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**The Women's Magazine Diet:
Frames and Sources in Nutrition and Fitness Articles**

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Abstract

This content analysis quantifies messages in nutrition and fitness articles ($N=423$) published in high-circulation women's magazines (*Cosmopolitan*, *Glamour*, and *Redbook*) and women's health magazines (*Self*, *Shape*, and *Women's Health*) during 2011 and 2012. Chi-square tests reveal statistically significant differences in articles' frames and sources by magazine genre. Counter to previous findings, our study shows that nutrition and fitness articles are most often framed in terms of convenience/efficiency and physical health. They rarely emphasize weight loss or appearance. Women's health magazines, however, advocate for weight loss more often than women's titles. Both genres most frequently call on clinical and professional experts as sources, but women's health magazines more often cite academic research. Our study contributes to a recently sluggish body of literature on health content across magazine genres, and for the first time examines sourcing practices in nutrition and fitness magazine articles.

Keywords: Content analysis, gender, health, framing, sources

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Introduction

Magazine readers are bombarded with cover lines that urge them to tone their muscles, reduce their fat intake, and lose body weight. They see stories that will help them “Look Great Naked!”¹ complete “4 Steps to a Sexy Ass”² or get “Flat Abs Fast”.³ Women’s magazines have historically contained articles and ads promoting weight loss 10 times more often than men’s titles,⁴ and “those who buy women’s magazines often read more than one article per issue about the latest dieting regimen”.⁵ Although magazines provide many reasons for women readers to lose weight — whether to improve attractiveness or to achieve better health, for instance — the message is clear: Slimness is superior. Alongside advertisements for health and lifestyle products, women’s consumer magazines offer tips readers can use to expedite weight-loss and fitness efforts.

Proponents of service journalism might argue that weight-loss content helps promote healthy lifestyles and combat U.S. obesity trends. But at what potential costs do women read about nutrition and fitness in women’s magazines? Established literature has outlined the links between reading women’s magazines and having a negative body image. Reading fitness magazines has been demonstrated as a predictor of disordered eating in women, and reading beauty magazines has been demonstrated as a predictor of body discontentment and a drive for thinness.⁶ Similar research has shown that reading beauty magazines increases women’s tendencies to self-objectify and to internalize societal ideals about beauty.⁷ However, other investigations have found that exposure only to women’s health magazines, but not beauty magazines, is associated with young women’s concerns about getting fat.⁸ This corpus of literature has consistently posited a relationship between magazine reading and poor body image, though no conclusive links have been established between reading any one women’s magazine genre and experiencing any one health outcome. Few recent investigations have tackled either magazine health effects or health content in different genres. Research on women’s magazines and health-related variables peaked more than a decade ago and has seen little resurgence since then.

Today’s media effects scholars tend to focus on new media, including Facebook’s impact on young women’s body image,⁹ video games’ impacts on men’s body image,¹⁰ and video games’ impacts on men’s health behaviors,¹¹ all but ignoring magazines’ health impacts on readers. This is problematic given that today’s magazine media report increases in readership and online ad revenue, with print revenue holding stable after a long slump during the economic recession of the late 2000s.¹² We know that magazine audiences increased 10% between 2014 and 2015, and that 95% of adults younger than 25 read print titles.¹³ Young consumers are also reaching magazines increasingly through Mac’s iOS interface, with magazine brands representing four of the top-five grossing health and fitness iPad apps and 14 of the top-15 lifestyle iPad apps.¹⁴ Thus we call for revived scholarly engagement with research exploring the relationships between magazines and human health. Ongoing research should investigate not only the effects of magazine reading on health-related variables, but the branded representations of healthy bodies within magazines’ editorial and ad content — both online and off.

Our research investigates representations of health in women's print magazines, adding to a small number of contemporary studies on nutrition and fitness content in legacy media. With a few exceptions, which we outline in the coming pages, little work has been published on women's magazines' weight-loss messages since the early 2000s. We fill this gap by presenting a quantitative content analysis of 423 nutrition and fitness articles published in six women's magazines during the 2011 and 2012 editorial cycles. We compare editorial messages about nutrition and fitness in three women's magazines (*Cosmopolitan*, *Glamour*, and *Redbook*) with messages about nutrition and fitness in three women's health magazines (*Self*, *Shape*, and *Women's Health*). These titles were selected after considering magazine effects studies like those described above, which suggest magazines targeted to young adult women may influence readers' body image. We quantify motivational frames in each article, including self-efficacy, efficiency, appearance, weight loss, and health improvement. We additionally code the sources writers call on to provide nutrition and weight loss advice, including clinical and professional experts, celebrities, academic scholarship, editorial team members, and "real people" who discuss their weight-loss successes. We could identify no previous research that analyzed sourcing practices for magazines' health content, thus we contribute original findings that quantify the types of sources used. Finally, we compare frames and sources by magazine genre. We use the terms "women's magazines" and "women's health magazines" from this point forward to distinguish *Cosmopolitan*, *Glamour*, and *Redbook* from *Self*, *Shape*, and *Women's Health*. We selected magazines in these two genres after consulting the Alliance for Audited Media (formerly the Audit Bureau of Circulations) online and by phone.

Literature Review

Magazine Health Content

Myriad studies have investigated representations of health in women's magazines. They have explored various areas of health coverage, including sexuality and sexually transmitted infections,¹⁵ breast cancer,¹⁶ women's lifestyles,¹⁷ and overall themes in health content.¹⁸ Fewer studies have specifically examined nutrition and fitness messages in women's magazines — a concerning trend given the ample research on magazines' effects on women's body image. However, content analyses of weight-loss articles have seen some renewed interest in the last few years. A recent study in *Health Communication* quantified themes in women's health magazine articles.¹⁹ The researchers examined body-shaping and weight-loss messages, finding that they comprised one-fifth of all editorial content. Findings showed that women's health magazines emphasized appearance more than health, and that they emphasized exercise over reduced-calorie dieting. One additional paper published in the *Journal of Magazine & New Media Research* examined body-related content in beauty/fashion magazines vs. women's health/fitness magazines, two genres conceptualized by the researchers.²⁰ Conlin and Bissell's ambitious study²¹ quantified coverline content, models' body sizes in photographs, and framing of health messages in articles and ads. The authors found that both genres used thin models to emphasize appearance and glamour over fitness and health. These recent studies built on late-90s research such as Eskes, Duncan, and

Miller's²² "The Discourse of Empowerment" which showed that articles and images in *Shape* and *Fitness* featured articles that co-opt feminist discourses to position fitness as empowering. "The Discourse of Empowerment" also revealed a now-familiar frame: that fitness content is about pursuing normative beauty ideals and not about obtaining a healthy body through lifestyle changes. Although Conlin and Bissell,²³ Eskes, Duncan, and Miller,²⁴ and Willis and Knobloch-Westerwick²⁵ analyzed editorial content across different parts of magazines' architecture, Aubrey²⁶ analyzed diet and fitness messages on covers only. Her research found that seven frames were present on women's health magazine covers: appearance, health, body competence, convenience, weight loss, efficiency, and financial budget. Aubrey's results demonstrated that appearance frames were just as common as health frames on covers. These content analyses suggest that mainstream women's magazines adhere to traditional beauty standards and emphasize the thin ideal.

However, thin-focused framing may be unique to mainstream women's magazines and may not be generalizable to other women's genres. Thus magazine scholars should be attentive to health messages in ethnic media. A study published recently in the *Journal of Magazine & New Media Research* examined health, weight-loss, and fitness frames in *Ebony* and *Essence* magazines.²⁷ The research team found that messages about race and identity, wellness, faith, and social connection dominated weight-loss and fitness articles. Years earlier, Campo and Mastin²⁸ examined framing differences in diet and obesity articles between African American women's magazines and mainstream women's magazines. The authors found that regardless of genre, most weight-loss articles suggested individual-level behavior changes. Mainstream women's magazines were more likely to present content tailored to increase self-efficacy, or an individual's belief in her propensity to lose weight, whereas African American titles focused on faith in God or on fad diets to help readers lose weight. The research also found that weight-loss advice was more common in mainstream women's magazines, despite CDC data showing African American women are at compounded risk for overweight and obesity.²⁹ In contrast to content analyses of mainstream women's magazines described above, ethnic media did not seem to emphasize the thin ideal.

In sum, research on diet and fitness content in women's magazines has focused primarily on message framing, has examined multiple parts of magazines' architectures, and has endeavored toward comparative analysis — both of multiple mainstream genres and of mainstream vs. ethnic titles. Our study builds on women's health framing research and uses a comparative approach adopted by some previous scholars, but we broaden the types of frames analyzed and focus additionally on article sources. Our primary contribution to the existing literature is the analysis of sources used to vet diet and fitness content — an area largely overlooked by scholars of women's magazines' health content.

Framing

Although framing approaches will be familiar to most readers of this journal, we provide a brief synopsis of the framing literature before moving on to discussions of sources and genre analysis. In order to draw conclusions about the meanings readers may glean from

content in magazine articles, magazine scholars commonly analyze the frames under which content is presented. Framing is the process by which the emphasis or construction of a message gives meaning to the account of an event.³⁰ Frames essentially shape how consumers understand media content, in that frames are “persistent patterns of cognition, interpretation, and presentation, of selection, emphasis, and exclusion” that “specialize in orchestrating everyday consciousness”.³¹ Frames have a selective function, as they stress particular aspects of a topic and push others into the background.³² The selective function of framing may or may not be deliberate, but editors create frames by directing readers' attention to certain issues within an article,³³ such as the importance of thinness or beauty, while simultaneously downplaying other issues, such as physical fitness or improved body image. Some framing scholars argue popular media rarely represent viewpoints outside of the mainstream and that frames are consistent with promoting a subject's status quo.³⁴ This may help us understand how and why certain frames surrounding women's bodies (e.g. the thin ideal) have become media archetypes.

Studies on frames and framing effects have been conducted on newspapers and news broadcasts, political information, entertainment content, advertising, and magazine editorial content.³⁵ Content analyses that investigate frames stress mass media's roles in shaping public perception about the topics they represent.³⁶ In this study, we explore nutrition and fitness content in women's and women's health magazines using framing perspectives to guide our investigation. Our research examines one research question explicitly related to magazines' editorial representations of nutrition and fitness content:

RQ 1: What frames are most commonly employed in nutrition and fitness articles published in high-circulation women's and women's health magazines?

Editorial Sources

This study is uniquely concerned with the sources magazine writers turn to in order to vet nutrition and fitness content. No previous research has examined sources in women's magazines or in health magazines. However, extant literature tells us journalists use sources to obtain and verify information and to add credibility to their stories. A quick browse through any women's glossy will show that reporters ask external sources to provide advice about nutrition and fitness. While newspaper reporters seek political and bureaucratic sources through institutional beats³⁷, magazine journalists have their own approaches to story sourcing. In this study, we try to understand how editorial sources might increase a magazine's credibility among target audiences. Perceived credibility is important for magazines because along with quality, representativeness, and audience “liking,” it influences audience attitudes toward the given publication.³⁸ Perceived publication credibility may predict continued readership³⁹ — a vital concern to individual magazine titles and to the magazine industry as a whole.

Little work has been done to delineate or investigate editorial sources in the context of magazine production. In 1995, McShane published in *Journalism and Mass*

Communication Quarterly a study⁴⁰ of sources used in U.S. and Canadian business magazines, but this is the only previous scholarship we could identify about sources used in print magazines. Therefore, we turn to two related streams of research on sources: sources in journalistic content and sources in advertising/strategic communication. Literature on journalistic sources focuses on news agendas imposed by sources with authority and prestige, and the power these sources ultimately exert on news and society.⁴¹ The strategic communication approach typically focuses on what source characteristics are most persuasive to a given audience. While perceived journalistic authority may be applicable to magazine writing, we argue that women's magazine staffs use sources based primarily on the strategic communication model. That is, because women's magazines include service content or "soft news" rather than hard news,⁴² women's magazine articles are likely sourced in order to improve an article's persuasive appeal and credibility to readers rather than for political or economic authority. As with any lifestyle magazine, women's magazines sell their brands and likewise sell particular lifestyles to their readers.⁴³ This is inherently different from newspaper reporting procedures, which use sources such as police and politicians embedded in institutional beats,⁴⁴ rather than sources chosen for their similarity to audiences or for their celebrity status, as in mainstream women's magazines.

According to strategic communications literature, sources are generally chosen due to their perceived credibility. Credibility is established through a source's expertise, trustworthiness, and attractiveness.⁴⁵ However, attractiveness may be less applicable than expertise or trustworthiness in the context of magazine editorial content.⁴⁶ Regardless, credibility is context-dependent and is based on the characteristics of the message, the receiver, and the information channel.⁴⁷ That is, who is considered a credible source may vary according to the magazine genre and its audience.

A magazine source's dimensions of credibility (i.e. expertise, trustworthiness, and attractiveness) may take several forms. Expertise has historically been defined as "the extent to which a communicator is perceived to be a source of valid assertions."⁴⁸ Editorial sources that originate from reputable outside publications (such as research studies pulled from peer-reviewed academic journals) or who have professional training in fields related to nutrition and fitness (such as dietitians, medical professionals, yogis, personal trainers, chefs, authors, etc.) have the potential to be quoted in women's magazines due to their perceived expertise in nutrition and fitness. Expertise may be the component of source credibility most similar between newspaper journalism and women's magazine journalism, as scholars and professional experts may be selected as nutrition or fitness sources primarily due to their authority and prestige.

Trustworthiness refers to the reader's confidence in the source for providing information in an objective and honest manner.⁴⁹ Expert sources are likely to also be considered trustworthy. However, other components of trustworthiness — such as demographic and attitudinal similarity (e.g. shared interests, feelings, opinions, or beliefs) — may suggest sources with whom the reader can relate are more credible than less relatable sources.⁵⁰ In addition, social learning theory⁵¹ suggests that media consumers are more likely

to model the behavior of those who are similar to themselves. Therefore, it logically follows that if magazine readers consider sources to be trustworthy or similar to themselves, readers may be motivated to model nutrition and fitness behaviors.

Two types of editorial sources may fit into the dimension of trustworthiness. First, many magazines make use of citizens or “real people” to demonstrate the benefits of a particular diet regimen or exercise routine, implicitly stating: “If this regular woman can do it, so can you.” “Real people” might be stay-at-home moms, full-time office workers, and other types of non-professional sources. Celebrities are another common source type in women's magazines; these are public personalities associated with large media brands. Think Rachael Ray or Kim Kardashian. Practically speaking, women's magazine readers may have very little in common with celebrity sources, but individuals often identify with and have para-social emotional attachments to celebrities, which can be a motivator for lifestyle change.⁵²

Finally, with regard to editorial sources used in nutrition and fitness articles in women's magazines, we observed through emergent coding that magazines also use editorial team members as standard information sources, specifically in Q&A and advice columns. We believe the use of editorial team members as article sources may fall into both the expert and trustworthiness dimensions of credibility. Editorial team members are listed in a magazine's masthead and the article generally states that the individual is a team member, potentially resonating as an expert with the audience. Also, editorial team members are neither celebrities nor models. Therefore, it is possible that writers and editors are perceived as similar to readers, and are therefore trustworthy. We must also acknowledge that magazines may use their team members as sources due to availability and affordability, rather than due to a specific utility they serve for magazine audiences.

There are numerous sources available to help substantiate claims made in nutrition and fitness articles in women's magazines. We have speculated as to why these sources may be used. Ultimately, source credibility further enables a women's magazine to sell its brand and the lifestyle that comes with it.⁵³ By analyzing what types of sources women's magazines use and with what frequency, we are able to better understand which sources magazines deem most credible and most useful for bolstering their brands. This leads us to our second research question:

RQ 2: What types of editorial sources are most commonly employed in nutrition and fitness articles published in high-circulation women's and women's health magazines?

Magazine Genre

Most studies about magazine content, including those reviewed in this paper, focus on one specific genre (i.e. ethnic magazines, “lad mags,” teen titles, etc.). Our research compares two genres: Women's lifestyle magazines (*Cosmopolitan*, *Glamour*, and *Redbook*) and women's health magazines (*Self*, *Shape*, and *Women's Health*). Beyond our own interest

in understanding framing and sourcing differences between the two genres, Harrison and colleagues' research, conducted between 1997-2006, provides a strong rationale for conducting comparative content analyses. All three of Harrison's magazine effects studies⁵⁴ attempted to distinguish differences in disordered eating symptomatology for participants who were exposed to diet and fitness content in three magazine genres: fitness (e.g., *Health*), beauty and fashion (e.g., *Seventeen*), and sports (e.g., *Sports Illustrated*). The following from Harrison and Cantor provides justification for examining different magazine genres:

Fitness magazines were expected to be the most thinness depicting and thinness promoting of the specified magazine genres, as their primary purpose is to provide information about the attainment of a lean, fit body. Although fashion magazines may be defined as thinness depicting due to their portrayal of thin fashion models, they are not necessarily thinness promoting, as their primary purpose is to provide information about the fashion world, not dieting.⁵⁵

In fact, Harrison and Cantor found that reading magazines was a stronger contributor to high disordered eating symptomatology for undergraduate women than watching TV. But Harrison and Cantor also found that fitness magazines alone were a unique predictor, concluding that eating disorder symptoms "were most highly correlated with reading fitness magazines."⁵⁶ Harrison and colleagues attempted to replicate these findings with adolescents⁵⁷ and elementary-aged girls,⁵⁸ but in these studies, magazine reading (including exposure to fitness and fashion magazines) was not predictive of high disordered eating symptomatology. Such discrepant findings may be attributed to participant demographics such as participant age. Harrison and Hefner postulate that adult-oriented media may have different effects on non-target audiences (children and adolescents) than target audiences (young adult women).⁵⁹ They argue magazines' effects on disparate audiences explain their studies' contradictory findings. Of course, as outlined earlier, young adult women comprise a significant share of women's magazines' readerships. Therefore we argue it is important to investigate magazine content by genre, given that specific differential effects on disordered eating symptomatology in young women have been found between fitness magazines (i.e., women's health magazines in the present study) and beauty and fashion magazines (i.e., women's magazines in the present study). Additionally, it should be noted that Harrison and colleagues' magazine genres were conceptualized somewhat arbitrarily, and their statement about content differences by genre is speculative. Empirically demonstrating differences in magazine content by genre may provide further context for understanding Harrison's findings.

Thus, our third and final research question examines the role of market genre on content distribution:

RQ 3: Are there significant differences between the types of nutrition and fitness content published in the sampled magazines based on the magazines' genre classification as a women's magazine or women's health magazine?

Method

We conducted a quantitative content analysis of nutrition and fitness articles in six U.S. women's magazines. Our method for content analysis followed an inductive-to-deductive coding procedure and accounted for frames and sources present in a sample of *Cosmopolitan*, *Glamour*, *Redbook*, *Self*, *Shape*, and *Women's Health*. These titles were among the top-100 circulating women's and women's health magazines during the sampled time period, as designated by the Alliance for Audited Media (AAM).

Sampling

First, we sampled three top-circulation magazines in two unique genres: *Cosmopolitan* (3 million), *Glamour* (2.3 million), and *Redbook* (2.2 million) for women's magazines, and *Shape* (1.6 million), *Self* (1.5 million), and *Women's Health* (1.6 million) for women's health magazines.⁶⁰ We constructed the sample by examining AAM's top-100 circulation magazines for titles that focused either on women's health or on women's lifestyle. We selected magazines that targeted active young women rather than the highest-circulation titles that target women in middle age, such as *Good Housekeeping* (4.3 million), *Woman's Day* (3.3 million), or *Ladies' Home Journal* (3.2 million) because effects research has primarily demonstrated a link between magazine reading and young women's adoption of negative body image. Such an effect has not been demonstrated among older adult women. We were concerned primarily with journalists' framing and sourcing of nutrition and fitness content and not with the cumulative effects of magazine consumption, thus this study examines only article content and does not analyze advertising pages or editorial imagery.

The sampled nutrition and fitness articles ($N=423$) were selected from January, April, June, and October 2011 and 2012 issues of each magazine. This method for purposive sampling represents editorial diversity as it pulls from four separate points in the editorial calendar. All full-length nutrition and fitness articles in each issue were selected for analysis. Our study coded all articles that were listed in each magazine's table of contents and included nutrition or fitness-related content. Articles needed not fall in wellness sections to be selected; this allowed us to analyze main well features, holiday stories, and other articles that had nutrition or fitness bents but did not appear in designated wellness sections. Our selection protocol excluded health blurbs or sidebars that ran alongside main bars for non-health-related subject areas and recipe pages that did not accompany editorial content. This content was omitted because it was not listed in the tables of contents, and therefore did not meet earlier selection criteria.

Coding

We developed the initial codebook using an emergent coding procedure. That is, we crafted definitions for common frames and sources after reading nutrition and fitness articles in many issues of our sampled magazines. We also referred to definitions from Aubrey's⁶¹ study of magazine cover frames to craft criteria for article frames. Two undergraduate research assistants were hired to code the nutrition and fitness articles for frames and sources.

We followed Neuendorf's recommendations for coder training and establishing intercoder reliability.⁶² We initially met with the undergraduate coders over a three-hour period to discuss the applications and implications of frames and sources used in the study. When the student coders thought any definitions for frames or sources were ambiguous, we referred to empirical literature as well as magazine content to further conceptualize definitions in the codebook. We sought our coders' input in fine-tuning our codebook's definitions.

After definitions were clearly defined, we trained the research assistants to code definitions in the codebook during another series of three-hour meetings. Both research assistants then coded all nutrition and fitness articles ($n=81$) published in January and June 2012 issues of each magazine to establish intercoder reliability. The intercoder reliability sample represents 19.37% of the total sample, which is above the 10% recommended by Neuendorf⁶³ to establish intercoder reliability. After intercoder reliability was established (Scott's Pi, Cohen's Kappa, and Krippendorff's Alpha $> .965$ for all variables), each undergraduate coder coded half of the remaining total sample. The first coder coded nutrition and fitness articles published in the June 2011, April 2012, and October 2012 issues, and the second coder coded nutrition and fitness articles published in the January, April, and October 2011 issues.

Coding Categories

Our research assistants coded for five potential frames in nutrition and fitness articles. These included: 1) an appearance and attractiveness frame, which instructs readers to diet or exercise with the aesthetic goal of looking better; 2) a health frame, which instructs readers to diet or exercise in order to improve their general health or the health of a specific body part; 3) a weight loss frame, which instructs readers to diet or exercise with the primary goal of losing body weight; 4) a convenience and efficiency frame, which instructs readers to diet or exercise due to the task's relative ease, convenience, or effectiveness; and 5) a self-efficacy frame, which instructs readers to diet or exercise because it will improve their self-confidence or self-esteem, or because it will help them achieve personal or professional goals.

Article sources fell into six categories: 1) research/studies, in which articles cite scholarship pulled from academic journals; 2) "real people" such as physically fit moms or 9-to-5 employees who have successfully completed a diet or exercise regimen; 3) the magazine's editorial team or members thereof listed on the masthead; 4) celebrities recognizable to the public; 5) clinical and professional experts who are nutrition and fitness leaders but not celebrities; and 6) multiple/miscellaneous sources, which include stories with more than one source in the aforementioned categories or otherwise do not fit in the above source genres.

Data Analysis

Chi-square tests were run in SPSS to determine if there were statistically significant differences between representations of nutrition and fitness content between women's and women's health magazines by market genre. Chi-square was chosen as the statistical tool for analysis due to its ability to compare two categorical variables. Crosstabulations describe the

frequencies of frames and sources within and across market genres. They also determine if distributions of frames and sources follow an expected distribution between magazine genres. Additionally, we report standardized residuals with the chi-square tests. Standardized residuals are a measure of the strength of difference between observed and expected cell values — effectively a measure of how significant cells are to the chi-square itself. When comparing the cells in a chi-square test, standardized residuals make it easy to see which cells are contributing most and least to the given chi-square value. Standardized residuals appear in parentheses below group frequencies in tables 1 and 2.

Results

We analyzed frames and sources used in 423 nutrition and fitness articles published in women's magazines and women's health magazines. There were 1,956 total articles in published in the 48 magazine issues, meaning roughly one-fifth (22%) of our sampled magazines' articles focused on nutrition or fitness. Of nutrition and fitness articles included in our sample, 76 (18%) were published in women's magazines and 347 (82%) were published in women's health magazines.

Frames

To answer RQ 1, we analyzed nutrition and fitness articles across the sample to determine which frames are most commonly employed in high-circulation women's and women's health magazines. Of frames in the sample, the most common was convenience/efficiency ($n=137$; 32.4%), or articles that emphasize the ease of a particular diet or exercise. Next in total frequency were health frames ($n=122$; 28.8%), which emphasize physiological wellness and instruct readers to diet or exercise in order to improve either general health or the health of a specific body part. Following were the less common frames: self-efficacy ($n=77$; 18.2%), which emphasizes diet or exercise for self-confidence or self-esteem, followed by weight loss ($n=48$; 11.3%) and appearance/attractiveness ($n=39$; 9.2%).

Sources

To answer RQ 2, we analyzed nutrition and fitness articles across the sample to determine what types of editorial sources are most commonly employed in high-circulation women's and women's health magazines. We wanted to understand whether source credibility was a criterion for source selection among magazines in the sample. The most common sources in this sample were clinical and professional experts ($n=174$; 41.1%). Next in total frequency were "miscellaneous" sources — ambiguous sources or multiple sources used in a single article ($n=82$; 19.4%), followed by celebrities ($n=53$; 12.5%), research and studies ($n=53$; 12.5%), "real people" with DIY weight-loss stories ($n=52$; 12.3%), and the editorial team ($n=9$; 2.1%).

Magazine Genre

To answer RQ 3, we analyzed the presence of certain frames and sources between women's magazines and women's health magazines. Chi-square tests demonstrated that there were statistically significant differences in frames and sources used in nutrition and fitness content published in the two genres. Frames were determined to be significantly different between the women's and women's health magazines, $\chi^2(4, N=423) = 12.064, p < .05$. Chi-square standardized residuals demonstrate that the most prominent disparity in frames between the two genres was the convenience/efficiency frame: 46.1% ($n=35$) for women's magazines and 29.4% ($n=102$) for women's health magazines. Next most disparate was the weight loss frame: 2.6% ($n=2$) for women's magazines and 13.3% ($n=46$) for women's health magazines. For a complete breakdown of frame frequency, chi-squares, and standardized residuals by market genre, see table 1.

As with the framing category, sources were determined to be significantly different between women's and women's health magazines, $\chi^2(5, N=423) = 18.801, p < .05$. Chi-square standardized residuals indicate that differences in sourcing patterns were most disparate between magazine genres for clinical/professional experts: 56.6% ($n=43$) for women's magazines and 37.8% ($n=131$) for women's health. Next most disparate were research studies: 2.6% ($n=2$) for women's magazines and 14.7% ($n=51$) for women's health. And finally, significant disparities were observed among editorial team members as sources: 5.3% ($n=4$) for women's magazines and 1.4% ($n=5$) for women's health. For a complete breakdown of source frequency, chi-squares, and standardized residuals by market genre, see table 2.

Discussion & Conclusions

Studies on women's magazines' weight loss content have included content analyses of coverlines,⁶⁴ advertisements and photos,⁶⁵ and articles in multiple magazine genres.⁶⁶ Others have compared the potential effects of reading health magazines and beauty magazines on individuals' body image.⁶⁷ Recent research has analyzed body-shaping and weight-loss articles in women's health magazines⁶⁸ and framing of body ideals in women's beauty and women's health magazines.⁶⁹ However, no studies have yet examined sources of nutrition and fitness information in women's magazines, and scholars have not conclusively demonstrated differences in health outcomes based on exposure to different magazine genres. Our research examines women's magazines' nutrition and fitness information sources for the first time. It also contributes to ongoing discussions about the nature of editorial content in women's lifestyle and women's health magazines. We explore how two distinct genres of women's magazines discuss nutrition and fitness with their readers.

Magazine Content

Our study shows that nutrition and fitness articles comprise roughly one-fifth of all editorial content. This is consistent with Willis and Knobloch-Westerwick's research⁷⁰, which found that 21% of sampled content in women's health and fitness magazines includes

body-shaping and weight-loss messages. Chi-square tests indicate there are statistically significant differences between the types of frames and sources used in women's magazines and women's health magazines. Although Aubrey's study⁷¹ found that appearance frames were just as common as health frames in magazine coverlines, Conlin and Bissell⁷² found that health/fitness magazines featured weight-loss-related coverlines more often than appearance-related coverlines, and beauty/fashion magazines featured appearance-related coverlines more often than weight-loss-related coverlines. Conlin and Bissell also found that weight-loss frames and appearance frames appeared with similar frequency in health magazines' editorial content, with appearance frames appearing more often than weight-loss frames in beauty magazines. Contrary to those studies' outcomes, our research shows that both women's magazines and women's health magazines use a general health frame with greater frequency (28.8% of all sampled content) than they do a weight-loss frame (11.3% of sampled content) and appearance or attractiveness frames (9.2% of sampled content). Despite the significant differences between weight-loss and convenience/efficiency frames in women's magazines and women's health magazines, neither genre in our study appeared to emphasize health or appearance/attractiveness more or less than the other (see table 1). Given that thinness messages have been linked with negative body image and disordered eating symptomatology,⁷³ it is worthwhile to note that appearance/attractiveness frames were actually featured less than all other frames in this study's sample, both in women's magazines (7.9%) and women's health magazines (9.5%). It is possible that our conceptualizations of the appearance/attractiveness frame differ substantially from Conlin and Bissell's⁷⁴ and Willis and Knobloch-Westerwick's,⁷⁵ whose conceptual definitions for appearance frames and weight loss frames were not provided in their research. We also conceptualized appearance and weight loss as two unique frames, whereas Willis and Knobloch-Westerwick⁷⁶ embedded weight loss into either health- or appearance-related categories, and Conlin and Bissell⁷⁷ embedded appearance into the weight-loss frame unless appearance dealt specifically with clothing, "beauty," or attractiveness to men. That is to say, weight loss and appearance are exclusive from one another in our study. In previous research, this has not been the case.

Although we did not observe statistically significant differences between two genres' uses of appearance frames, we did identify significant differences between weight-loss and convenience/efficiency frames used in women's and women's health magazines. Weight-loss frames were surprisingly absent from women's magazines (2.6%). Women's magazines used convenience/efficiency frames (46.1%) more than all other frames and more than women's health magazines did (29.4%). The frames in this sample suggest women's magazines focus nutrition and fitness articles on convenient/efficient ways to improve diet and exercise, rather than on weight loss (2.6%) or appearance/attractiveness (7.9%). Women's health magazines, on the other hand, emphasize the weight-loss frame (13.3%) more often than women's magazines (2.6%). Women's health magazines also put less emphasis on convenience/efficiency (29.4%) than women's magazines (46.1%), though it was still the most common frame in the women's health magazine sample. Women's health magazines' relative focus on weight loss may help explain Harrison and Cantor and Thomsen, Weber, and Brown's findings⁷⁸ that fitness/health magazines contribute to negative body image for

young adult women more than other genres. Our research shows that women's health magazines emphasize weight loss more often than women's magazines.

Although framing may or may not be intentional,⁷⁹ it is clear that editors of women's magazines and women's health magazines frame content differently. Our findings thus run counter to those of Willis and Knobloch-Westerwick and Conlin and Bissell's recent studies.⁸⁰ Both research teams conclude that women's health magazines focus on appearance above all else. In our research, convenience/efficiency was the most common frame used in both genres, though it is a frame not examined by either of the aforementioned investigations. Our findings suggest that women's magazines provide nutrition and fitness advice that they hope their readers will perceive as "do-able," rather than focusing explicitly on physical appearance.

Similarly, sources used by women's and women's health magazines differed significantly. Leading other sources by dozens of percentage points, the most common source category across the sample was clinical and professional experts (56.6% for women's magazines; 37.8% for women's health magazines). Celebrities, research/studies, and "real people" were the next-most common across the sample (12.5%, 12.5%, and 12.3% of the total, respectively). Each of these sources' prevalence in the sample is likely due to their perceived credibility, which is linked to their attractiveness, expertise, and trustworthiness.⁸¹ Statistically significant disparities arose between women's and women's health magazines' use of research/studies, clinical/professional experts, and editorial team members as sources. The women's health titles were significantly more likely to use research studies (14.7%) than women's magazines (2.6%) and less likely to use clinical/professional experts (37.8%) than women's magazines (56.6%). Editorial team members were the least prevalent sources for both magazine genres, but they appeared relatively more frequently in women's magazines (5.3%) than in women's health magazines (1.4%).

Because no previous research has been conducted on women's magazines' sourcing practices, we can only speculate about the reasons certain sources appear in nutrition and fitness content. What we do know is that perceived credibility is important for magazines because along with quality, representativeness, and audience "liking," it influences attitudes of the audience toward the publication.⁸² Thus it is possible that women's and women's health magazines believe their readers will find clinical and professional experts to be the most credible sources for health information, with women's titles relying additionally on editorial team members while women's health titles turn to research/studies. A women's magazine reader may perceive a lifestyle journalist as an especially credible source, while a women's health magazine reader may turn to health-specific titles for access to clinical and academic research on effective weight loss routines. Certainly, Rodale, Inc. (which publishes *Women's Health*, a central magazine in this sample) is known for its brand-specific method of short-form science journalism, with entire front-of-book sections reporting the latest health research.

Our study challenges previous findings that show women's health magazines "offer little more than a repackaging of the thin-ideal".⁸³ Although weight loss and appearance frames together comprised one-fifth of nutrition and fitness content in our sample, convenience/efficiency and overall health frames are more prominent in both women's magazines and women's health magazines. Our findings suggest that women's and women's health magazine writers provide their readers with nutrition and fitness "news they can use," to cite an industry adage. Editorial content in our sample largely offers actionable nutrition advice and attainable fitness goals vetted by clinical and professional experts. Our findings do not indicate that editorial content over-emphasizes thinness and appearance.

Limitations and Future Research

Our study is limited by a number of factors, foremost among them our choice to analyze only editorial content. This decision was guided by our interest in contributing to literature on magazine sources — an analysis that would have been complicated by advertisements and coverlines. Because our findings are at odds with previous research on appearance frames in nutrition and fitness content, future research should continue examining the relationship between editorial messages and the thin ideal. Further, content analyses of nutrition and fitness messages should include a larger corpus of data and should ideally examine frames and sources used across multiple decades and various magazine genres. For instance, our sample drew four issues from each magazine's 2011 and 2012 editorial cycles, so the findings do not contribute to historical or longitudinal discussions of magazine content. Because the sample was purposive rather than random, we also cannot conclude with certainty that the magazines used for this study are representative of a census of the magazines analyzed, though we selected magazines throughout the editorial calendars to represent diverse points in the publishing cycle. Future scholars should also expand their investigations of health messages to include underrepresented magazine genres, such as ethnic magazines, feminist magazines, and branded magazines (i.e. *Weight Watchers*). Most importantly, we urge future magazine scholars to continue investigating the relationships between editorial messages and sourcing practices. Given that sources have long captivated newspaper researchers and strategic communication scholars (see our literature review), we call for an increased engagement with sourcing literature and source analysis in magazine media research.

Notes

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Appendix

Table 1. Results of Chi-square Test and Frequencies of Article Frames within Sampled Magazines by Market Genre

Frames	Women's (%)	Women's Health (%)	χ^2
Appearance/Attractiveness	6 (7.9%) (-.40)	33 (9.5%) (.20)	12.064*
Health	21 (27.6%) (-.20)	101 (29.1%) (.10)	
Weight Loss	2 (2.6%) (-2.30)	46 (13.3%) (1.10)	
Convenience/Efficiency	35 (46.1%) (2.10)	102 (29.4%) (-1.00)	
Self-Efficacy	12 (15.8%) (-.50)	65 (18.7%) (.20)	
Total	76 (100%)	347 (100%)	

* = < .05. Standardized residuals appear in parentheses below group frequencies.

Table 2. Results of Chi-square Test and Frequencies of Article Sources within Sampled Magazines by Market Genre

Sources	Women's (%)	Women's Health (%)	χ^2
Research/Studies	2 (2.6%) (-2.40)	51 (14.7%) (1.10)	18.801**
"Real People"	7 (9.2%) (-.80)	45 (13.0%) (.40)	
Editorial Team	4 (5.3%) (1.9)	5 (1.4%) (-.90)	
Celebrities	9 (11.8%) (-.20)	44 (12.7%) (.10)	
Clinical/Professional Experts	43 (56.6%) (2.10)	131 (37.8%) (-1.0)	
Miscellaneous	11 (14.5%) (-1.0)	71 (20.5%) (.50)	
Total	76 (100%)	347 (100%)	

** = < .01. Standardized residuals appear in parentheses below group frequencies.