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***Food for Thought:
A Novel Media Literacy Intervention on Food Advertising
Targeting Young Children and their Parents***

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ABSTRACT

The prevalence of obese children has tripled during the past three decades. While lack of physical activity and unhealthy eating have been the primary focus of public health efforts, media has a significant influence on food choices and food consumption. The purpose of this exploratory study was to examine if a media literacy intervention would increase knowledge and decrease the persuasive nature of unhealthy food advertisements. Parents (n=12) and their children (n=15) were recruited from two Boys and Girls clubs. They participated in a 2-hour educational, intervention workshop. The parents completed a pretest and a posttest assessing changes in knowledge and attitudes about food advertisements. Volunteers from the workshop signed up to participate in focus groups. There were two focus groups with parents (n=5) and two focus groups with children (n=6). According to quantitative results, there were positive changes in parents' media literacy knowledge after the workshop. Focus group data highlighted that children learned about the purpose of advertisements and how to be more critical of unhealthy food advertisements. In addition, both parents and children revealed positive changes regarding their intentions and behaviors in eating healthy. Media literacy interventions are a promising strategy for educating parents and young children about food advertisements which can help address childhood obesity.

Keywords: *media literacy, mixed methods, obesity, focus groups, health disparities*

Obesity is a public health epidemic that has increased exponentially over the years. Approximately 17%, or 12.5 million, of children and adolescents aged 2-19 years old are obese (Ogden & Carroll, 2010). As with many other chronic diseases, there are racial and social disparities associated with obesity. National estimates

shows that children from minority populations are obese at a higher percentage compared to the rest of the population (Estabrooks, Fisher, & Hayman, 2008).

While lack of physical activity and unhealthy eating have been the primary focus of public health research, practice, and policies, other factors have caused childhood obesity to be the extensive epidemic that it currently is. Media has a significant influence on food choices, food consumption, and the health status of children today. Television is the primary form of consumed media for children (Horgen, Harris, & Brownell, 2012). A majority of food commercials that are targeted at children promote “low-nutrient, calorie-dense” products (Powell, Szczypka, Chaloupka, & Braunschweig, 2007; Story & French, 2004), with 97% of the food advertisements seen by children advertising food that is high in fat, sugar, and/or sodium (Powell et al., 2007). In 2009, less than 1% of a sample of more than 500 food advertisements appearing on children’s television programs featured items (such as whole grain breads, fruits, and vegetables) considered to be a part of a healthy child’s diet (Kunkel, McKinley, & Wright, 2009). Researchers have identified that these advertisements seen by children have immediate effects on consumption of unhealthy food items (Halford, Gillespie, Brown, Pontin, & Dovey, 2004; Harris, Pomeranz, Lobstein, & Brownell, 2009).

Unfortunately, continued exposure of unhealthy food advertisements encourages snacking of unhealthy food items for children (Goldberg, Gorn, & Gibson, 1978; Halford et al., 2008; Halford et al., 2004; Harris, Bargh, & Brownell, 2009). Research has shown that the marketing of unhealthy food products is disproportionately targeted at ethnic minority children (Bell, Cassady, Culp, & Alcalay, 2009; Grier & Kumanyika, 2010; Henderson & Kelly, 2005). It is important that researchers recognize the powerful effects that television advertisements have on eating habits and social norms of food consumption as a significant contributor to the obesity problem.

Family based interventions are considered the primary approach to obesity treatment (Skelton, Irby, Guzman, & Beech, 2012). Not only can parents influence their children’s health in positive ways, such as altering fast food consumption and increasing healthy food options and knowledge, but also they can mediate the influence of advertisements on their children (Skelton et al., 2012). When media literacy programs include and involve the parents, not only is it a greater success, but also increases the chances of reducing the children’s media consumption to be at healthier levels (McCannon, 2009).

LITERATURE REVIEW

Media Literacy

Health literacy is defined by the U.S. Department of Health and Human Services as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services to make appropriate health decisions” (U.S. Department of Health and Human Services, 2000). Media literacy is a significant part of the extensive health literacy umbrella. As society evolves, people are becoming more and more dependent on media as a primary source for all

types of information, including health information. Considering both the reliance that people have on media and the high level of exposure to media, media literacy is becoming just as necessary as health literacy. The National Association for Media Literacy Educators (NAMLE) defines media literacy as “a series of communication competencies, including the ability to access, analyze, evaluate, and communicate information in a variety of forms, including print and non-print messages” (National Association for Media Literacy Education, 2012). As society evolves, people are becoming more dependent on media as a primary source for all types of information, including health information. Considering both the reliance that people have on media and the high level of exposure to media, media literacy is becoming critical. Lower health literacy levels are associated with poorer health outcomes and avoidable billions of dollars spent on health care costs (U.S. Department of Health and Human Services, n.d.).

Media literacy is a consciousness-raising skill that can be used effectively on diverse advertisements to make each person a more critical media consumer (Hogan, 2012). This is important considering the explosion of marketing in today’s society, especially marketing tailored to children. Not only has children’s exposure increased, but modern advertisements are more pervasive and intrusive than even before (Linn, 2004). Media literacy interventions can empower children and parents to take control of their media experience through critical analysis of the advertisements they see (Hogan, 2012; Singer, 2009).

Primarily in research, media literacy interventions have been used with tobacco, alcohol, and violence. While media literacy interventions have not been frequently used with food advertisements, practitioners and researchers find that media literacy programs can successfully change attitudes and often behaviors (McCannon, 2009). These programs can be used as an effective and practical health communication strategy, offering the ability to serve as both a prevention and intervention tool (Page, Piko, Balazs, & Struk, 2010; Pinkleton, Austin, Cohen, Miller, & Fitzgerald, 2007).

Purpose of the Study

The purpose of this exploratory, mixed methods study was to examine if a media literacy intervention can increase media literacy knowledge and decrease the persuasive nature of unhealthy food advertisements.

Research Questions

The following research questions guided the study:

1. How did a media literacy educational intervention for parents and their children influence their levels of media literacy knowledge?
2. How did a media literacy educational intervention lead to changes in parents’ and children’s intentions to eat unhealthy and healthy food?
3. How did the media literacy educational intervention affect the parents’ and children’s attitudes toward the intervention in general and toward food marketing in particular?

METHODS

Sample & Recruitment

The participants in the family-based intervention and focus groups were dyads of parents and their children. The children were from 3rd to 5th grade (ages 7-12 years old), as this was a requirement for eligibility. This was the target age group selected because children can understand the implications of assenting to participate in research, including what is expected of them by age 7 (Conrad & Horner, 1997; Lowes, 1996), and the majority of children demonstrate the ability to understand the persuasive intent of commercials around age 8 (Blosser & Roberts, 1985; Chan, 2001; Comstock & Paik, 1991; Donohue, Henke, & Donohue, 1980; Lawlor & Prothero, 2002; Oates, Blades, & Gunter, 2011). Also, the range of ages needed to be close enough so that they were developmentally at a similar level. The inclusion criteria was as follows: (1) Child is in either 3rd, 4th, or 5th grade or (2) child is between ages 7 and 12 years.

Convenience sampling was used to recruit at two southeast locations of the Boys and Girls Club. A table was set-up in the lobby at the time parents picked up their children from the Boys and Girls Club. Each interested person was screened for eligibility based on the inclusion criteria mentioned above. Once they were determined eligible, a demographic questionnaire was given to the interested person, which included questions for the parents and children.

During the initial round of communication, 72 parents who initially signed up were contacted based on their preferred method (email, text, or call). After two efforts of contacting them if they did not respond, they were considered uninterested or unavailable. After the initial round of communication, 42 parents responded that they were still interested in participating. Based on the responses of the screening questionnaire, the workshop time and day was selected based on the most frequent combination. From the 42 parents, the final sample consisted of 12 adults, which led to 15 child participants. A majority of the parents (41.7%) were in the age range of 29 – 32 years old. Almost half (46.7%) of the children were 10 years old. Over two-thirds of adults (83.3%) and children (80%) identified as Black. Demographics of the final sample are presented in Table 1. The University of Georgia Institutional Review Board approved this study.

Measures Used

At the beginning of the workshop, the parents completed the pretest and then completed the same survey again as a post-test. The pretest - posttest questionnaire used was adapted from the smoking media literacy (SML) scale that was created by Brian A. Primack, Melanie A. Gold, Galen E. Switzer, Renee Hobbs, Stephanie R. Land, and Michael J. Fine in 2006. During the development of the SML scale, the team of researchers created items based on the Theory of Reasoned Action and each representing the eight core concepts of media literacy. In the creation of the SML scale, the original researchers did several validity and

Table 1
Demographic Information

PARENT		CHILD	
<i>Age</i>		<i>Age</i>	
29-32	41.7	8	13.3
33-36	33.3	9	20
37-40	8.3	10	46.7
41-45	16.7	11	20
<i>Race</i>		<i>Race</i>	
Black	83.3	Black	80
Hispanic	16.7	Hispanic	13.3
		Missing	6.7
<i>Gender</i>		<i>Gender</i>	
Female	83.3	Girls	40
Male	16.7	Boys	60
<i>Education</i>		<i>Education</i>	
> Associate's Degree or 2 years of college	8.3	3 rd grade	26.7
<Associate's Degree or 2 years of college	83.3	4 th grade	46.7
Missing	8.3	5 th grade	26.7
n = 12		n = 15	

reliability checks. Considering the strong reliability and validity of the smoking media literacy scale, it is confirmed that it is an appropriate tool to assess media literacy with adolescents (Primack et al., 2006). The SML was adapted to assess the media literacy of food advertisements and used as a pretest and posttests for this dissertation study.

Workshop Design

The family-based media literacy educational intervention was delivered to parent and child dyads through a two-hour, interactive workshop at a Boys and Girls Club location. The intervention workshop took place on a Saturday late morning in March 2014. There were tables with about 4-6 chairs at each table, where the majority of the parent-child dyads sat together, but there was one table full of children. The intervention workshop was delivered primarily through

PowerPoint with video clips and interactive discussion to emphasis educational points and allowed the participant an opportunity to provide authentic reflection. There were often side conversations going on at various tables, especially the table with all children, and the only time the researcher tried to control it was when the volume prevented others from hearing and became distracting. As the information was presented, the researcher walked around the room to prevent a traditional teacher/student set-up and promote an interactive setting. This was done to provide a more informal setting where the participants felt that they were co-leaders of the workshop.

The curriculum was based on the integrated theoretical framework shown on Table 2, which included the core concepts of media literacy. These core concepts were applied to the relationship between media literacy and food marketing. These core concepts were explained and discussed in the workshop. For each core concept, an example was provided with a visual (photo or video). It was a consciousness-raising workshop throughout that promoted an interactive setting among the participants, both parents and children. During the workshop, a note taker was present to document interactions and video record the workshop for memo purposes.

The conclusion of the workshop consisted of a production exercise, which allowed parents and children to work together to produce either a counter-advertisement for healthy food or a description of what television advertisements are honestly saying. Adding this creative opportunity for children to create their

Table 2
Integrated Theoretical Framework of Media Literacy

Media Literacy Domain	Related Media Literacy Core Concepts
Authors and Audiences (AA)	AA1: authors create media messages for profit and/or influence
	AA2: authors target specific audiences
Message and Meanings (MM)	MM1: messages contain values and specific points of view
	MM2: different people interpret messages differently
	MM3: messages affect attitudes and behaviors
	MM4: multiple production techniques are used
Representation and Reality (RR)	RR1: messages filter reality
	RR2: messages omit information

own media story, documentary, or advertisement helped them understand the entire process of media production. It also allowed them to create an advertisement that counters the ones that they normally see, emphasize the difference in

advertisements for unhealthy food and healthy food, and can be used as an effective strategy for promoting healthy behavior (Dixon, Scully, Wakefield, White, & Crawford, 2007).

Following the presentation of the production ideas, the posttest was administered to the parents. Once the posttests were collected, focus groups were introduced and volunteers were asked to sign-up if they were interested in participating. For attending the workshop, the parents received a \$10 Wal-Mart gift card. Also, dinner was provided to both the parents and children at the workshop.

Focus Groups

Focus groups were conducted two weeks after the workshop. Due to concerns about using a pretest – posttest with children, focus groups were used to assess the change in media literacy knowledge for the children participants. It was decided that this was a more appropriate method to use with the particular age group of children in the study. Children participated in focus groups separate from their parents and all focus groups were video-recorded. A semi-structured interview guide with five questions was used for both parents and kids. Dinner was also provided at the focus groups.

ANALYSIS AND RESULTS

Quantitative Analysis

The data from the pretest - posttests were screened for missing values and then entered upon collection. Descriptive statistics of differences in mean scores and paired t-tests from pretest - posttests were calculated. Statistical significance was defined as being $p < 0.05$. The statistical software used for quantitative analysis was SPSS version 21 for Windows

Qualitative Analysis

For the qualitative data, constant comparative method of analysis was used. Comparative analysis is a staple feature of social science research (Corbin & Strauss, 2008). The first step of this process is called “open coding.” Open coding is defined as segmenting data into categories of information (Strauss & Corbin, 1990). Coding data also allows the researchers to sort the data based on the codes and gives them a handle for making comparisons with other segments of data (Charmaz, 2006). When reviewing transcripts of the focus group data, open coding was used to create themes. Each focus group was professionally transcribed and went through two rounds of coding. All transcripts were independently double-coded by another qualitative public health researcher to ensure validity.

Quantitative Results

For the study, a one-group pretest - posttest design was administered to parents to measure any changes in media literacy knowledge, as well as, intentions to eat unhealthy food. The adapted SML was given before the workshop began and was used as the posttest at the end of the workshop. Both the pretest and posttest questionnaires were administered in a paper and pen format.

The results of the pretest – posttest showed that there were positive changes made in the media literacy knowledge of the parent participants. Within each media literacy domain (Authors and Audience, Methods and Meanings, Representation and Reality), there were at least two core concepts that had statistically significant results, which shows the diversity in the changes among media literacy knowledge. Scales were constructed by calculating the grouped results by each of the three media literacy domains. Each grouped domain had strong p-values (AA – .000, MM – .002, RR – .005). The results of these t-tests are presented in Table 3.

Table 3
Grouped Results by Media Literacy Domain

Domains	Mean difference	SD	95% CI	t	df	P-value
Authors and Audiences (AA)	0.479	0.328	0.271 – 0.687	5.06	11	0
Messages and Meanings (MM)	0.433	0.354	0.203 – 0.653	4.19	11	0.002
Representation and Reality (RR)	0.433	0.433	0.158 – 0.709	3.46	11	0.005

Qualitative Results

The results of the focus groups emphasized the positive changes that parents and children had in their intentions and behaviors to eat healthy. In the focus group setting, both children and parents communicated that the workshop was beneficial and made them want to eat healthier and make healthier choices. The final codes appear as shown on Table 4.

Table 4
Final Coding for Focus Groups

Theme 1: Characteristics of advertisements	Adults vs. kids	Money
	Lying	Marketing
Theme 2: Effects of advertisements	Pestering Power	Anger
	Commercial influence	Healthy ads
Theme 3: Effects of workshop	Family communication	Convenience
	Workshop	Power

Carrie (Black mother, 29 years old) recognized her role as a parent of being a healthy role model, and in that role she has the power to choose where she wants to spend her money and what companies she wants to financially support as a consumer. Here, Carrie was asked what was the most important lesson learned during the workshop:

To make wiser choices about where I do choose to, um, to spend my money first of all. But second of all, to be more aware of what we're taking in, you know, as far as our health...Not to be so quick to buy the fast food and that everything is not as it seems.

The second research question for this study inquired how a media literacy educational intervention lead to changes in parents' and children's intentions to eat unhealthy and healthy food. The change in intentions to eat unhealthy and healthy food was measured through the focus groups. Parents shared that after attending the workshop, they want to make healthier choices and decrease their consumption of unhealthy foods. Superwoman, a 29-year-old Black mother, expressed how she understood how her family watches what she does.

It's also to lead by example, you know, I may say this food is not good for you, but then they [her children] see me going in there [fast food places] to get it.

Participants displayed more reflective thinking of their choices, as in Pinkleton, Austin, Chen, and Cohen (2012). Parents recognized that the workshop allowed them the opportunity to reflect on their current behaviors as a role model and recognize areas of improvement for healthy modeling and eating. Similar to findings from Kean, Prividera, Boyce, and Curry (2012) and Kupersmidt, Scull, Benson (2012), parents' choices changed after a media literacy intervention to increasing healthy food and decreasing unhealthy foods.

The third and final research question examined how a media literacy educational intervention affected parents' and children's attitudes toward the intervention and particularly food marketing. Both parents and children shared their opinions of food advertisements and the changes they had of them after workshop, which is in line with previous media literacy studies done with various topics (Austin & Johnson, 1997; Austin, Pinkleton, & Funabiki, 2007; Scharrer, 2006). Participants, both parents and children, shared how they thought one thing about food marketing before the workshop, but once they were educated at the workshop, they were able to recognize the different tactics that the food companies use to influence their eating and purchasing behaviors. Peter (Hispanic, male, 38 years old) also shared how his thoughts about the advertisements changed after he attended the workshop.

Yeah before I saw all this in the workshop, I used to say "Wow, that's creative and that's clear" but after I see all the stuff and how they make it look good, you know, it's like "Oh, that's fake."

Children recognized that they ask for the products that are marketed to them, which is in line with the findings from Scully et al (2011). Olivia (Black girl, 9 years old, 4th grader) and Sherman (Hispanic boy, 9 years old, 3rd grader) were sharing in the

focus group that the advertisements have influenced them to ask their parents for the product that they see on the commercials.

Interviewer: As a kid, how does it make you feel that these companies are making these advertisements for you?

Olivia: Well, good and bad

Interviewer: Good and bad, okay. Why do you say good and bad?

Olivia: Because sometimes like kids just don't know, like what to – what they want...And it's just not good for you, that's why

Interviewer: Mmhmm – okay. Yes?

Sherman: So sometimes it gets to the kids

Interviewer: It gets to the kids?

Sherman: Like they have little cartoons that get the kids going and saying “Mom, I want this. Dad, I need this.”

Olivia shared that the commercials are advertising food and that they need direction from their parents to help set boundaries on what they should and should not eat. Olivia's statement suggests that although children are exposed to advertisements and may ask for the product, they may not realize that it is not healthy for them and it is the responsibility of parents to restrict the consumption of certain types of food.

DISCUSSION

The purpose of this study was to examine whether a media literacy intervention could increase media literacy knowledge and decrease the persuasive nature of unhealthy food advertisements in parent-child dyads. The media literacy workshop served as a consciousness-raising intervention where participants learned how to be more critical of the advertisements they are exposed to. There were positive changes in parents' media literacy knowledge after the workshop. Focus group data highlighted that children learned about the purpose of advertisements and how to be more critical of unhealthy food advertisements. In addition, both parents and children revealed positive changes regarding their intentions and behaviors in eating healthy.

Researchers have recognized the importance of being able to apply media literacy skills to a variety of genres or media texts (Peterson, 2012). Both the literature and the results of this project have suggested that media literacy interventions are crucial for the health of future generations, especially considering the high levels of exposure. This study served as an exploratory study for larger

family-based interventions and media literacy studies with food advertising. Media literacy interventions should continue to be researched, explored, and developed to combat unhealthy food advertisements, as well as, to see if an experimental design would present similar results.

While many media literacy interventions have focused on children, adults, particularly parents, should not be excluded. Adult media literacy is extremely important, considering the natural role parents play in the media consumption of their children, as well as, their ability to create discussion or co-view media at home with their families (Peterson, 2012). In future media literacy studies, parents and children should be encouraged to learn together to promote family communication around marketing and media literacy. Family communication was a theme that emerged in the focus group discussions.

The study was constructed on the foundation of the Integrated Theoretical Framework of Media Literacy. The Smoking Media Literacy (SML) scale, which was built off of the Theory of Reasoned Action (TRA), was adapted and used as the questionnaire to assess increase in media literacy knowledge. According to the results from the adapted SML used as the pretest – posttest, the participants of the intervention workshop increased their media literacy knowledge after participating in the intervention workshop, which was the first research question. Similar to the Kupersmidt project, media literacy knowledge was increased after the intervention (Kupersmidt, Scull, & Benson, 2012). Some items from each media literacy domain were statistically significant, which shows the overall increase in media literacy knowledge. Only parents completed the pretest – posttests, therefore the children's change in knowledge was not directly assessed, yet the children participants did share in the focus groups their changed knowledge and its intent. When asked about what was the most important lesson they learned, many children shared they learned about the different methods companies use in advertisements to influence eating habits and ways that they could participate in healthier eating habits. Similar to this study, Austin, Chen, Pinkleton, and Johnson (2006) concluded that media literacy education enhanced the learning and magnified potential benefits.

This study has several limitations. For recruitment, convenience-sampling methods were used; therefore, the results are not generalizable to all settings. The intervention was done in a rural county, so the results may not be applicable to parents and children living in suburban or urban areas. Due to the recruitment limitations, the study design was a one-group pre and posttest design. The total number of participants in the intervention was small. While the smaller sample size limited the power of the statistical analyses of the pretest – posttests, the exploratory nature of the study allowed for an innovative dissertation study. In future research, control groups, randomization of participants, and/or other delayed posttests should be considered to improve the validity and reliability of the results.

CONCLUSION

Food advertisements are designed and implemented by advertisers and marketing specialists and therefore the majority of the information presented does

not align with the interest of public health or health promotion (Peterson, 2012). Other countries, such as Australia, Canada, Sweden, and Great Britain have already adopted regulations on food companies for advertisements that target young children (Wilcox et al., 2004). It is important that the United States make significant strides to mimic some of the regulatory measures that other countries have adopted.

Public health and public policy researchers are working towards the ban of advertisements geared towards children. Both the American Academy of Pediatrics (Strasburger, 2006) and the American Psychological Association (Wilcox et al., 2004) support a complete ban on advertising to young children. However, until a mandatory policy is implemented, it is the responsibility of health educators and public health professionals to educate children and parents on how to critically analyze advertisements. Media literacy interventions prove to be a promising strategy that allow participants, including children, to take control of their media experiences by negotiating, questioning, and analyzing the images that they are exposed to (Hogan, 2012; Singer, 2009).

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