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## MEDIA & COMMUNICATION STUDIES | RESEARCH ARTICLE

# Public health framing and attribution: Analysis of the first lady's remarks and news coverage on childhood obesity

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**Abstract:** First Lady Michelle Obama's public health promotion "Let's Move" seeks to place children on a path to better health by giving families access to health education and fostering healthier environments. We examined the use of public health framing and attribution of responsibility in the First Lady's remarks and newspaper articles reporting on childhood obesity. We coded the Whitehouse.gov website for remarks made by the First Lady regarding the childhood obesity prevention program "Let's Move." Of the 103 remarks coded, 35% of the remarks used public health framing. The First Lady's remarks attributed responsibility and solutions for the childhood obesity crisis in terms of environmental factors, rather than individual factors. Using the same themes, we coded a sample of 260 articles that reported on "Let's Move" specifically or childhood obesity generally, published during the same time period as the First Lady's remarks. Approximately 20% of the articles used public health framing and similarly attributed childhood obesity to environmental factors. When comparing the two outlets, themes in the news articles were similar to the First Lady's remarks; however, each lacked complete public health framing, which may contribute to less effective public health messaging.

### ABOUT THE AUTHORS

Jennifer A. Andersen's research interests are focused in health and medicine, centering on health disparities, health communication, and health policy as it relates to the definition, prevention, and treatment of disease.

Dr Lindsey E. Wylie's research interests include understanding how the legal system impacts vulnerable populations (juveniles, older adults, people with mental illness, and people with obesity), and the relationship between law and policy, and biases towards these groups.

Dr Eve M. Brank's research focuses on the way in which the law intervenes—and sometimes interferes—in family and individual decision making. That includes issues about raising children (e.g. parental responsibility laws and blaming parents), adult children caring for aging parents, and constitutionally protected rights within the criminal and juvenile justice systems. The current paper combines our varied interests to examine a public health campaign about obesity targeted toward children and their parents.

### PUBLIC INTEREST STATEMENT

With childhood obesity threatening the health of American children, First Lady Michelle Obama chose childhood obesity as one focus during her tenure as first lady. The health promotion campaign, "Let's Move", is designed to provide families access to health education and fostering healthier environments to reduce the rates of childhood obesity. Given the attention paid to "Let's Move" in both traditional and social media formats, we felt that it was important to understand how this public health campaign and the topic generally was portrayed to the general public, using public health framing and attribution theory. This study showed that there is work yet to be done in understanding how best to frame a public health issue for the most optimal response from the general public. Additionally, this study showed that both Mrs Obama's remarks and media coverage, attributed responsibility for childhood obesity and its solutions most frequently to environmental factors, such as school lunches and increasing physical activity levels in schools.

**Subjects: Political Communication; Sociology of Media; Health Communication; Health & Society; Children and Youth; Obesity; Health Communication**

**Keywords: obesity prevention; public health campaigns**

## 1. Introduction

Childhood obesity has been termed a public health crisis—with the United States having one of the highest rates of childhood obesity in the world (Ebbeling, Pawlak, & Ludwig, 2002). The childhood obesity crisis has garnered the attention of Michelle Obama, the First Lady of the United States AT THE TIME THIS ARTICLE WAS WRITTEN. The First Lady’s public health promotion program, Let’s Move, seeks to foster healthier environments for children and give parents and children access to health education. To accomplish the program’s goal, the First Lady speaks to the public, government agencies, and private organizations in support of policies relevant to Let’s Move. In addition to her remarks, media outlets cover these public engagements, which may reach a wider audience than the First Lady’s original remarks. As such, while the First Lady’s remarks may impact how childhood obesity is framed as a public health issue, the manner in which the media reports on those remarks may also impact how childhood obesity is framed.

Although previous research has focused on media attention to childhood obesity, the current research systematically examines both the public health campaign and media attention to the same topic. Such an undertaking is vital to understanding how well public health campaigns and media attention match what research has indicated is important for positive societal change. For instance, research has demonstrated the media can focus public attention toward certain issues (McCombs & Shaw, 1972) and influence how the public interprets those issues (Salovey & Williams-Piehota, 2004). Specifically with public health campaigns, the media can influence whether the public attributes responsibility for the public health problem to individuals or society (Guimond, Begin, & Palmer, 1989; Weiner, 2006), which predicts public action and support for public policy (Wylie, 2015).

Through the lens of health communication scholarship, the current research examined the First Lady Michelle Obama’s remarks and related newspaper reporting to analyze whether the remarks and reports are most effectively conveying her message according to research on framing (Entman, 1993; Goffman, 1974), public health framing (Dorfman, Wallack, & Woodruff, 2005; Hawkins & Linvill, 2010) and attribution theory (Heider, 1944; Wong & Weiner, 1981).

## 2. The first spouse

Recent decades have seen First Spouses formally champion and advocate for social causes (Watson, 1997). Generally, these projects are focused on a social concern and not meant to be politically polarizing, such as First Lady Bush’s work to promote literacy (Watson, 1997) or First Lady Reagan’s work to reduce drug use, which famously encouraged Americans to “Just Say No” (Lilienfeld & Arkowitz, 2013). Although the First Spouses’ activities and “pet projects” may be seen by some as trivial, scholarship has noted that the First Spouse can have long-standing and considerable influence over decisions and policies. Indeed, these projects can provide a national voice on important issues (see Watson, 1997), whether they have their intended effects or not.

First Lady Obama developed the Let’s Move initiative and it is the first obesity-focused campaign to originate in the White House (Weingart, 2012). The foundation of Let’s Move includes the following five pillars: (1) creating a healthy start for children, (2) empowering parents and caregivers, (3) providing healthy foods in schools, (4) improving access to healthy, affordable foods, and (5) increasing physical activity (Let’s Move, n.d.). The launch of the Let’s Move program also led to the creation of the Presidential Task Force on Childhood Obesity. The Task Force sets the federal benchmarks and allocates federal resources to meet the First Lady’s goal in reducing childhood obesity to a 5% or lower prevalence by the year 2030 (Let’s Move, n.d.). As evidenced by previous campaigns, like First Lady Reagan’s “Just Say No” efforts, translating the Let’s Move campaign into a program with desirable effects may be challenging. In order to be successful, it is important for First Lady Obama’s message to be communicated and interpreted effectively.

### 3. Previous research on the let's move campaign

To our knowledge, only two previous projects have examined media attention to the Let's Move campaign. Among other questions about media portrayal of Michelle Obama, Jackson (2012) specifically compared coverage of Let's Move in two mainstream newspapers (i.e. *The Washington Post* and *Chicago Tribune*) to what the author referred to as two "Black newspapers" (i.e. *The Washington Informer* and *Chicago Defender*). Examining 165 articles about Let's Move published between March 2009 and March 2011, Jackson found the majority of statements in the articles (92%) were supportive of the Let's Move campaign. Most of the statements from both types of newspapers focused on nutrition (58%), but less often focused on childhood obesity problems (26%), and fitness/exercise (16%).

Weingart (2012) focused on five newspapers during one year prior and one year after the campaign launched in February 2011. Of the 169 relevant articles coded for the study, 60 were printed before the launch of Let's Move, while 109 were printed after. Each sample did not significantly differ in focus on individual-level causes or solutions to childhood obesity. Although mentioning of societal-level causes did not statistically increase after the launch of Let's Move, two societal-level solutions were statistically more prevalent after: healthier school lunch programs and increased regulations of the food and beverage industry. Weingart (2012) found that the articles published after the launch of Let's Move were significantly more likely than before to characterize childhood obesity solely as a societal problem.

These two projects provide important descriptive information about the Let's Move initiative, however, neither focused on the actual messages from First Lady Obama. Moreover, although Weingart (2012) focused on individual vs. societal framing, more specific levels of framing are important to fully consider the predicted effectiveness of the campaign.

### 4. Framing

Framing refers to the way a message is presented and described (Goffman, 1974). Related to agenda-setting, framing theory goes beyond asking about what topics to report, and focuses on the way in which those topics are described. If agenda-setting tells us *what* to think, then framing tells us *how* to think about it (Entman, 2007; McCombs & Shaw, 1972). Speakers and journalists may frame messages to guide audience reactions toward a particular end-goal by not including or emphasizing certain facets of an issue. This emphasis can distort or manipulate the audience's understanding of the issue and even impact the audience's memory of an issue (Rothman, Bartels, Wlaschin, & Salovey, 2006). Framing, therefore, can have wide-reaching implications for the way a message is delivered, heard, and acted upon.

#### 4.1. Public health framing

Within the framing literature, scholars have more specifically theorized when public health messages may be most effective using public health framing. According to these scholars, when news stories are framed according to public health framing, they include the following three components: (1) information that connects the public health issue to the larger social and environmental context, (2) descriptions of risk factors, and (3) prevention information (Coleman & Thorson, 2002; Dorfman et al., 2005; Hawkins & Linvill, 2010).

Hawkins and Linvill (2010) coded news articles about childhood obesity to identify whether the news article included all three components in connecting childhood obesity to the larger social or environmental context, risk factors for childhood obesity (e.g. unhealthy eating habits), and preventatives or correctives for childhood obesity (e.g. providing education regarding exercise). Their findings indicated that half of the 201 coded newspaper articles used all three components of public health framing. Although the majority of the articles cited to the larger context (97%) and risk factors (84%), the most common missing component was preventatives or correctives for childhood obesity (52%). For those articles that did mention preventatives and correctives for childhood obesity, most connected solutions to individual-level factors (65%) as compared to societal-level factors (35%). Scholars have noted that without these three components, audiences tend to find the

reported-on public health issue “random and unpreventable” (Gruhn & Hawkins, 2004, p. 10 as cited in Hawkins & Linvill, 2010). By presenting all three components in a public health message, the audience may better understand the multi-faceted nature of the problem, how it affects the population involved, and the proposed solutions for that problem.

Not only does public health framing contribute to better audience understanding of issues, it is also believed to further influence opinions, actions, and support for public policies. For example, research has found that public health framing was more successful at eliciting support for actions to reduce climate change (Myers, Nisbet, Maibach, & Leiserowitz, 2012), crime and violence (Dahlberg & Mercy, 2009), and obesity (Niederdeppe, Shapiro, Kim, Bartolo, & Porticella, 2014; Sun, Krakow, John, Liu, & Weaver, 2016; Wylie, 2015).

RQ1: As such, our first research question was based on previous research and known benefits of public health framing. Do the First Lady’s remarks and news coverage about childhood obesity make use of public health framing, which consists of the following three elements: (1) information that connects childhood obesity to the larger social and environmental context, (2) risk factors for childhood obesity, and (3) prevention information for childhood obesity?

#### **4.2. Attributions of responsibility**

The way in which social problems are framed may influence how we attribute cause, effect, and response to the problem (Goffman, 1974). Within public health, social problems are often contrasted with concern for individual rights vs. community needs, which elicits either individual (dispositional) or environmental (situational) causal attributions (Heider, 1944). When actions are perceived to be within the control of the individual, then perceivers are more likely to attribute behaviors dispositionally. When actions are perceived as outside the control of the individual, then those perceiving are more likely to attribute behaviors situationally (e.g. Weiner, 2006; Wong & Weiner, 1981). This may be problematic for garnering public support, however, because scholars suggest the best way to garner public support for a health policy is to frame the issue as something that is universal to the environment, and not solely the responsibility of the individual (Pearl & Lebowitz, 2014).

Within the United States, which is largely an individualistic culture, responsibility for obesity is often attributed to individuals, while environmental factors are downplayed (Brownell et al., 2010; Wallack & Lawrence, 2005). Indeed, Kim and Willis (2007) examined newspapers and television transcripts during a 10-year period from 1995 to 2004 and found that the media mentioned individual-level causes and solutions for obesity significantly more than societal-level causes and solutions. Similarly, in a national survey, Oliver and Lee (2005) found that respondents favored individual-level over environmental-level explanations for obesity. It is clear that in an individualistic society, emphasis is placed on individuals for controlling their health outcomes, but it is not clear whether these attribution patterns extend to childhood obesity more specifically. Children may be perceived as less responsible for their own weight (and parents or other factors more responsible) because by and large, they do not control what meals are prepared or how much exercise they get (Barry, Brescoll, & Gollust, 2013; Wolfson, Gollust, Niederdeppe, & Barry, 2015).

RQ2: Based on research that the media attributes obesity more often to individual factors, as opposed to environmental factors, our second research question asks the following: Are the First Lady’s remarks and news coverage about childhood obesity similarly framed in a manner that attributes responsibility to the individual or the environment?

#### **5. The current research**

As noted, public health framing research has found that the media may fail to situate childhood obesity within the larger societal solutions. What is lacking in this previous research is a tie between the media reporting and the public message about which they are reporting. In other words, we know a great deal about how media outlets report about childhood obesity, but how well does that reflect larger messages from policy advocates like the First Lady? Indeed, how First Lady Obama

frames her remarks can either help or hinder public policy implementation related to childhood obesity. Moreover, how the media frames the remarks and the general topic of childhood obesity may exacerbate any effects related to implementing public policy. The current research addresses these issues by examining a public health campaign along with the newspaper coverage of that campaign and childhood obesity generally, to determine how similarly public health framing and attributions of responsibility are used within each context.

## 5.1. Method

### 5.1.1. Samples

5.1.1.1. *First Lady's remarks.* All of the First Lady Michelle Obama's speeches and remarks (hereinafter referred to collectively as "remarks") from 1 March 2009 to 1 March 2014 were found via the Whitehouse.gov website (Speeches and Remarks, n.d.). The remarks consisted of public speeches, conference calls, informal addresses, and questions at functions. From the 2,990 remarks archived and reviewed on the website, 522 were indexed by the website as made by First Lady Obama. Reviewing the archive by year and month, 419 remarks were first eliminated if the title did not correspond to childhood obesity, the Let's Move program, or healthy diet or exercise programs. Eliminated remarks were about topics such as Joining Forces (i.e. the White House program for military service members), education, and campaign events. The final sample included 103 remarks with word counts ranging from 187 to 8,735 ( $M = 2,103$ ,  $SD = 1,654.86$ ).

5.1.1.2. *Newspaper articles.* All articles were found in the LexisNexis Academic database and included those published from the newswire, original pieces, and commentary pieces like editorials. A total of 877 relevant articles were located in LexisNexis using the search string: (Let's Move and Michelle Obama and childhood obesity) and Date (geq (1 March 2009) and leq (21 March 2014)). Using a random number generator, a random sample of 260 articles were selected for analysis. The sample of articles were published in 126 different newspapers, by 83 different publishers. The word counts ranged from 61 to 5,007 ( $M = 694$ ,  $SD = 524.87$ ).

5.1.1.3. *Coding variables.* To estimate intercoder reliability, the two coders overlapped on a random sample of 21 remarks (20%) and 54 news articles (20%). Across all variables, initial interrater agreement was 88 and 85%, respectively. All discrepancies in the overlapped cases were reviewed and discussed before further coding to increase consensus on remaining remarks (Stemler, 2004; Uebbersax, 2009). The following sections detail the coding strategy based on previous research examining public health framing within the context of childhood obesity (Hawkins & Linvill, 2010). Tables 1 and 2 provide the operational definitions for the coded variables.

5.1.1.4. *Public health frame.* Based on the three components of a public health frame, coders recorded variables related to the context, risks, and preventions for childhood obesity. For context, a single variable was coded for whether the remark made reference to the overall well-being (e.g. children who are unhealthy do not reach their full potential in the future). For risk factors, coders documented whether the remarks mentioned risks and causes of childhood obesity based on Hawkins and Linvill's (2010, p. 713) 15 risk factors. In our coding, we collapsed the Hawkins and Linvill's (2010) 15 risk factors into 12 risk factors by combining unhealthy eating habits and drinking soda into a single "unhealthy eating or drinking" risk factor, combining parents not teaching good habits and modeling healthy habits into "parents not teaching or modeling healthy habits" risk factor, and by combining unhealthy foods in schools with unhealthy drinks in schools into "unhealthy foods and drinks in schools." In addition, instead of using Hawkins and Linvill's (2010) "other causes" catchall, we used the category, "larger portions and high calorie foods" (see Table 1). For solutions, coders documented any mentioned preventative efforts or policy solutions based on Hawkins and Linvill's (2010) eight preventatives and solutions (see Table 1).

**Table 1. Operational definitions of variables for public health framing**

<i>Context</i>	
Overall wellbeing of children	Reducing childhood obesity affects the overall well-being of the nation's children (e.g. ability to join military, school performance, healthcare costs)
<i>Risk factors</i>	
Unhealthy eating or drinking	Unhealthy eating or drinking habits by the child at home
Lack of physical activity	A lack of physical activity by child at home
Busy Parents	Working and/or busy parents (e.g. reliance on fast food, inactive)
Parents not teaching or modeling healthy behavior	Parents not teaching children healthy habits (e.g. supplying healthy dinners, lack of physical activity with child) or parents setting a bad example (e.g. overeating, lack of physical activity)
Unhealthy foods and drinks in schools	Unhealthy foods available in school (e.g. vending machines, snacks and soda available for purchase at lunch)
Lack of physical activity at school	Lack of physical activity at school
Television shows and ads	Television shows and ads that promote poor eating habits
Outdoor activity unsafe in neighborhood	Outdoor physical activity unsafe in disadvantaged areas
Poverty and food deserts	Poverty conditions (e.g. availability of healthy food, families unable to afford activities for children)
Larger portions and high calorie foods	Unhealthy food in restaurants (e.g. higher calorie food, larger portion sizes)
Other diet-related factors	Other diet-related causes not listed
Other physical activity-related factors	Other exercise-related causes not listed
<i>Solutions</i>	
Diet changes at home	Diet changes made in the home or areas controlled by parents
Physical activity changes at home	Exercise changes made in the home or areas controlled by parents
Healthy diet education	Providing general education to children and parents regarding healthy diets
Physical activity education	Providing general education to children and parents regarding exercise
Diet-related policies at schools	Diet changes mandated in schools (e.g. reduced calorie school lunches)
Physical activity education at schools	Exercise changes mandated in schools (e.g. increase recess time, physical education)
Diet-related policy (general)	Public policy changes affecting diet (e.g. public vending machines)
Physical activity-related policies (general)	Public policy changes affecting exercise (e.g. city weight-loss programs)

Note: Based on those outlined by Hawkins and Linvill (2010).

**5.1.1.5. Attribution of responsibility:** We further categorized these risk factors and solutions into individual or environmental (see Table 2). The individual factors related to the parents and children while the environmental factors related to the schools, policies, and other social factors. Because we relied on the risk and solution categories outlined by Hawkins and Linvill (2010) there was an unequal distribution between individual and environmental risk factors with more categories within the environmental than individual. Even with more environmental than individual categories, Hawkins and Linvill (2010) recorded more individual risk appearances than environmental risk appearances. The individual and environmental solutions was equally divided.

**Table 2. Operational definitions of variables for attributions of responsibility**

<i>Individual risk factors</i>
Unhealthy eating or drinking
Lack of physical activity
Busy parents
Parents not teaching or modeling healthy behavior
<i>Environmental risk factors</i>
Unhealthy foods and drinks in schools
Lack of physical activity at school
Television shows and ads
Outdoor activity unsafe in neighborhood
Poverty and food deserts
Larger portions and high calorie foods
Other diet-related factors
Other physical activity-related factors
<i>Individual solutions</i>
Diet changes at home
Physical activity changes at home
Healthy diet education
Physical activity education
<i>Environmental solutions</i>
Diet-related policies at schools
Physical activity education at schools
Diet-related policy (general)
Physical activity-related policies (general)

## 6. Results

Coders recorded basic information about remarks including when they took place. Of the 103 remarks, 28.2% ( $n = 29$ ) took place in 2010, which was the highest number of remarks in a year. In 2009, the year the program started, there were 12 sets of remarks (11.7% of total). For 2011, 2012, and 2013, the First Lady gave 19 (18.4%), 18 (17.5%), and 19 (18.4%) remarks, respectively. For the partial year of only 3 months into 2014, there were 6 (5.8%) remarks. Following a similar pattern to the First Lady's remarks, the largest proportion of randomly selected articles were published in 2010 ( $n = 88$ , 33.8%). In subsequent years, the sample of articles followed similar proportions to the First Lady's remarks: 2011 ( $n = 53$ , 20.4%), 2012 ( $n = 57$ , 21.9%), 2013 ( $n = 43$ , 16.5%), and in the partial year 2014 ( $n = 19$ , 7.3%).

### 6.1. Public health frame

The first research question addressed the use of public health framing. Table 3 displays public health framing frequencies. All three components of public health framing were used in slightly more than one third (35%,  $n = 36$ ) of the First Lady's remarks; and no public health framing components were used in 9.7% of the remarks ( $n = 10$ ). Slightly more than a quarter of the remarks included two components (27.2%,  $n = 28$ ). Of the remarks that included two components, only two included just a risk/cause and the well-being context (1.9%); an equal number included risk factors and solutions (12.6%,  $n = 13$ ) and risk factors and context (12.6%,  $n = 13$ ). The remaining remarks only included one of the components (28.2%,  $n = 29$ ). By far, the most common use of a single component was the mention of solutions for childhood obesity (23.3%,  $n = 24$ ). The context of well-being by itself was mentioned in four of her remarks (3.9%), and risk factors were only mentioned in one (0.1%).

**Table 3. Public health framing**

	Remarks (n = 103)		Articles (n = 260)	
	Number	% of total	Number	% of total
Three components	36	35.0	51	19.6
Two components	28	27.2	72	27.7
Risk/cause and solution	13	12.6	32	12.3
Risk/cause and context	2	1.9	4	1.5
Solution and context	13	12.6	36	13.8
One component	29	28.2	100	38.5
Risk/cause	1	0.1	7	2.7
Solution	24	23.3	93	35.8
Context	4	3.9	0	0.0
No components	10	9.7	37	14.2

All three components of public health framing were used in approximately one-fifth (19.6%,  $n = 51$ ) of the articles; and no public health framing components were used in 14.2% of the articles ( $n = 37$ ). Slightly more than a quarter of the articles included two components (27.7%,  $n = 72$ ). Of the remarks that included two components, only four included risk factors and the well-being context (1.5%); 32 included risk factors and solutions (12.3%) and 36 included risk factors and context (13.8%). The remaining articles only included one of the components (38.5%,  $n = 100$ ). By far, the most common component of these was the mention of solutions for childhood obesity (35.8%,  $n = 93$ ). The context of well-being by itself was not mentioned, and risk factors was only mentioned alone in seven (2.7%).

We also more specifically examined the frequency with which specific risk factors and solutions were mentioned within both the remarks and articles (see Tables 4 and 5). Because more than one risk factor or solution could be mentioned within a given remark, we coded for frequency across all remarks; therefore, the total frequency is larger than the sample size. Overall, the First Lady mentioned more solutions ( $n = 231$ ) than risk factors ( $n = 139$ ). All of the First Lady's risk factors were directed toward one of the categories—none of her remarks were coded in the “other”

**Table 4. Frequency of risk factors**

	Frequency	
	Remarks (n = 103)	Articles (n = 260)
Individual risk factors		
Unhealthy eating or drinking	16	51
Lack of physical activity	17	34
Busy parents	25	11
Parents teaching or modeling healthy habits	13	9
Environmental risk factors		
Unhealthy foods or drinks in schools	11	19
Lack of physical activity in schools	12	12
Television shows and ads	10	19
Outdoor activity unsafe in neighborhood	6	3
Poverty and food deserts	25	25
Larger portions and high calorie foods	4	6
Other diet-related factors	0	9
Other physical activity-related factors	0	4
Total	139	202

**Table 5. Frequency of solutions**

	Frequency	
	Remarks (n = 103)	Articles (n = 260)
Individual solutions		
Diet changes in the home	27	77
Physical activity changes in home	12	32
Healthy diet education	58	97
Physical activity education	24	64
Environmental solutions		
Diet-related policies at schools	46	95
Physical activity-related policies at schools	19	47
Diet-related policies (general)	38	86
Physical activity-related policies (general)	7	43
Total	231	541

Note: The total number exceeds the total sample because although some remarks and media articles had no mentions others included multiple solutions.

category—suggesting she is specific in the risk factors her remarks have identified. The First Lady most commonly mentioned solutions within schools, and less often mentioned solutions within the home and or solutions more generally (not specific to home, school or education).

Unlike the First Lady’s remarks, many of the articles did not mention risk factors; therefore, the total number of risk factors mentioned ( $n = 202$ ) is lower than the sample size. Conversely, the articles mentioned almost twice as many solutions ( $n = 541$ ) than the number of articles sampled. With respect to solutions for childhood obesity, similar to the First Lady, most of the solutions within each source were diet-based over physical activity-based. As was the case in the First Lady’s remarks, healthy diet education was the most mentioned solution, followed closely by diet-related policies at schools.

To compare these two health message delivery types, we used Chi-Square analysis to compare the frequencies from each. The pattern for utilization of all three public health frame components was significantly different by delivery type  $\chi^2 (1) = 9.52, p < 0.01$ . Although public health framing was not used in its entirety by neither the First Lady nor the news articles, the First Lady used all components of public health framing in 35% of her remarks, whereas the articles use all components in only 19.6% of the sample. Although the use of public health framing did differ by delivery type, overall, the news coverage of childhood obesity does seem to support the messages Michelle Obama embraces in the “Let’s Move” program. In examining each of the public health framing components separately, the First Lady was significantly more likely to mention risk factors than the articles  $\chi^2 (1) = 6.30, p < 0.05$ ; however, there was not a significant difference for solutions  $\chi^2 (1) = 0.19, p > 0.05$ .

**6.2. Attribution of responsibility**

The second research question addressed attributions of responsibility (see Table 6). With respect to the risk factors of childhood obesity, half of the remarks (50.5%,  $n = 51$ ) made by the First Lady mentioned a cause/risk for childhood obesity, 27 (26.2%) mentioned both environmental and individual factors; and the remaining only mentioned one type of attribution. Of those that mentioned one, more remarks mentioned environmental factors (15.5%,  $n = 16$ ) than individual factors (8.7%,  $n = 9$ ). For solutions to childhood obesity, almost all of the remarks (83.5%,  $n = 86$ ) mentioned some form of solution and nearly two-thirds (52.4%,  $n = 54$ ) of those attributed responsibility to an environmental solution, such as policy changes in school or within communities. Only two (1.9%) of the remarks mentioned an individual solution such as increased activity at home.

**Table 6. Attributions of responsibility for risk factors and solutions**

	Remarks (n = 103)		Articles (n = 260)	
	Number	% of total	Number	% of total
Risk factors				
Both environmental and individual	27	26.2	27	29.0
Environmental	16	15.5	37	41.0
Individual	9	8.7	30	28.0
No mention	51	49.5	166	63.8
Solutions				
Both environmental and individual	30	29.1	78	36.8
Environmental	54	52.4	129	60.8
Individual	2	1.9	5	2.4
No mention	17	16.5	48	18.5

In a majority of the articles there were no risk factors mentioned (63.8%,  $n = 166$ ). Of the articles that did mention a risk factor, more articles made environmental attributions for childhood obesity (41%,  $n = 37$ ) than individual attributions (28%,  $n = 30$ ). Just less than one-third mentioned both an environmental and individual risk factor (29%,  $n = 27$ ). On the other hand, the majority of articles mentioned a solution for childhood obesity. Nearly two-thirds (60.8%,  $n = 129$ ) mentioned only an environmental solution, while a small portion attributed solutions to childhood obesity to individual responsibility (2.4%,  $n = 5$ ). A little over one-third mentioned both an individual and an environmental solution (36.8%,  $n = 78$ ).

### 7. Discussion

Like other First Spouses before her, Michelle Obama has a well-publicized stage from which to promote her initiative. As such, it is important to consider whether her remarks and the media surrounding her initiatives are done in an empirically-sound manner. Unfortunately, we found a limited use of complete public health framing within the First Lady’s remarks on childhood obesity as well as newspapers’ coverage of childhood obesity. The absence of the all three public health frame components within the majority of the First Lady’s remarks and the media coverage suggests that the promotion of the ideas and policies that Let’s Move supports may not be conveyed in an easily understandable manner. According to public health framing research, this is likely to lead to less community action (Sun et al., 2016) and less support for the policy the remarks are aimed to address (e.g. Dorfman, Thorson, & Stevens, 2001). Not clearly presenting the problem being addressed may make the solutions appear extreme or out of touch with the public’s wishes. For example, the topic of school lunches was a hot item on social media when public school students started taking pictures of their lunches and blaming Michelle Obama for them (Ferdman, 2014). Parents and school administrators joined with students in complaining about the First Lady’s role in school lunch changes (Ferdman, 2014). The negative backlash may be due in part to an incomplete framing of the topic. While there are many possible reasons that not all the required pieces for complete public health framing are utilized, it is possible that it may be due to the differences in time and delivery. The average article length was approximately 694 words, whereas Michelle Obama’s remarks averaged 2103. Both word counts may have played a role in the limited use of the technique as it does take time to explain each section of public health framing.

Although scholars have noted that framing an issue as something that is universal to the environment is more likely to garner support for policies surrounding health issues (Barry, Jarlenski, Grob, Schlesinger, & Gollust, 2011; Lawrence, 2004; Pearl & Lebowitz, 2014), previous research has found that news reports mostly framed obesity as individual in nature (De Brún, McKenzie, McCarthy, &

McGloin, 2012; Hawkins & Linvill, 2010; Hilbert, Rief, & Braehler, 2007; Pearl & Lebowitz, 2014). Contrary to these studies, both the First Lady and articles were more likely to frame risk/causal factors and solutions as environmentally-based, rather than individually-based, similar to the findings from one study that examined reports of childhood obesity following the implementation of Let's Move (Weingart, 2012). One explanation may be the timing of the articles coded. Hawkins and Linvill (2010) conducted their content analysis prior to Let's Move (articles were sampled from 1996, 2001 and 2006), so the campaign itself could shift how the media reports on childhood obesity.

Despite strong ideals toward personal responsibility for obesity in the United States, research has found that the public is less likely to support policies aimed at changing individual behavior (Hilbert et al., 2007; Oliver & Lee, 2005). As such, the First Lady's attention to environmental factors may foster more support and be more effective (Barry et al., 2011). Although research has shown that framing obesity environmentally may gather more support for policy reform, there are still some issues that may need to be addressed. Many of the individual attributes of personal responsibility may not be malleable without changing the physical environments. For example, families living at the poverty level may not be able to afford to feed their families fresh, healthy foods even if these foods made available in new grocery stores. Children who need to increase their activity may not be able to do so in an area that is unsafe. Many of the "simple" healthy lifestyle suggestions found within the context of the First Lady's remarks may not be an option for those parents and children and may unnecessarily limit support for policy reform, even when framed environmentally (Dorfman et al., 2005; Hawkins & Linvill, 2010). Furthermore, given the values of individualism and limited government still pervasive in the United States, policy changes to increase the availability of resources through government programs to families remain controversial (Lawrence, 2004).

### **8. Limitations and future work**

Most content analysis on public health policy and the use of framing and attribution in public health promotion is done with newspaper articles. Adapting a coding frame specifically designed for newspaper content analysis to analyze remarks made by a public figure may have limited the scope of the analysis due to the differences in mediums of communication. There is also an inherent weakness to looking at an individual vs. environmental frame in obesity research. The two types may not be mutually exclusive from one another as we have analyzed them. Environmental factors still influence the individual, and it may be impossible to separate the two.

We did not measure public opinions about the Let's Move campaign or the media coverage surrounding it. Understating the public's opinions is an important next step because, as research has indicated, the public's opinion may be directly related to the media's framing of the issues (Dixon, Warne, Scully, Dobbinson, & Wakefield, 2014). As described earlier, message framing influences perceptions of an issue (Niederdeppe et al., 2014) and predicts behaviors related to the issue (Sun et al., 2016). However, there are many sources of information the public receives. Recent research by So et al. (2016) found that individual- rather than societal-level cases for obesity were more commonly retweeted (the reposting on Twitter social media). The authors noted that even though health policy makers and academics continue to impress upon the public that the causes of obesity are multifaceted, the daily conversations on the topic (as represented through Twitter) focused more on the individual causes. Similarly, it is important to consider whether public figures like Michelle Obama and her staff are aware of the importance of how her Let's Move campaign is framed. It is possible that this knowledge has not moved beyond academic circles.

Another consideration is the political atmosphere in which these campaigns are taking place. Undoubtedly, political polarization plays a role, and even dilutes how the public views First Lady projects like Let's Move. An interesting extension of previous work that compared conservative and liberal responses to obesity policies (Lee, Shapiro, & Niederdeppe, 2013; Niederdeppe et al., 2014) would be to examine responses to Michelle Obama's message with and without participants knowing the message source.

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