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The Role of Food Advertising in Adolescents' Nutritional Health Socialization

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ABSTRACT

Adolescents are heavily exposed to food advertising in their daily lives. Food ads tend to juxtapose unhealthy food products with overly thin models who promote these foods. This paradoxical presentation of food and body raises important questions about adolescents' perceptions of food ads and the body, as part of the larger realm of nutritional health. The study sheds light on adolescents' nutritional health socialization by exploring the role of food advertising as it intersects with other socialization agents, namely parents and peers. Adolescent's perceptions of and reactions to food ads, and the food products and models in these ads, are examined using the media practice model as the theoretical framework. In-depth interviews were conducted with 82 adolescents in middle- and high-school, taking into consideration their development, heightened vulnerability to messages about the body and appearances, and their lived experiences. The study's findings suggest that adolescents, though skeptical of ads, internalize the mediated thin ideal and expect models in ads to be thin, beautiful, and famous. Parents emerged as positive role models for nutritional health whereas peers are more paradoxical, emphasizing the importance of exercising along with a socially-oriented consumption of junk food. Socialization messages from parents, peers, and the media interact in shaping adolescents' reactions to food ads. Only minimal gender differences were found in adolescents' reactions to food ads and their approach to nutritional health. Mostly, female models are expected to meet more stringent standards of thinness and beauty than male models, especially among female adolescents.

The focus of this paper is on food advertising and its role, alongside with parents and peers, in the nutritional health socialization of adolescents. Studies have found consistently increasing rates of integrated marketing activities and televised food advertising in different countries (e.g., Rideout, 2014; Fleming-Milici & Harris, 2018). Children in the United States have been found to be exposed to 13 food ads per day in 2013 and adolescents to 16.5 ads daily (Dembek, Harris, & Schwartz, 2014). Most of these ads promote unhealthy or low-nutrient food products, leading to concerns that exposure to such content is associated with poor nutritional habits (e.g., McGinnis, Appleton, & Kraak, 2006). Recognizing that exposure to food ads happens in an ecological context that involves different socialization agents and multiple interpersonal factors such as one's own nutrition knowledge, food practices, and body image perceptions, the study takes these into consideration in examining socialization processes among adolescents. Alongside individual differences, adolescents are undergoing significant developmental changes associated with their bodies and general well-being; thus, they are likely particularly susceptible to food advertising, with its complex and often contradictory messages juxtaposing largely unhealthy food products with overly thin models (Eyal & Te'eni-Harari, 2016).

Increasing rates of obesity and eating disorders among adolescents worldwide are cause for concern with regard to adolescents' nutritional health. As of 2016, billions of people of all ages, including 13% of adults, have been diagnosed as being overweight or meeting the criteria of being obese (World Health Organization, 2017). Among children and adolescents ages 5–19, over 300 million are overweight or obese. In Israel, in which this study is situated, more than a fifth of young children have been diagnosed as obese (Ng et al., 2014). Israel also has a high rate of adolescent weight-regulation behaviors, such as dieting (Weissblei, 2010). Story, Neumark-Sztainer, and French (2002) wrote that adolescents' eating behaviors are situated at the intersection of multiple individual and environmental influencers, including parents, peers, and media advertising. Examining the relationships among these factors is important in understanding the overall nutritional health socialization process and its link to food and body perceptions, which underlie concerning nutrition-related behaviors (Schuck, Munsch, & Schneider, 2018).

Food advertising

Research has shown that food ads play a meaningful role in children's and adolescents' perceptions of food and food preferences. Jones, Mannino, and Green (2010) found that children ages 6–13 were attracted to food ads and that exposure to food ads was associated with their beliefs about the nutritional value of, and the outcomes associated with the

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consumption of the advertised foods (e.g., sugar was perceived as enhancing sports performance). Among 12–17 year olds, exposure to print food ads (along with exposure to food ads in schools and on public transportation) was found to associate with sweet snacks consumption (Scully et al., 2012).

Content analyses have supported the prevalence of food products advertised in different media. Eyal and Te'eni-Harari (2016) found that the most commonly advertised food products on Israeli prime-time television, largely consistent with studies from other countries, were candies and sweets, soft drinks, and dairy products, whereas fruits and vegetables were largely missing from such ads. Despite the fact that many advertised foods are not of high nutritional quality, many such ads include health claims and persuasive techniques to convince children to purchase the food items (e.g., Vilaro, Barnett, Watson, Merten, & Mathews, 2017).

Alongside the largely unhealthy, low nutrient food diet promoted in advertising, content analyses have found that food ads, regardless of the products they promote, tend to present a thin world that is inconsistent with the real world distribution of body shapes (e.g., Harrison & Marske, 2005). Whereas food products tend to be high in caloric value, fats, and sugars, and low on vitamins and fiber, the models used to promote them in ads tend to be thin so that their body shape does not seem a realistic outcome of consuming the advertised foods, above and beyond genetic and environmental influences on body shape. As Kaufman (1980) wrote, the two components send a contradictory message: "one suggests that we eat in ways almost guaranteed to make us fat; the other suggests that we strive to remain thin" (p. 45). Incongruent messages may pose a challenge for adolescents as this complexity requires considerable resources to process (Buijzen, Van Reijmersdal, & Owen, 2010). Such messages may be especially difficult to reconcile when they relate to appearances, as social, biological, and emotional developmental factors all play a role in interpreting the message.

Past research has largely treated messages about food and body in advertising as separate components, also examining different exposure outcomes. Studies of food ads have tended to focus on the food products they promote and examined nutrition knowledge and food preferences (e.g., Harrison, 2005). Studies of body representations in ads did not focus on food ads, specifically, and examined outcomes such as body image concerns and self-perceptions (e.g., Bessenoff, 2006). Studies examining the effects of exposure to food ads on body-related perceptions are missing from the literature. To fill this lacuna in the literature, the current study addresses both the food and the models' bodies in the food ads as it considers the diverse outcomes of nutrition knowledge, ad perceptions, and self-perceptions.

Nutritional health socialization

Nutrition socialization is a process through which people learn about nutrition – food and the body – develop perceptions and beliefs about it, and adopt or reject related behaviors that they perceive as acceptable or non-normative in their society (e.g., Block et al., 2011). Alongside food advertising, interpersonal agents are also important in nutritional health socialization. In the case of children and adolescents, the most central socializing agents are usually the parents, who from an early age make food-related decisions in the household and who serve as primary role models. Parents' influence may be explicit – by communicating nutrition knowledge to their children and regulating their diet – or implicit, by modeling food choices and eating habits (e.g., Grier, Mensinger, Huang, Kumanyika, & Stettler, 2007). Moreover, studies have supported the role of parents as mediating the link between television and ad exposure and children's well-being and weight gain (e.g., Nairn, 2014).

Friends are another important nutritional health socializing agent. Adolescents spend much time with friends and food provides an occasion to establish social bonds and develop an understanding of food and eating norms (e.g., Howland, Hunger, & Mann, 2012). Howland et al. found that friends can enact restrictive norms, thus leading to more limited eating when among peers. Still, research finds that the role of peers in encouraging healthy eating behaviors is minimal (Chan, Prendergast, Gronhoj, & Bech-Larsen, 2011).

Mediated personalities may also serve as important socializing agents in the context of nutritional health. Advertising content is filled with personalities and models who play an increasingly important role in young people's lives (Giles & Maltby, 2004). This is true also today, as new media offer "new cults of personalities" (Cocker & Cronin, 2017, p. 4) such as bloggers and celebrities with online advertising presence. Viewers tend to form relationships with mediated personalities, from liking them, establishing one-sided para-social relationships or identifying with them, self-comparing with them, mimicking their behaviors and characteristics, and adoring them. These ties, in turn, may be significant for people's self- and other perceptions, attitudes, and cognitive effort (e.g., Igartua, 2010). In the context of nutritional health, research with young children has shown that mediated personalities and especially liked ones, are capable of impacting children's food choices, both good and less healthy ones (Kottler, Schiffman, & Hanson, 2012).

As the review above suggest, socializing agents play a role in impacting nutrition knowledge, preferences, and purchases, perceptions of social norms associated with food, and also hedonic states associated with food, such as pleasure (e.g., Grier et al., 2007; Scully et al., 2012). Importantly, socializing agents are also central in establishing perceptions and beliefs about the body as it is associated with food, physical appearance, and attractiveness. Specifically peers and, importantly, the media, have been shown to contribute to the development of a thin ideal, a strong preference and drive for achieving an overly thin body shape that is culturally linked – especially among women – with positive characteristics such as success, popularity, and happiness (Eyal & Te'eni-Harari, 2013).

The Media Practice Model

A theoretical perspective linking food advertising with nutritional health socialization is the media practice model (MPM). The model perceives adolescents' engagement with and understanding of media content to be embedded within

their personal characteristics and relationships with parents and peers in the process of constructing their identity (Steele & Brown, 1995). According to this model, teens are actively processing media content, dissecting its messages vis-à-vis their personal lenses, identity development, and everyday lived experiences (Steele, 1999). As they learn about themselves, adolescents selectively seek media content based on their individual needs; they interact with the content in ways that correspond to their cognitive and emotional development in order to understand its messages in ways that are meaningful to them. Throughout this process, adolescents identify with personae in the messages and compare themselves to these models. Eventually, adolescents decide whether to accept the media's messages, imitate them, or criticize and reject them. It is this process through which adolescents' identity is solidified and then reciprocally serves the further interaction with media messages.

Advertising is a relevant context within which to examine the process of media interpretation detailed within the MPM because, though skeptical of advertising at their age (Mangleburg & Bristol, 1998), adolescents are highly attracted to ads' striking messages and adolescent-targeting appeals, including the heavy use of celebrities in promotion (Uhls & Greenfield, 2012). Studies have shown that advertising serves a social role for adolescents as its content is often the basis for peer interactions (Ritson & Elliott, 1999). Food advertising, specifically, with its reliance on attractive models and use of positive, happy emotional appeals (Lewis & Hill, 1998) is also likely very alluring to teens.

The MPM can explain adolescents' increased vulnerability to food advertising based on their unique developmental trajectories. Adolescence is a time of much pre-occupation with one's body, likely as a result of physical and hormonal changes associated with it (Steinberg & Morris, 2001). Adolescents' development of their personal identity and self-esteem is also strongly tied to their physical appearance, and, specifically, thinness (Birkeland, Melkevik, Holsen, & Wold, 2012). Moreover, social comparison processes are highly prevalent at this age, especially on appearance and body-related dimensions (e.g., Fardouly & Vartanian, 2015) and they take place simultaneously in relation to real-life friends as well as to mediated models such as those in food ads.

The MPM further emphasizes individual differences in adolescents' relationship with the media (Steele, 1999; Steele & Brown, 1995). One important personal factor likely to play a role in teens' perceptions of food ads, nutrition, and health is gender. Gender differences have been found in media exposure, attention to media content, and effects (e.g., Peter & Valkenburg, 2011). In the context of body perceptions, studies have suggested that women may be more vulnerable than men to the thin ideal promoted by society, the media, and advertising (e.g., Sohn, 2010). Less is known about gender differences in perceptions of food products.

Following the review above, the study addresses the following questions about adolescents' nutritional health socialization and the role of food advertising – including the food products and models within ads – while considering additional important nutritional health socialization agents and the gender (individual difference) and lived experience of adolescents in this context:

RQ1: What are the messages and practices encountered by adolescents through parents and peers with regard to nutritional health?

RQ2: What are adolescents' lived experiences (including knowledge of nutritional health, engagement in physical activity, and body perceptions) with regard to nutritional health?

RQ3: How do adolescents perceive and react to food advertisements and the food products and models within them?

RQ4: Are there gender differences in reactions to and perceptions of food ads?

Method

As part of a larger experimental study (see details from authors), and to enable a comprehensive understanding of these issues, in-depth interviews were conducted. The interview method allows to understand the adolescents' perspectives and experiences as expressed in their own words and through their personal experiences. Individual interviews ensure confidentiality and increase comfort in responding to questions about a sensitive and personal topic, which is often prone to peer pressures and social desirability effects (McCabe et al., 2011).

Sample

Eighty-two in-depth interviews were conducted with adolescents in 7th and 8th grades (middle school) and 10th grade (high school). Ages ranged from 12 to 17 (M = 14.09, SD = 1.56). Body Mass Index (BMI) as reported by the interviewees (n = 36) ranged from 15.61 to 36.00 with an average of 21.39 (SD = 4.05). Forty-nine female (59.76%) and 33 male (40.24%) adolescents were recruited from 5 schools in different regions of Israel. The method and procedure were approved by the Institutional IRB, the Israeli Ministry of Education, and school principals, and involved a signed parental consent. Interviews were conducted by trained undergraduate students in the school setting during a class period (lasting 25–40 minutes). The interviewer training spanned several group meetings and included a review of the interview protocol, detailed explanations (both verbally and in writing) by the authors about the questions and procedure, practice interviews among the research assistants, and pilot interviews. Interviews were recorded and transcribed.

Procedure

Interviews followed a semi-structured protocol. Questions began by addressing general media use, recall of food advertisements in everyday media exposure, and opinions about such ads (e.g., How does one react to food ads? What types of models does one encounter in food ads?). Then, students were asked about their eating and physical exercising habits to understand their lived experiences (e.g., to what extent is one interested in a healthy lifestyle? How does one perceive diets? In what sports does one engage?). Then, students were

Figure 1. No-model, 30% fat, rich and creamy ice cream ad.

Figure 2. No-model, 0% fat, diet ice cream ad.

Figure 3. Average-weight models, 30% fat, rich and creamy ice cream ad.

Figure 4. Thin models, 30% fat, rich and creamy ice cream ad.

asked to respond to four print food advertisements to which they were exposed for the first time during the interviews, detailed below.

Interview materials: Food ads

Asking adolescents to respond to the same stimuli is a common qualitative strategy to prompt involvement in the interview (e.g., Ahern, Bennett, Kelly, & Hetherington, 2011). It provides a shared anchor within which to understand the raised themes. Also, the tangible stimuli assists adolescents in reacting in more concrete terms, as hypothetical thinking only begins to emerge at this age (Piaget, 1952). To this end, the study relied on food ads specifically crafted for the current study. The print ads were chosen for ease of use in the face-to-face interviews and because adolescents are consistently exposed to print ads in magazines (Rosenberg, 2016).

Students were shown four print ads for a fictitious brand of ice cream. These included two ads without models (one for a 30% fat ice cream (Figure 1) and one for a 0% fat ice cream (Figure 2)) and two ads for the 30% fat ice cream with models (one with average-weight models (Figure 3) and one with thin models (Figure 4)). The ads were chosen so as to represent different possible combinations of the food and body elements in food ads. The four professionally-crafted ads were identical in all aspects with the exception of the food type and the body shape of the models in the ads. Ads had a colorful background and a slogan "Yummy, yummy!" The name of the ice cream product was "Loko" (which is meaningless in Hebrew). All ads included a circle with the fat percentages of the product. The 0% fat ads included the heading "Loko diet ice cream" and ads for the 30% fat product included the heading "Loko creamy ice cream." On the picture of the food product itself it was written that this is "creamy" or "diet." The same male and female adolescent models were chosen for the ads from an image bank. They were digitally manipulated to be either thin or average-weight (as confirmed in a pilot study with college students who ranked the models on Thompson and Gray's (1995) 1 [Extremely thin] to 9 [Extremely fat] pictorial scale.[1] The models were typical adolescents of relative attractiveness and casual grooming.

Following the general questions detailed above regarding exposure to food ads in everyday lives, the adolescents were asked to react to the four study food ads. First, adolescents were asked about their reactions to two ads with images of food (ice cream) of varying fat values (0% versus 30% fat) *without models* in them (e.g., what are the qualities of the food products in these ads? What male and female models would they have chosen to promote this product?). Then, adolescents were asked to react to two ads for the *30% fat ice cream* product *with models* in them (e.g., how appropriate is the choice of models for the ads and the products in them?). Interviewees were further asked if the models in the ads are likely to serve as role models for them and whether they compared themselves with the ad models.

Thematic analysis

Because of the large number of interviews and the large volume of information they provided, the interviews were analyzed to distill meta themes in a group setting by the two principal investigators and five undergraduate research assistants who were trained for this purpose. Following a grounded theory approach, the analysis proceeded in a systematic fashion with iterative readings of the interviews until saturation of ideas was reached. First, research assistants analyzed each interview according to the topics raised in the research questions and then, a series of group discussions was conducted to uncover themes and patterns as well as unique viewpoints in the responses across interviews. The team discussions enabled a brainstorming process in which ideas were acknowledged and deliberated (e.g., Repta & Clarke, 2013). Once a theme was identified, all interviews were considered again to extract supportive quotes that illustrate the conclusions. This approach enabled an interpretive, subjective consideration of the ideas that participants considered most important (Hust, Brown, & L'Engle, 2008). For the gender analysis (RQ4), all interviews were group analyzed again according to the topics and themes identified earlier while considering the interviewee's gender. Table 1 summarizes the themes identified in response to each question.

Results

Parents and peers as nutritional health socialization agents

In answering RQ1, the family came up often in the interviews with regard to eating and exercising habits. It became evident from the interviews that the family is a strong role model for adolescents with regard to food and adolescents pay close attention to what their parents eat. For the most part, the family is a positive, healthy role model with few exceptions of adolescents who said that they snack in front of the television set with their families. Parents offer healthy food alternatives to their children and, especially mothers, are responsible for making home-cooked meals with healthier ingredients. For example, a 7th grade female said: "If I ask to eat a snack, they [the parents] tell me no because it's better to have fruit or something healthier." The family is also a strong motivator with regard to sports and parents were often mentioned as encouraging their adolescent children to engage in physical activities. Though a small exception, it is important to note that some adolescents discussed parents, and especially mothers, as role models or motivators to engage in diets, often jointly with their children.

Alongside parents, it became clear that the topics of nutrition and health involve a strong social component. They constitute common topics of conversation and joint activities with friends. An interesting paradox emerged with regard to friends: on the one hand, diets are a central conversation topic with friends; friends are both role models and targets for criticism for their seemingly obsessive behavior with regard to food restriction. On the other hand, social outings with friends are often a site for consuming junk food, pizza, and ice cream. Friends are also important with regard to joint physical activity and sports. A 10th grade female exemplified friends' complex role in her life: "Let's say we [girlfriends] go somewhere and then we eat ice cream, then like 'Should we eat this? Should we not eat?' or as they eat, then 'Damn, there

Table 1. Categories of Themes in Response to Research Questions

RQ #	RQ Topic	Themes	Examples of Supportive Quotes
1	Messages and practices encountered by adolescents through parents and peers with regard to nutritional health	The family/parents: – The family is a (mostly positive) nutritional health role model – Mothers are responsible for healthy food options – The family is a motivator for engaging in physical activity – The family is a motivator for engaging in diets Friends: – Food as a topic of conversation and social activity with friends – Diets as common topics of conversation among friends – Consuming junk food on outings with friends – Engaging in joint physical activities with friends	– "My mom used to be more strict … we make sure almost every meal to eat vegetables every dinner and every lunch; snacks we're allowed only twice a week … but let's say chocolates or yogurt and such we're allowed all the time but we also make sure not to take whatever we want all the time but to … know the limits." (10th grade male) – On not going to the gym with friends: "They [friends] talk about it [the gym] at school all day and how they meet there almost every day and like I don't have time to meet them because they are at the gym most of the time and I'm not there … I also want to go for social reasons, of course." (10th grade female)
2	Adolescents' lived experiences regarding nutritional health	– Adolescents are interested in and are knowledgeable about nutritional health – Diets are highly relevant for adolescents' lives though some are skeptical about diets' effectiveness – Adolescents are preoccupied with physical activity – Adolescents exhibit much discontent with various body parts even among those who express overall satisfaction with their bodies	– "In my opinion, a diet is not to stop eating or to start eating only one kind of food … a diet is just … to eat healthy and eat right and eat organized. So if someone wants to do it this way, I will support them on this and everything but if a very close friend of mine will come and tell me 'that's it, as of today I am not eating and I want to lose weight' than I will tell her that it is a stupid and wrong thing." (10th grade female) – "It's depressing, like, say I don't have a 6-pack. I always want to have a 6-pack because girls always say 'hey, 6-pack…' Yes, I'd like to have a 6-pack. Yes, I would diet for a 6-pack." (10th grade male)
3	Adolescents' perceptions of and reactions to food ads, the products, and models within them	– Adolescents recall ads mostly for low nutrition food products; most say they avoid these advertised foods – Adolescents are mostly skeptical about ads but admit to being impacted (as are their friends) by them – Adolescents question the realism of thin model ads and criticize their thinness – Adolescents expect models in food ads to be thin, attractive, and famous – The diet ice cream product in the ads received diverse reactions – The average-weight models were perceived as too fat for the food ads; the thin models were perceived as appropriate for the ads	– "I think this generation already understands that it's all nonsense and that the celebrities don't really eat these things. Because they are famous. It's not like they take regular people. Like, this generation already got that it's a little bit staged." (7th grade male) – On the 0% fat ice cream: "All things that are diet, 0% fat, to really replace the taste of the fat and the sugar and all the tasty things they put all sorts of other products, all sorts of other ingredients that replace the taste and it just comes out disgusting." (10th grade male)
4	Gender differences in adolescents' perceptions of and reactions to food ads	– Both genders express concern and appreciation of their bodies – Female adolescents are more concerned about being thin; male adolescents are more concerned about being strong – Both genders are aware of societal expectations of men's and women's bodies – Both gender expect thinness, attractiveness, and fame from ad models and are more forgiving for exceptions from male models than from female models – Female adolescents are even more stringent about the expectations from models than male adolescents	– "Because in men, like, I think more people prefer a body that is more powerful with muscles and all that, than a body that is really skinny with bones." (7th grade female) – On why the male model is expected to be slightly fuller than the female models: "Because the guy needs to be muscular, and he needs to have fat to have muscles. She can be like him but more beautiful, thinner, more beautiful." (7th grade female)

goes the training session' or 'It's just wasted calories' and 'How did I do this to myself?' Things like that."

Adolescents' lived experiences related to nutritional health: Nutritional knowledge, sport engagement, and body perceptions

In answering RQ2, the interviews revealed a relatively extensive interest in and knowledge regarding healthy nutrition and eating habits (e.g., knowledge about fat, carb, and protein values). Adolescents often seek nutrition information about food. A 7th grade male said: "If, for example, I want to know something about pastrami, I go to the Internet, search, see Wikipedia … I read it and if it disgusts me, I simply don't eat it." Diets seem to be a central activity for about a fifth of the interviewees who say they are strict with regard to the foods they consume. But many other adolescents, while familiar with diets, seemed very skeptical of their effectiveness and aware of the health risks associated with diets that are based on limited or highly restricted food menus. Rather,

adolescents prefer eating healthy foods and acknowledge the importance of physical exercising.

Indeed, engagement in sports activities was another issue that strongly resonated from the interviews. Nearly half of the adolescents claimed to be physically active on a daily basis and for significant amounts of time. Another quarter of interviewees said they engage in sports a few times a week and only 10 adolescents said they rarely or never engage in sports. The most common sports activities take place in after-school group settings or the gym and include basketball, soccer, and rhythmic gymnastics. Most adolescents adamantly believe that physical activity is important, even vital, in their lives. A 7th grade male said: "I know how much physical activity is important because it really helps the heart, it develops the heart, the lungs, and the blood system, it decreases blood pressure … you also lose fat along the way. If you do it right, it's also fun and joyful."

There was much discontent among participants with different aspects of their bodies, including height, eye color, complexion, cheeks, etc. but also the weight and body shape. Discontent was evident even among those who claimed to be overall satisfied with their bodies. For example, an 8th grade female said: "I don't feel very strongly that I am fat or very strongly that I am thin, I feel that I am fine, but I will always want to lose more weight. Because I think a beautiful body is a body like a model's, with thin legs and a flat stomach." For females, the most commonly desired changes (cited by more than a third of interviewees) were to achieve a flat stomach and a gap between the thighs. For males, the aspiration for a muscular body and a "6-pack" stomach was mentioned most often, mostly in the context of achieving more power and strength by increasing muscle mass. Five males said they are now happy with their bodies because they had already lost weight or increased muscle mass and only four interviewees overall stated that they wish to gain weight. Physical appearance was associated with low self-confidence for adolescents with behavioral implications such as avoiding the beach or feeling uncomfortable during picture-taking. A 10th grade male admitted similar concerns: "After we get out of the water I will put on a towel or a shirt as I dry."

Adolescents' perceptions of food ads

In answering RQ3, most adolescents recalled being exposed to a large amount of advertising on a daily basis across a variety of platforms. Many recalled specific food ads, mostly for low-nutrition value foods such as ice cream, hamburgers, and dairy treats. Among most participants, much skepticism was evident toward food advertisements. Adolescents mentioned marketing and digital manipulations and unrealistic (overly positive) presentations in ads. A 7th grade female interviewee said: "What you see on television is not what you see at home. On TV they make everything beautiful." Despite this cynical attitude, though, many adolescents admitted to having their interest peeked by the ads, being tempted and becoming hungry after seeing them, and desiring to purchase the products. Other adolescents were less willing to admit that the ads affect them but even they agreed that others – their friends and younger siblings – are influenced by these messages.

Perceptions of food products in food ads

Many adolescents were critical of food ads that tend to promote unhealthy products. An 8th grade female said: "I never in my life saw an ad for quinoa. It's always pizza, lots of pizza." The adolescents were asked about their perceptions of the food products in the study-crafted ads: the 30% and 0% fat ice cream products. The study-crafted 30% fat ice cream product was perceived by the adolescents as fattening and unhealthy, almost without exception. An 8th grade female said: "I think it will be tasty because what is maybe unhealthy, what is fattening, is mostly tasty." Yet most adolescents said that they would not eat this product because it is inconsistent with a healthy lifestyle and even poses a risk to one's health.

In contrast, the 0% ice cream product in the ad received more divergent and varied responses from the adolescents. Opposing responses included the product being healthy versus less healthy, tasty but mostly flavorless, dietetic versus not believable (that is, it is not possible that such a product will produce desired results). Many adolescents said that healthwise, it is not enough to know the fat contents but one should also consider other ingredients in the product. Like its 30% fat counterpart, this 0% fat product was not perceived as tempting as a 7th grade female illustrates: "If you're going to eat something unhealthy, at least have it be tasty."

Perceptions of models in food ads

Models in food ads are expected to be thin, beautiful, and well-known celebrities. Adolescents described the appropriate models in detail with much emphasis on the fact that they need to look good, be attractive, and be well groomed including their hair, eyes, height, and body shape. Personality characteristics of the appropriate models for the food ads were rarely mentioned with the exception that they need to communicate happiness, presumably from consuming the product. An 8th grade female said: "In practical terms, a person is sitting and watching television, why does he care about her personality characteristics?! He sees a beautiful model, 30% fat, tempting ice cream, why not buy this product?!"A few adolescents mentioned that it is important for the ad to exude sexiness, mostly through revealing clothing or swimsuits.

When asked about ad models to which they are exposed in their everyday lives, many adolescents were cognizant of the fact that many models are too unrealistically "perfect" and that there is a difference between who appears to be consuming the products in the ads and people who actually consume it in real life. Even if the models are perceived as "real people" (that is, someone you can meet in your everyday life), adolescents agree that food ads exaggerate their appealing appearance and often use digital means such as Photoshop to achieve these looks. An 8th grade female said about the ad models: "They look like they really love the food but I think that sometimes… maybe they don't love it and it's because of the money they get paid." Adolescents admitted comparison to the models in food ads, but mostly on the part of their peers. The large majority of interviewees said that they themselves do not engage in personal comparisons with the ad models. Only a smaller portion of the adolescents admitted that they are sometimes envious of ad models and would like to look like them, and though they recognize the digital

manipulations involved in these images, some adolescents say their self-confidence is lowered after such exposure.

Next, the adolescents were asked for their reactions to the two study-crafted 30% fat ice cream ads with thin and average-weight models in them. With regard to the average-weight models, most adolescents said that it is unusual to see over-weight models in ads (as these average-weight models were perceived to be); a few even appreciated this "refreshing" choice. A 10th grade female said: "She [the female model] is appropriate for the product because, after all, they are not some perfect models. These are the people who really eat this ice cream … It won't really happen in ads because it's never what it is, but I think it's appropriate." But, mostly, the models were perceived as too fat – especially the female model who was claimed often to be inappropriate. Adolescents said that these models would deter people from buying the product as the ad made them think about the negative repercussions of eating this 30% fat product. A 10th grade female said the ad's message would be: "Not to eat this, to be careful! Because they are both fat; they are happy but they are fat [chuckles in embarrassment]. That's the problem."

With regard to the thin models in the study ads, most adolescents seemed to accept them unquestionably, as the common presentation in food advertising: promoting a 30% fat food product with thin models. There was no apparent confusion on their part with regard to the juxtapositioning of these two elements in the ad. Simply put, thin people are those who are expected to consume this product in real life. Still, adolescents' responses often revealed their understanding of the marketing world as a 7th grade male said: "I don't think they ate the ice cream; they are just advertising it."

Interestingly, many adolescents criticized these thin models as being too unrealistically an unhealthily thin. Overwhelmingly, despite the fact that they did serve as targets for social comparison much more than the average-weight models, most adolescents said they do not desire to look like the thin ad models. Only slightly more than 10% of the interviewees, mostly female adolescents, admitted to feeling less confident about themselves after seeing the thin models and wishing they shared the models' legs, stomach, and thinness. An 8th grade female said: "I don't think it's a good comparison because… relative to myself I feel good but when they show me these characters then suddenly I feel less good." Male adolescents criticized the thin models for being weak and many agreed that achieving such a body shape would involve self-starvation, extreme sporting, and even pills, making this an unhealthy and undesired process. A 10th grade male said that this ad "Makes me think like 'eat a little' … it's OK to have a layer of fat, you don't need to be just skin and bones."

Gender differences in perceptions of food ads

In response to RQ4, very few gender differences were deciphered. Both males and females expressed concerns about, along with appreciation of their bodies, weight, and shape, though the specific concerns were somewhat different – females expressed an interest in being thin whereas males prefer to increase their muscle mass and become stronger. Still, adolescents are well aware of the different societal expectations from males and females, as expressed in a quote by a 7th grade female: "I would not eat even a 30% ice cream in public because it is considered being fat. In my gender, being a girl, I cannot stuff my face with hamburgers next to my friends."

There was wide-spread agreement between the two genders regarding the expectations from ad models to be thin, attractive, and famous regardless of the product being promoted. Female adolescents seemed to be even slightly more stringent than male adolescents in emphasizing the thinness of appropriate ad models. Female adolescents were also slightly more likely to admit comparing themselves to thin models than male adolescents. Both male and female adolescents held more restrictive and strict expectations from female models whereas both genders were more flexible and accepting of diversity with regard to male models in food ads. Female models should always be thin; very few adolescents said an average-weight female model would be acceptable. Though male models are expected to be thin, have muscles, a 6-pack stomach, and be gorgeous, there was more acceptance in their case of even a small stomach (potbelly). As a 7th grade female said: "In males, it is not good for them to be too thin, they should be sort of medium. In a woman, she needs to be thin."

Discussion

The study examined adolescents' perceptions of and reactions to food ads to which they are exposed in their heavy daily media use. Because of this substantial exposure, the unique (and often unhealthy) nature of food advertising, and the relevance of food advertising for nutritional health, it is important to understand this content's role in youth's health-related perceptions. The study, guided by the media practice model (Steele & Brown, 1995), highlights the intersection of food advertising, parents, and friends as socialization agents as they play a role in adolescents' everyday lives.

Parents and peers as nutritional health socialization agents

Adolescents' reactions to food ads, generally, and to those ads crafted for the study, reflect the role of multiple socializing agents in their lives. A very central role was ascribed to the family, in general, and parents, specifically, especially mothers in adolescents' nutritional health socialization. The family unit serves as a role model through personal experience in the context of food and body habits and perceptions, provides the nutritional foundation and structure through household purchasing decisions and eating practices, and constitutes a source of information and knowledge about food and nutrition. Usually, the family seems to be a healthy socializing agent, often mentioned as balancing forces who discourage dieting and encourage and enable healthy eating habits. Adolescents' critical reaction to the thin models in the study may reflect the voice of their families that emphasize the negative consequences of dieting.

Another important socializing agent in this study was the peer group. Food clearly involves a social component and is a central topic of conversation among adolescent friends, along with diets and extreme diet practices. Friends are also

strong motivators for engaging in physical activity, which is another nutritional health socialization component. Friends, however, seem to be less healthy influencers relative to the family as they often consume junk food together on outings. Friends were often perceived by adolescents to be influenced by food advertising and to be vulnerable to media messages about food and the body, though adolescents rejected the possibility of them themselves being influenced by these ads.

Adolescents' lived experiences related to nutritional health and its link to their reactions to food ads

The reactions of adolescents to food ads and the models within them – including the criticism of the low nutritional quality of advertised foods and unequivocal expectation of thinness and attractiveness of the models promoting it – are in line with adolescents' lived experiences as described in the interviews. Adolescents in this study claimed that maintaining a healthy nutrition is very important to them. Moreover, adolescents stated the importance of physical exercising in their everyday lives, both to benefit their health and to help them achieve their desired body shape. The concern about the physical appearance and thinness of ad models resonates with adolescents' own concern about their body shape, which very strongly emerged from the interviews along with a strong interest in (and criticism of) diet practices. The high rate of reports of engaging in dieting activities in this study are consistent with other studies of Israeli teens (Harel-Fisch et al., 2016).

Importantly, adolescents' reactions to food ads also reflect their development, consistent with the MPM. Adolescents were developmentally appropriately skeptical of ads (Mangleburg & Bristol, 1998) and critical of their (lack of) realism. Like older individuals (e.g., Ahern et al., 2011), adolescents are aware of the digital manipulations involved in ad creation, especially with regard to body shapes. Such knowledge of the technical aspects associated with media content creation may be related to adolescents' substantial use of social media, which rely heavily on visual images and which occupy young people's mediated self-presentation (Manago, Ward, Lemm, Reed, & Seabrook, 2015). Moreover, adolescents emerged as savvy media consumers who understand the "rules of the game" of advertising: they clearly state that in order to sell, the media must rely on attractive, and therefore, thin models. Average-weight models are perceived as being over-weight and heavily criticized.

Adolescents' perceptions of food ads: Food ads and the models within them as nutritional health socialization agents

Food ads are known for their contradictory messages: promoting largely unhealthy food products using mostly thin models (Eyal & Te'eni-Harari, 2016). The message communicated by food ads is thus complex and unrealistic; one is encouraged to consume food unlikely to lead to the ideal body presented in this content. Consistent with the MPM, the adolescents' reactions to and perceptions of food ads in this study reflected their past experience with the media, in general, and food advertising specifically. Adolescents seemed to internalize the expectations about the body as depicted in food ads and accepted them unquestionably. This acceptance was evident in their reactions to and about models in food ads and especially in their attitudes toward models' body shape, on the one hand, and their fame status, on the other.

Despite the evident thin ideal internalization – adolescents expect ad models to be thin and beautiful and reject the idea that food ad models can be over-weight – adolescents in this study were critical of the models in the study ads as being *too* thin. This was surprising in light of the generally very positive attitude toward thinness expressed by the same interviewees. Ahern et al. (2011) also found in a study of 16–26 year old women that, although there is a consensus that the ideal body is thin, there is ambivalence about and criticism of overly thin mediated models. Ahern et al. suggested that ultra-thinness is as stigmatized as obesity, and is considered unfeminine, unaesthetic, and unattractive.

Fame was also a strong criterion for choice of models in food ads. In recent years, the value of fame and public recognition has become increasingly important for youth, likely supported by their heavy social media use (Uhls & Greenfield, 2012). Though we did not address fame directly in the interviews, many adolescents mentioned that fame status is important for selling. Moreover, though critical of the thinness of the non-famous models in the ads, and despite being critical of people who diet, adolescents willingly accepted and expected famous people's thinness. This was evident in the adolescents' own choices for appropriate ad models, who – regardless of whether the food product being advertising is a 0% or 30% fat product – must have been thin and famous.

Gender differences in perceptions of food ads and the models within them

Regardless of the food product being advertised, there was a strong consensus among adolescents that models in food ads must be attractive, which largely means being thin and beautiful. Though these expectations were shared by male and female adolescent interviewees, it was interesting that females were even more stringent in their expectation for model thinness and seemed less willing to accept deviations from it. This is perhaps because women themselves are more often the targets of aggressive body criticism both in real life and in the media, more than are men, and have internalized this critical approach (Perloff, 2014). Moreover, female models were expected to meet such thinness criteria to a greater extent than male models. This finding supports the centrality of the thin ideal for women whereas men's ideal focuses less on thinness and more on muscularity and hyper-muscularity (Arbour & Martin Ginis, 2006). These beliefs by adolescents mirror nearly perfectly the common images of men and women in the media, in general, and in ads, specifically. They represent a strong internalization of the cultural and mediated thin ideal – the association of an overly thin body shape with highly positive characteristics including success, beauty, appeal, popularity, etc. (Eyal & Te'eni-Harari, 2013) and the disassociation of over-weight from such positive qualities.

Limitations and future research suggestions

The study found that fame was important in adolescents' interpretation of ad messages for both genders. Though there were advantages to choosing non-famous models for the study ads (e.g., neutralizing adolescents' previous familiarity with them, enabling the digital manipulation of body shapes), this choice likely shaped the extent of adolescents' social comparison with the models and their perceptions of these models. Future research should consider reactions to thin and average-weight famous celebrities as this will enhance validity relative to the lived experience of youth.

Also, adolescents were largely less willing to admit being impacted by food ads themselves. Lack of awareness of effects as well as social desirability may have played a role in this context. Quantitative research may be able to decipher such effects beyond those self-reported by adolescents in the interviews. In addition, whereas most socializing forces in adolescents' lives were pulling toward and supportive of the thin ideal, there was one socializing agent that seemed to balance this notion and encourage moderation in behavior and thought: the family, and, especially, mothers. Future research should attempt to disentangle the role of the family in adolescents' body image vis-a-vis the media and examine differences between adolescents whose families serve as a balancing force versus those whose families function less in this capacity.

Finally, it is important to consider that whereas print and television ads still abound, today's advertising world involves many new forms of advertising that often blur the boundaries between persuasive and editorial media content and pose challenges for young people in deciphering these messages and cognitively guarding themselves against their persuasive effects. Adolescents in the current study expressed much skepticism toward ads and it is important to encourage this position and ensure that it is applied to new advertising forms as well, including brand placements and concealed advertising.

Note

1. In a pilot study conducted as part of a larger experimental study, perceptions of the body shapes of the male and female ad models were tested to ascertain differences between the intended thin and average-weight models. Indeed, models in the thin condition were perceived as significantly thinner than those in the average-weight condition (Boys: $t[97] = -4.43$, $p < .001$, thin boys: $M = 4.13$, $SD = 1.00$, average-weight boys: $M = 5.18$, $SD = 1.37$; Girls: $t[99] = -6.39$, $p < .001$, thin girls: $M = 3.74$, $SD = 1.13$, average-weight girls: $M = 5.37$, $SD = 1.43$).

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