. G., Koelen, M. A., Kok, F. J., & De Graaf, C. (2007). Cognitive development and children's perceptions of fruit and vegetables: A qualitative study. *International Journal of Behavioral Nutrition and Physical Activity*, 4, 30.