

Sarge, M., & Knobloch-Westerwick, S. (in press). Mechanisms of influence for weight loss in popular women's health media: A content analysis of health and fitness magazines. *Journal of Communication in Healthcare*.

### Abstract

The present study identifies persuasive message elements from social cognitive and persuasion theories in top-selling women's health and fitness magazines. Findings from a content analysis of articles ( $N = 240$ ) reveal that message efficacy, evidence types (narrative and statistical), and issue-relevant sources were widespread throughout the sample with at least one persuasive element appearing in eighty-four percent of the articles examined. Results suggest magazine messages may be instilling false confidence in one's ability to achieve unattainable results through impractical strategies and time periods. The current study furthers theoretical exploration of health-related magazines and informs health marketers of competitors' strategies.

*Keywords:* women's magazines, weight loss, efficacy, evidence types, persuasive message and source factors

Mechanisms of Influence in Popular Women's Health Media:  
A Content Analysis of Health and Fitness Magazines

Americans perceive periodicals as a leading health information source (Dutta-Bergman, 2004; Fox & Purcell, 2010). In particular, magazines are a major source for diet and nutrition-related information among women. Even among general-interest women's magazines, one-third of health related articles pertain to diets with an emphasis on weight loss (Moyer, Vishnu, & Sonnad, 2001). Research suggests that, prior to actual weight loss, the simple adoption of weight-loss behaviors advocated in weight-related articles can foster short-term increases in body esteem and satisfaction (e.g., Knobloch-Westerwick & Crane, 2012; Knobloch-Westerwick & Sarge, 2015). However, exposure to weight-related magazine messages is also associated with more long-term damaging effects (Botta, 2003) such as body dissatisfaction (e.g., Grabe, Hyde, & Ward, 2008), harmful eating habits (e.g., Harrison & Cantor, 1997), and unhealthy weight loss solutions (e.g., Utter, Neumark-Sztainer, Wall, & Story, 2003).

Content analyses of women's magazines have identified broad categories of content associated with negative media effects such as coverage of health topics (Moyer, Vishnu, & Sonnad, 2001; Weston & Ruggiero, 1986), the prevalence of weight-related articles and whether such articles offer diet, nutrition or fitness and exercise solutions (Anderson & DiDomenico, 1992; Guillen & Barr, 1994; Wiseman, Gray, Mosimann, & Ahrens, 1992). However, previous research has not identified the persuasive mechanisms used by authors within magazine articles that play a more pivotal role in negatively affecting readers. The present study analyzes weight loss editorial content in women's health and fitness magazines and aims to identify strategic concepts from social cognitive theory (Bandura, 1986) and relevant persuasion theory factors (message and source; Perloff, 2003) that capture readers' attention and motivates recommended weight loss behaviors.

The identification of persuasive elements in magazine weight loss editorial content serves three purposes: (1) to examine theoretical message elements commonly manipulated in health communication research in a natural context in order to improve the validity of future applications; (2) to inform health marketers of the persuasive strategies used in competitors' weight-related messages for women; and (3) aid with inoculation strategies to reduce and prevent damage to women's health (Veldhuis, Konijn, & Seidell, 2011).

### **Weight Loss Messages in Women's Media**

Although previous content analyses have not examined theoretical persuasive elements, some have utilized components of social cognitive and framing theory to categorize promoted weight loss strategies. For instance, Campo and Mastin (2007) used social cognitive theory to determine that most weight loss strategies (83.3%) in three popular mainstream women's magazines and three popular African American magazines offer a behavioral solution at an individual level. Specialty magazines, which are primarily focused on diet and exercise, provide more opportunities to analyze how health advice is presented towards women. Aubrey (2010) conducted the first empirical investigation on how women's health magazines utilize framing to promote health related behaviors. Headlines on over 400 magazine covers were analyzed for four different frames: appearance (promotes looking better), body competence (promotes improving body's instrumental traits like fitness or strength), health (promotes getting healthier in general), and weight loss. Results did not find differences in appearance versus health frames, but appearance frames were used significantly more than weight loss or body competence frames. Health frames only appeared significantly more often than body competence frames. Similarly, Authors (2014) examined appearance and health frames' emergence in standards (expressed in headlines and text) and behaviors (promoted in headlines). Findings revealed significantly more appearance frames than health frames among the promoted behaviors only.

Taken together, previous content analyses in this area make significant contributions in understanding the types and frequencies of weight-related content in women's magazines. Others have used theory to categorize promoted weight loss strategies and suggest these categories foster expectations in readers' minds, but do not show *how* such content attempts to persuade readers. Content analyses examining specific persuasive elements used in weight-related editorial content have yet to be conducted. The present study identifies such influence attempts to better understand the mechanisms through which readers are affected.

### **Persuasive Elements Used to Encourage Weight Loss**

#### **Message Efficacy**

Bandura's (1986) social cognitive theory (SCT) outlines mechanisms that can enhance motivation and behavior change. Social cognitive theory has been widely used in the design of weight loss interventions and examined in previous content analyses of weight loss messages (e.g., Campo & Mastin, 2007; Authors, 2014). SCT was developed in part to predict and explain behavior with concepts such as efficacy. According to Bandura (1977), behavior largely depends on two types of efficacy—self-efficacy, an individual's evaluation of their own ability to perform a behavior, and response efficacy, an individual's evaluation of whether the behavior will resolve a problem or mitigate a threat. Empirical evidence supports the practice of implementing efficacious information into messages or interventions to increase efficacy perceptions which, subsequently, increases the likelihood of people adopting the recommended behaviors (see Bandura 2004; O'Leary, 1985). Bandura (1977) outlined four methods by which individuals' efficacy perceptions can be enhanced: performance accomplishments, verbal persuasion, vicarious experience, and emotional arousal. Bandura described each as follows: performance accomplishments are the successful trials or experiences of performing a behavior; verbal persuasion refers to written or spoken suggestive influence; vicarious experience is the

observation of another person successfully modeling a behavior; and emotional arousal as an indicator of vulnerability or incompetence regarding the behavior in question. Verbal persuasion and vicarious experience are most frequently implemented in mediated health messages.

Verbal persuasion can enhance self-efficacy by creating personal expectations that a behavior is accomplishable and response efficacy by creating outcome expectations that a successful event will result from a particular behavior. For example, intervention materials and campaign messages often include efficacious language elements in order to increase self-efficacy in their target audiences (e.g., Stanley & Maddux, 1986) or induce protective adaptive responses (e.g., danger control processes; Witte, 1994). However, a uniform formula for manipulating message efficacy through verbal persuasion does not exist and researchers do not provide details regarding the conceptualization or operationalization of verbal persuasion. Neglecting to provide this information leads to blind trial and error replication and makes it difficult to identify such constructs in natural message environments (e.g., magazines). Although, one analysis of weight-related advertisements in popular women's magazines provides some insight by identifying many efficacious phrases found in diet ads, such as "simple and easy," "effective weight loss," and "quick results" (Kim & Lennon, 2006).

The current study informs future verbal persuasion research by identifying the prevalence of general efficacy language and classifying it into three types of message efficacy to determine their unique presence in weight loss editorial titles and subtitles. The three types of message efficacy include ease (how easy it is to implement the weight loss advice or strategy), rapidity (how fast the reader can expect to experience results of the advice or strategy), and permanence (how permanent or long lasting the results will be). The former characteristic of message efficacy pertains to self-efficacy and the two latter characteristics pertain to response-efficacy. Women's health and fitness magazines are likely sources that present encouraging words and

phrases (e.g., “You can do it!”; “Lose weight the fast and simple way!”) telling women they *can* follow weight loss advice or regimens that *will result in* weight loss.

When a person anticipates attainable, successful results from a behavior, that behavior is usually pursued with greater effort (Bandura & Cervone, 1983; Maibach & Murphy, 1995).

Thus, it is plausible that weight loss content in women’s health and fitness magazines strategically include efficacious language as a persuasive message element intended to increase the article’s appeal, bolster readers’ efficacy beliefs and enhance the likelihood of adherence to the article’s weight-related advice. The first two research questions consider the prominence of such verbal persuasion in the headlines of editorial content.

**RQ1:** How frequently does general efficacy language appear in titles and subtitles of weight loss editorial content from women’s health and fitness magazines?

**RQ2:** To what extent are each of the 3 types of efficacious language (ease, rapidity, and permanence) used within the titles and subtitles of weight loss editorial content?

Vicarious experience refers to gaining knowledge by observing someone else’s (i.e., an exemplar’s) encounter with a situation or action (Bandura, 1977). Research using social cognitive theory as a framework indicated that a large amount of weight loss magazine messages include exemplars (Campo & Mastin, 2007). These exemplars promote observational learning by modeling weight loss behaviors paired with successful outcomes. Featured exemplars in magazine messages show behaviors that readers can learn, which enhance readers’ efficacy perceptions and, in turn, increase the likelihood they will adopt or change a behavior (Bandura, 2001). Aside from learning, exemplars also have the potential to motivate individuals through comparison and affective processes that also influence perceptions and beliefs like efficacy (Bandura, 2001), particularly if the exemplars are perceived as similar and/or relatable.

Using exemplars to offer weight-related advice is an effective persuasive message strategy that increases readers' efficacy perceptions. Readers are more likely to believe they, like the exemplar, can follow the recommended advice and be successful at losing or managing their weight. The current analyses investigate to what extent exemplars, providing a vicarious experience for readers as a source of efficacy, are present in weight loss editorial content of women's health and fitness magazines.

**RQ3:** How frequently are exemplars used to offer weight loss advice in editorial content from women's health and fitness magazines?

### **Evidence Types**

Another persuasive element of messages is the evidence or support for a recommended behavior (Reynolds & Reynolds, 2002). There are various forms of evidence but these are often grouped into two categories, narrative and statistical evidence (Perloff, 2003; Reinard, 1988). Narrative evidence includes personal stories and/or testimonials as evidence while statistical evidence includes aggregate reporting and quantitative data. A large area of research is dedicated to determining the unique persuasive power of these evidence types.

Some studies comparing the two evidence types have suggested narrative evidence contains concrete, vivid characteristics that enhance retrieval of information (e.g., Kahneman & Tversky, 1973; Taylor & Thompson, 1982), increase perceptions of opinion and judgments of event occurrences (e.g., Brosius & Bathelt, 1994; de Wit, Das, & Vet, 2008), and engender more compelling outcomes (e.g., Knobloch-Westerwick & Sarge, 2015; Zillmann, 2006). However, some research has contradicted such findings suggesting greater persuasive value for statistical rather than narrative evidence (e.g., Allen & Preiss, 1997; Baesler & Burgoon, 1994) while others have identified certain conditions under which evidence effectiveness depends on situational (e.g., Fagerlin, Wang, & Ubel, 2005; Hoeken & Hustinx, 2009) or individual

characteristics (e.g., Gibson, Callison, & Zillmann, 2011; Slater and Rouner, 1996). Although there is contention regarding the superiority of one evidence type there is no doubt both are effective persuasive elements. In fact, the combined impact of both evidence types has been found to produce superior attitude change when compared to isolated impacts and no evidence at all (Allen et al., 2000). As such, the investigation of their presence in weight loss editorial content of women's health and fitness magazines is warranted.

**RQ4:** How frequently does narrative and statistical evidence appear in weight loss editorial content from women's health and fitness magazines?

**RQ5:** How frequently does both types of evidence appear in the same weight loss article from women's health and fitness magazines?

### **Issue-relevant Sources**

While efficacy and evidence types are strategic message content factors, the source of a message (i.e., the "who says it" aspect of a message) is another significant element of persuasion that should not be neglected in this context (Perloff, 2003). Source factors can serve as criteria for assessing the credibility of a message's advice or as a heuristic to help the reader decide whether or not the article is even worth considering (Petty & Cacioppo, 1983). Therefore, using individuals with professional titles or connections to weight management to promote an article's weight-related advice may increase exposure to an article and the likelihood it will exert influence on the reader. However, information about issue-relevant sources used to convey weight loss recommendations in magazine editorial content is unknown. The final research question investigates the types and frequency of sources that appear within editorial content from women's health and fitness magazines.

**RQ6:** What types of sources are used to offer weight loss advice in editorial content from women's health and fitness magazines and which are the most common?

## Method

### Sample

The sample of weight loss editorial content (i.e., published articles discussing weight loss) consisted of twenty-eight issues (published in 2010) from the five top-selling monthly women's health and fitness magazines (GfKMediamark Research & Intelligence, 2010). These magazines included *Prevention*, *Shape*, *Fitness*, *Health*, and *Self*. The issues were published between May and October; this time period was selected because it includes both low and high points during seasonal trends related to magazine coverage of weight loss (Authors, 2014).

The total sample of articles ( $N = 240$ ; 671 pages of content) used for analysis was classified as weight loss content by the primary and secondary investigators. Article titles and subtitles listed on the cover page and in the issue index were pulled for coding if they used weight loss terms or phrases and were accompanied by a page number. Article titles and subtitles strictly promoting fitness-related claims with no indication of weight loss, such as titles only using phrases like 'staying in shape,' 'getting fit,' or 'toning your body,' were not included in the coded sample. Three magazine issues from the 28 that made up the sample were used to establish reliability for this method of classifying which articles were weight loss editorial content. The primary and secondary investigators achieved acceptable (see Krippendorff, 2004) inter-coder reliability,  $\alpha = .82$ . All reported alpha values were computed using the KALPHA macro for SPSS (Hayes & Krippendorff, 2007).

**Sample descriptives.** There were statistically significant differences between the five magazines' amount of weight loss editorial content,  $F(4, 240) = 24.08, p < .001, \eta^2 = .291$ . Specifically, *Shape* ( $M = 43.5; SD = 1.95$ ) had a significantly greater amount of weight loss articles than all the other magazines ( $p < .001$ ) and *Prevention* ( $M = 13, SD = 3.61$ ) had significantly fewer articles than *Health* ( $M = 26, SD = 2.53$ ),  $p = .035$ . The number of articles for

each magazine per month can be found in Table 1. Based on these numbers, the month of May featured the most weight loss articles ( $n = 50$ ) while September ( $n = 36$ ) featured the least.

### **Coding Procedure**

The units of analysis were individual articles; within these article titles, subtitles, and full text were used depending on the research question or hypothesis of interest. To determine reliability of coding categories, two non-investigator coders were trained by the primary investigator and coded ten percent of the 240-article sample. Acceptable inter-coder reliability (Krippendorff's alpha values) ranging from .73 to 1.00 was established (Krippendorff, 2004) for all coding categories. Both trained coders then proceeded to code for all variables throughout the complete sample of articles. Coding descriptions and individual reliabilities are provided below.

### **Coding Categories**

**Efficacy language.** Coders identified whether an article title or subtitle conveyed confidence that a weight loss strategy can be done and will work. The coders categorized this efficacious language into three categories of verbal efficacy: ease, rapidity, and permanence. Ease was defined as a claim that the weight loss strategy is either 'easy/simple' or a 'hard/difficult struggle'; coders indicated if no ease claims were used, if there were 'easy/simple' claims used, or if there were 'hard/difficult/struggle' claims used,  $\alpha = .78$ . For the second efficacy category, coders simply reported whether or not rapidity claims—terms describing a short-term result or outcome, such as 'fast/quick/rapid'—were present in the title or subtitle,  $\alpha = .73$ . Permanence, the final efficacy category, refers to claims of long-term weight loss (e.g., "lose weight and keep it off"). Coders indicated whether or not such permanence claims were present in the article titles or subtitles,  $\alpha = 1.00$ . Total efficacy language used was the sum of these three categories,  $\alpha = .82$ .

**Exemplars.** Coders counted how many exemplars were used in each article's main text,  $\alpha = .81$ . These exemplars were described as a case illustration of a person modeling, following, or who has followed the weight loss advice or solution the article is promoting. Aside from simply counting these exemplars, coders indicated whether a picture of the exemplar was provided,  $\alpha = 1.00$ . The perspective or voice of the article was also coded ( $\alpha = .86$ ) in order to determine if any articles were written entirely from the perspective of an exemplar or if the majority of the article was written from the perspective of the magazine journalist. Lastly, coders attempted to identify the type of exemplar presented although reliability was arguably lower ( $\alpha = .65$ ). That is, they identified whether the exemplar was an everyday person, a celebrity, a professional athlete, the journalist writing the article, or a health expert (e.g., doctor or nutritionist). Coders were provided the opportunity to indicate, as an open-ended response, what type of exemplar was presented if it did not fit into one of the above categories. Two additional types of exemplars were identified in this process: a trainer and an author.

**Narrative evidence.** Two types of narrative evidence were coded: personal story and testimony. An article was coded as a personal story if the title or subtitle conveyed that the article would tell a complete narrative about a person or share a personal account, for example "success stories" or "weight loss diary,"  $\alpha = .78$ . Testimony was defined as a direct quotation included in the article text,  $\alpha = .87$ . Every time a quotation started and ended was considered one piece of testimony.

**Statistical evidence.** Statistical evidence was defined as quantitative data used concurrently with a scientific source. A dichotomous variable was constructed based on whether the article contained numeric information (yes/no),  $\alpha = .78$ , and utilized a scientific (medical or academic) source,  $\alpha = .72$ . Those that did not contain numeric information or simply did not use a scientific source were labeled as not presenting statistical evidence.

**Issue-relevant sources.** Individuals often serve as credible sources of information if they have expertise in the same or a related subject area as the information presented. Often this expertise is distinguished by the occupational title the individual holds. Coders determined whether or not the following types of relevant sources were used to offer weight-related information: nutritional (e.g., dietitian or nutritionist),  $\alpha = 1.00$ ); scientific (e.g., medical and academic),  $\alpha = .72$ ; personal trainer,  $\alpha = 1.00$ ; professional athlete,  $\alpha = 1.00$ ; and celebrity,  $\alpha = 1.00$ ). Coders were also provided the opportunity to specify, as an open-ended response, any other types of sources used in the articles. Three additional types of sources were identified: chef, food stylist, and author.

### Results

The majority of weight loss articles in the women's health and fitness magazines analyzed possess at least one of the persuasive elements examined. Results reveal that 84% ( $n = 202$ ) of the 240 articles contain at least one type of message efficacy, one evidence type, one issue-relevant source, or some combination of these persuasive elements.

The first two research questions examined the extent to which efficacious language in general (RQ1) and different types of verbal efficacy (RQ2) are found within the sample. Results revealed that efficacious language is used in 34% of the total sample ( $n = 82$  articles). To answer the second research question, coders also categorized this efficacious language using the three classifications discussed earlier: ease, rapidity, and permanence. Twelve percent ( $n = 10$ ) of the 82 verbal efficacy articles conveyed ease. Reporting of the other two categories revealed 63% ( $n = 52$ ) conveyed rapidity related to weight loss advice and 15% ( $n = 12$ ) conveyed permanence (long-term solutions). In addition, 10% ( $n = 8$ ) of the 82 verbal efficacy articles conveyed two of the three classifications while none of the articles conveyed all three.

For the third research question, coders reported the total number of exemplars in each article, which ranged from 0 to 14 ( $M = .58$ ;  $SD = 1.33$ ). Across all articles there were a total of 139 exemplars presented. A dichotomous measure was created to determine what percentage of the sample contained one or more versus no exemplars. Results from a frequency analysis of this variable showed that 35% ( $n = 83$ ) of the 240 articles contained exemplars. Three additional pieces of information were gathered about these 83 articles portraying exemplars: 89% ( $n = 74$ ) included one or more images of the presumed exemplar(s), 24% ( $n = 20$ ) were actually written entirely from the perspective of the exemplar(s), and the coding category for type of exemplar revealed that 59% ( $n = 49$ ) presented everyday people, 24% ( $n = 20$ ) presented celebrities, 8% ( $n = 7$ ) presented the journalists writing the articles, 4% ( $n = 3$ ) presented professional athletes, 0% ( $n = 0$ ) presented health experts, and 5% ( $n = 4$ ) presented exemplars that were specified in the “other” category – 2 articles presented trainers and 2 presented authors.

The fourth research question investigated how frequently narrative and statistical evidence appear in weight loss editorial content. Frequencies revealed that 11% ( $n = 26$ ) of the articles used terms in the title or subtitle that conveyed there would be a personal story or narrative shared. Additional analyses found testimony in the text of 28% ( $n = 67$ ) of the articles and statistical evidence in 19% ( $n = 46$ ). To address the fifth research question, only about 4% ( $n = 9$ ) of the articles contained statistical evidence and one of the types of narrative evidence—one article used statistical evidence and personal stories while the other eight combined statistical evidence and testimony.

The sixth research question investigated the types of issue-relevant sources offering information in the weight loss articles. Sixty-five percent ( $n = 157$ ) of the sample used one or more sources to present the weight loss information. Out of the 157 articles containing sources, 71% ( $n = 112$ ) contained only one type of source, 17% ( $n = 27$ ) contained two types of sources,

about 10% ( $n = 15$ ) contained three types of sources, and only three articles contained four types of sources. The coders identified the different sources used in the articles. Twenty-five percent ( $n = 61$ ) of the articles contained a nutritional source, 24% ( $n = 57$ ) contained a scientific source, 33% ( $n = 80$ ) used a trainer as a source of information, about 2% ( $n = 5$ ) used a celebrity as a source, and less than 2% ( $n = 4$ ) used a professional athlete. Coders also reported authors ( $n = 2$ ), a chef ( $n = 1$ ), and a food stylist ( $n = 1$ ) as additional sources of information not pre-specified as a coding category.

### **Discussion**

Previous research has mainly focused on identifying broad categories of women's health and fitness magazines that have been shown to potentially cause negative effects for readers. For instance, previous research suggests "quick fix" solutions are often prompted from women's magazines (FTC, 2002; MarketData Enterprises, 2009), which are not tailored to a person's biological, physiological, and psychological needs and result in only temporary weight shifts. Furthermore, heavy exposure to diet and weight-related magazine content is correlated with unhealthy weight control behaviors (e.g., Van Den Berg, Neumark-Sztainer, Hannan, & Haines, 2007). The present study goes beyond previous content analyses by identifying how such content attempts to persuade its readers. Persuasive message elements from social cognitive theory (Bandura, 1986) and persuasion theory (Perloff, 2003) were identified and the results suggest message efficacy, evidence types (narrative and statistical), and issue-relevant sources were widespread throughout the sample with at least one persuasive element appearing in eighty-four percent of the articles. The present findings inform health marketers of competitors' persuasive strategies and can be used to (1) apply similar strategies when promoting healthy, realistic weight control behaviors and (2) create inoculation messages protecting the health of this vulnerable target market.

### **Message Efficacy**

Efficacy language was found within one-third of the article titles and subtitles. As a result, readers may be developing expectations for success based on this confidence boost in their own performance abilities. Insight into what these expectations look like is provided by the present study's identification of different types of verbal efficacy. Results showed that rapidity claims promising 'quick' results were the most common efficacy claim. Messages projecting the 'ease' of performing the strategy or permanent weight related outcomes were also present but to a lesser degree. Based on these findings, expectations for an arduous battle with weight loss are likely low for readers. In fact, readers may possibly expect to be able to lose weight permanently with the promoted strategies and the experience will be quick and easy.

It is important to take a closer look at message efficacy, in terms of language and exemplars, found in weight loss articles because it emphasizes how messages can contradict reality and build unrealistic expectations. One-third of the weight-related articles contained exemplars and the majority of exemplars were normal individuals with celebrities being the second most popular type of exemplar presented. While it seems that both realistic as well as aspirational exemplars are strategic choices in this context, the easy, rapid and permanent experience they seem to be sharing is not realistic. Indeed, efficacious language was paired with exemplars in 27% ( $n = 22$ ) of the 83 articles containing exemplars. Exposure to such unrealistic messages may generate an exaggerated sense of self- and response-efficacy among readers. Moreover, any failed or unmet efforts may ultimately damage the reader's efficacy resulting in negative self-evaluations and discouraging future weight loss attempts. Health marketers can prevent these damaging effects by combatting inaccurate expectations of weight loss. They can use efficacy language and exemplars to promote a more realistic picture of weight loss battles to

the target public while debunking these popular myths fostered in women's health and fitness magazine articles.

### **Evidence Types**

As noted earlier, evidence is another persuasive message content factor that has been evidenced to impact perceptions and behaviors. A very small portion of articles used both narrative and statistical evidence while the two types of narrative evidence were combined quite frequently (e.g., 73% of personal stories included testimony). These findings demonstrated that most articles chose to take either a predominantly quantitative or qualitative approach when presenting evidence. This is a particularly informative finding because the effects of one or both types of evidence have been extensively tested although their organic presence in various forms of media is not well documented. Health marketers may be able to capitalize on the unique strategy of combining both types of evidence in order to attain persuasive ends but should be careful not to turn readers away with too much statistical evidence. Indeed, the power of narrative evidence to induce message selection has been suggested (e.g., Knobloch-Westerwick & Sarge, 2015) and thus, its presence may be best displayed more prominently or initially while statistical evidence may be best displayed more subtly or later in the text.

When considering both types of narrative evidence (i.e., personal stories and testimony), they were present in nearly one-third of the articles while statistical evidence was found within approximately one-fifth. Testimonials were not significantly more prevalent than statistical evidence but personal stories were more infrequent than all other types of evidence. While this strategic opportunity was underutilized by magazine journalists, it might be a positive finding for readers. Readers should be wary of personal cases used in weight loss editorial content given this evidence format is often linked to biased perceptions and judgments. Research has demonstrated that individuals tend to overestimate perceptions of event occurrences and judgments of public

opinion when presented with case illustrations versus base-rates (e.g., Zillmann, 2006).

Overestimation of weight loss success and perceptions that others believe weight loss is easy and quick may be harmful for readers. Again, once a reader's trial with a potential "quick fix" solution fails, their self-efficacy or even willingness to try again may be negatively affected. Furthermore, these personal cases that at one time seemed relatable and thus, engendered motivational and aspirational comparisons may begin to appear dissimilar from the readers over time. Such perceived discrepancies can become discouraging and lead readers to believe their situation is unique and cannot be helped. This line of thought illuminates future testing and application of narrative evidence in health marketing. Perhaps blending both narrative and statistical evidence regarding the adoption of healthy behaviors will not only increase persuasion but provide more accurate depictions of the behavior change process (e.g., weight loss battle).

### **Issue-relevant Sources**

The majority of the present study was designed to investigate message content factors of persuasion and the results revealed a source factor (i.e., persons with weight related expertise offering advice) as the most commonly used persuasive element appearing in over half of the weight loss articles (sixty-five percent). This finding suggests a large portion of editorial content in women's health and fitness magazines are, in fact, attempting to present advice and use issue-relevant sources to increase readers' trust in the advice. Indeed, the most common types of sources had expertise in topic-related fields of fitness, nutrition or health and were likely selected to enhance the credibility of the information provided. Increasing credibility of the advice found within a magazine's messages is extremely crucial for retaining readership and nurturing perceptions of the magazine's utility in readers daily lives. As most health marketers strive to be relevant, credible sources of health information, these findings serve as a reminder that source factors have the ability to impact persuasion outcomes and readership retention.

### **Strengths, Limitations and Future Research**

Future research can assist in identifying more theoretical persuasive elements that may be present within weight-related editorial content. There may also be additional persuasive mechanisms in the sixteen percent of articles that did not contain any of the present persuasive elements examined. In order to truly link media effects with content presented, it is time to move beyond “type of content” analyses and actually identify the theoretical mechanisms purported in the media effects literature as they appear to readers in natural environments. The current study serves as a stepping-stone to further such theoretical explorations of health related magazines.

The complexity of efficacy as a message concept did result in a limitation of the present study. It is possible there is an even greater amount of efficacious language within the editorial content than what was captured. Verbal efficacy was one of two variables solely coded within titles and subtitles of the articles given limited resources and the extra effort necessary to identify the complex construct. It is possible efficacious language was used throughout the body text of several more articles that had not been labeled as efficacious due to their title or subtitle. Future studies can utilize text analysis software in order to more easily identify advanced concepts within larger texts.

The present study did go beyond previous efficacy research in its efforts toward developing an efficacy language typology. Such a typology may be particularly beneficial for health marketers that commonly incorporate verbal efficacy within their persuasive message designs. As discussed earlier, previous research does not follow a consistent construction method for employing efficacy within a message. As a result, it is difficult to appropriately isolate the effectiveness of this construct and truly realize its full potential as a motivational message factor. Future research should test the individual and combined impact of ease, permanence, and rapidity claims in order to determine which serves as the greatest source of efficacy. In other

words, determining which sole or combined verbal efficacy type(s) produce the greatest amount of self- and response efficacy perceptions necessary for desired behavior change.

Lastly, it should be noted there are additional forms of evidence that exist and some of which still may classify as narrative or statistical. The present study attempted to delineate manifestations of common forms of evidence in an easily detectable appearance for the coders. Identifying the organic presence of these evidence types in media is extremely important given the significant amount of attention they receive for their impacts on perceptions (i.e., of risks, events, opinions) and behaviors. Future work needs to continue refining the presence of these constructs in natural mediated environments.

### **Conclusion**

Popular women's health and fitness magazines offer an abundance of weight-related advice. As a result, these popular periodicals serve as a major source of diet and nutrition-related information among women. Research suggests women derive motivation for dieting from such media content and adopt both healthy and unhealthy weight loss solutions. The present study identifies some of the theoretical mechanisms in women's magazine weight loss editorial content that may explain these outcomes. When paired with effective yet realistic weight loss advice the persuasive message elements identified in the present study are beneficial for health marketing intended to promote healthy weight loss solutions. However, the same persuasive elements can be detrimental when depicting unattainable results through impractical strategies and time periods. The current study furthers theoretical exploration of health-related magazines and informs health marketers of competitors' strategies. It also provides health marketers guidance for the creation of more precise and valid efficacy manipulations, suggests future research to examine when and how to combine evidence presentations, and highlights a message feature that may encourage loyalty to a health information source.

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Table 1

*Number of Weight Loss Magazine Articles by Issue*

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	Months					
<u>Magazines</u>	<u>May</u>	<u>June</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>
Shape	20	16	15	15	10	10
Fitness	11	8	5	5	9	9
Self	3	6	5	6	5	6
Health	11	10	4.5	4.5	9	12
Prevention	5	5	3	5	3	4

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