

IJACT 19-9-11

The Influence of Message Frame and Appeal on the Effectiveness of Social Media in Dietary Behavior

Eun-Mi Lee

Dongseo University, Division of Global Business Administration
emlee0322@gmail.com

Abstract

The goal of this study is to identify how different types of messages can contribute to the effectiveness of social media in healthier dietary behavior. The sample consisted of 160 participants who use social media and participants were randomly assigned to one of the four experimental conditions. The study shows that a positively framed message paired with a health focused message and a negatively framed message paired with a body image focused message exhibit a positive eWOM and message perception. This research offers direction for development of appropriate message types to improve social media effectiveness. Social media marketers and advertisers can develop social media content on healthier dietary behavior.

Keywords: Message Frame, Message Appeal, Social Media, eWOM, Dietary Behavior.

1. Introduction

As consumer recognize the values of a healthy lifestyle, they are effectively making an attempt to reinforce eating habits and that they have an inclination to promote a healthier dietary behavior or strict diet to lose weight [1]. Media is an important source that people use to learn and obtain information about health and healthy life [2].

With the advance of this technology, over 2.65 billion people are using social media worldwide [3]. With this rise in the use of social media, individuals have more chances to create and share the information as well as communicate with people around the world [4]. Many people are especially using social media to find and share information on health issues. When the impact of health-related information from both news media and social media was compared it was found that consumers have a more positive reaction to social media than news media [5]. Even though social media has the potential to be a crucial source for health information and issues, very few studies of the effectiveness of social media in this area have been investigated.

Prior research focused on trying to figure out what kinds of messages are most effective on attitude and behavior related to health [6]. Messages and information posted on social media have the potential to change consumer behavior on health issues and persuade them to embrace a healthier lifestyle [7]. It has been found that message framing can influence how individuals comprehend health messages, especially on those who acquire health information from the media. In this context, message framing is an important issue relating to the effectiveness of social media. Moreover, the effectiveness of message framing is improved by the focus of the presented message appeals.

To provoke behavioral or attitudinal changes, most previous research has focused more on health-related

Manuscript received: July 20, 2019 / revised: July 25, 2019 / Accepted: August 02, 2019

Corresponding Author: emlee0322@gmail.com

Tel:+82-51-320-4832, Fax: +82-51-320-2953

Author's affiliation

Dongseo University, Busan

message appeals than on body image related appeals [8]. However, people's concerns about their body image are a basic contribution to choosing nutritious food and good eating habits [9]. In spite of the growing public interest in body image, research on the body image aspects of messages has been neglected [10]. Some research has used appearance focused interventions but it is narrowly related to skin protection attitudes or behaviors and not about healthier dietary behavior. Body image related message appeals could play a significant role in the effectiveness of health communication.

Existing research gives very little attention to how people response to healthier dietary behavior messages are influenced by social media. Reaction to social media messages has the potential to change people's behavior and their tendency to share useful information with others. The goal of this study is to investigate how distinct kinds of messages in health communication can contribute to the effectiveness of social media. It is necessary to elucidate the most effective message types to consumers. Thus, this study explore the effect of social media messages varying in message frame (positive vs. negative) and message appeals (health vs. body image) on effectiveness of social media.

2. Literature Review and Hypotheses

Message credibility and electronic Word-of-Mouth (eWOM) communication can be considered key components to improve communication efforts [11]. eWOM is defined as the potential for consumers to make any positive or negative statement about a product or a company on the Internet [12]. eWOM is typically implemented via social media or social networking platforms [13]. Message credibility means that aspects of the message itself show information quality, accuracy, currency, and language intensity [14]. Several factors can influence message perception judgments and eWOM communication. The specific type of message may greatly influence the persuasion effects to the consumers who receive the message. Message perception and eWOM could be attributed to message frame and appeals. Establishing appropriate messages would be very important to more successful communication on social media.

Prospect theory is the basis of the theoretical framework for framing [15], which posits that individuals react differently to messages depending upon whether they are framed to emphasize either losses or gains. Rothman and Salovey (1997) proposed that gain and loss-framed message are differently persuasive [16]. For example, when the health behavior perceived an outcome with a high degree of risk, loss-framed messages should be more effective than gain-framed message. On the other hand, gain-framed messages are more effective than loss-framed messages when health behavior has only a minimal degree of risk. Research also shows that gain-framed messages are more effective than loss-framed message for illness prevention behavior while loss-framed messages are more persuasive for illness detection behaviors [17].

Most of the prior research related to health communication focuses on health-related message [8]. As people are more concerned about their appearance in dietary behavior and are aware a suntan as being beneficial for their appearance, several study addresses health and appearance focused arguments about sun tanning and skin cancer [18]. The findings show that loss-framed message is more effective than a gain-framed message in skin protection behavioral intention [19]. They also show that an appearance focused message is higher than a health focused message for threat of skin cancer. In the same vein, appearance focused messages are more effective than health focused messages in the case of suntanning and skin protection [18]. In addition, there is significant interaction effect between message focus and sidedness on the suntan intention. That is, people show a lower intention to suntan intention when they were given an appearance focused two-sided message than health focused two-sided messages [18]. This study also suggests that a two-sided message with health focused arguments lead to a more favorable attitude toward the message for health motivated people, whereas the reverse is true for appearance-motivated people.

Most research has concentrated on physical appearance and there has been a lack of study on the role of appearance in connection to healthier dietary behavior and well-being [10]. Individual's feelings about their body image can have an impact on self-recognition and their health behavioral changes [20]. Appearance or body image has risen as a critical motivating factor for behavioral changes [10] and body image focused

appeals can be more a persuasive communication in health campaigns and dietary behaviors. However, most communication and marketing literature on health more often uses message appeals such as nutrition, taste, and health instead not body image.

According to the self-determination theory, the types of goals that individuals pursue is one of the essential factors in the process of eating regulations [21]. Kasser and Ryan (1996) classify the types of goals as intrinsic and extrinsic goal [22]. People with an attention on extrinsic goals such as physical appearance or image have a tendency to be more situated to interpersonal comparison and gathering of external indications of worth [23]. On the other hand, the pursuit of intrinsic goals such as health will probably result in experiences that can fulfill individual's basic needs and develop their own values [24]. Intrinsic goals would improve basic need satisfaction and intrinsic outcomes would match with positive frame messages whereas extrinsic goals would frustrate basic needs and the extrinsic outcome would match with negative framed messages [24] [25].

In addition, positive framed message are more influential when health behavior perceived an outcome with a low degree of risk while negative framed message are more effective when health behavior perceived a high degree of risk [17]. In the case of self-image appeals, consumers could perceive higher risk as psychological and social danger rather than health related appeals. Based on this prior research, we can predict that people will perceive a higher message attitude and credibility in the case of health focused appeal paired with a positive message framing and body image focused appeal paired with a negative message framing.

H1: When exposed to (a) health focused appeals, consumers will report a more positive eWOM in response to a positive framed message than a negative framed message, (b) body image focused appeals, consumers will report a more positive eWOM in response to a negative framed message than a positive framed message.

H2: When exposed to (a) health focused appeals, consumers will report a more positive attitude toward the message in response to a positive framed message than a negative framed message, (b) body image focused appeals, consumers will report a more positive attitude toward the message in response to a negative framed message than a positive framed message.

H3: When exposed to (a) health focused appeals, consumers will report stronger message credibility in response to a positive framed message than a negative framed message, (b) body image focused appeals, consumers will report stronger message credibility in response to a negative framed message than a positive framed message.

3. Research Methodology

The sample consisted of 160 participants who use social media. The respondents were similar number of males (52.8%) and female (47.2%). The majority of participants were 20-29 years old (65.4%). 17.6 percent were in their 30s, 6.3 percent in their 10s, 10.7 percent were older than 40 years. Regarding education level, 11.9 percent were high school graduates or below, 25.8 percent were college graduates, 56.6 percent were university graduates and 5.7 percent had a graduate degree.

Participants were randomly assigned to one of the four experimental conditions. Participants were contacted via e-mail. Four URLs, one for each treatment, were posted through surveygizmo. Each group responded to the same questionnaire items in the same order, but viewed a different Instagram message. 2 (message frame: positive vs. negative) * 2 (message appeals: body image vs. health) between subject experimental design was used to test the hypotheses.

The post-stimulus questionnaire included electronic word-of-mouth and message perception (attitude toward the message, message credibility). Most of the scales and items were based on existing sources, and some were modified for the study. eWOM was measured using Goyette (2010) items (e.g., "I would like to

share this message with my friends.”) [26]. Message credibility is defined as the extent to which the consumer perceives the claims to be truthful and believable (e.g., “This message is believable.”) [27]. Attitude toward the message were based on MacKenzie et al. (1986) items (e.g., This message is favorable.”) [28]. All items were measured on five point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree). Two separate one way analyses of variance on the data were performed to determine if the manipulations for health or body image focused appeals, for positive or negative frame had worked. The two manipulations worked as planned.

Table 1. Diagrammatic representation of study design

Message Appeal \ Message Frame	Positive	Negative
Body Image	n=40	n=40
Health	n=40	n=40

4. Results

To test the hypotheses, several univariate ANOVAs were performed with message appeals and message frame as the independent variables. Message frame and message appeal had no significant main effect on eWOM. As expected H1, the results showed a significant interaction effect between message frame and message appeal on eWOM ($F(1, 159) = 4.49, p < .05$). Participants reported more positive eWOM when health focused message appeal paired with positive framed message ($M=2.66$) than negative framed message ($M=3.31$), and when body image focused appeal paired with negative framed ($M=2.93$) than positive framed message ($M=3.23$).

Message frame and message appeal had no significant main effect on attitude toward the message and message credibility. However, as expected in H2 and H3, the results showed a significant interaction effect between message frame and message appeal on attitude toward the message ($F(1, 159) = 6.10, p < .05$) and message credibility ($F(1, 159) = 4.42, p < .05$). Participants perceived a more positive attitude toward the message when a health focused appeal paired with a positive framed message ($M=3.19$) than a negative framed message ($M=3.66$), and when a body image focused appeal paired with a negative framed message ($M=3.06$) than a positive framed message ($M=3.36$). Participants exhibited a more positive message credibility to a health focused appeal paired with a positive framed message ($M=2.94$) than a negative framed message ($M=3.34$), and when body image focused appeal paired with a negative framed message ($M=2.99$) than a positive framed message ($M=3.21$). Therefore, all of the hypotheses were supported.

5. Discussion

There is very little research of the impact of message types on the effectiveness of social media. This study examined the effect of message frame and message appeals on social media effectiveness such as message perception and eWOM. This study contributes to online marketing and advertising areas in terms of providing new evidence on the effectiveness of social media by message types in a healthier dietary behavior. Even though there are over 2.65 billion social media users [3], there is a little research in this area.

The main finding of this research indicates that when exposed to health focused message appeals, consumers reported more positive eWOM and message perception in response to a positive framed social media message than a negative framed social media message. It also shows that when exposed to body image focused appeals, consumers will report more positive eWOM and message perception in response to a negative framed message than a positive framed message. These findings prove that health focused appeal paired with a positive framed message and appearance focused appeal paired with a negative framed message can be efficacious in improving word-of-mouth communication and attitude toward the social media message. These results can be explained by the self-determination theory. Because health focused

appeals are associated with positive framing while body image focused appeals are related to negative framing because intrinsic motivations are related to positive framed messages whereas extrinsic motivations are negative framed messages [17].

This study offers implications for development of message appeals suitable to social media message framing. Establishing the appropriate message in social media will be very salient to maximize effectiveness in both health communication campaigns and on social media marketing. For example, appearance focused appeals paired with a negative framed message could be very useful to someone who is more engaged in healthy dietary behavior such as girls and women. On the other hand, health focused appeals with a positive framed message could be very successful to an audience that is more focused on improving their health through healthy eating behavior. Particularly eWOM is a very crucial information source on health. People can change their dietary lifestyle positively with the help of eWOM recommendations or share them with others, consequently it can improve the impact of health communication campaigns.

Social media marketers and advertisers can develop social media content on healthier dietary behavior appropriately based on their target audience. Most of all practitioners should divide their audience based on the audience's needs, desires and motivation so that they can position accurate health communication messages and design for the actual health campaign. Positive emotion is the ultimate objective of health promotion like dietary behavior [29]. Individual differences such as audience motivation, diet experience, healthy consciousness all have an affect on the effectiveness of social media when they post social media messages. Future research could develop a more comprehensive framework of how these variables moderate the relationship between social content and social media effectiveness.

References

- [1] IRI, IRI Introduces Nutrilink Segmentation to Provide Key Insights into Consumers' Attitudes toward Health, Diet and Nutrition, <http://www.businesswire.com/news/home/20131217005144/en/IRI-Introduces-NutriLink-Segmentation-Provide-Key-Insights>, 2013.
- [2] M. Brodie, N. Kjellson, T. Hoff, and M. Parker, "Perceptions of Latinos, African Americans, and Whites on Media as a Health Information Source," *Howard Journal of Communications*, Vol. 10, No. 3, pp. 147-167, 1999.
- [3] Statista, Number of Social Network Users Worldwide from 2010 to 2021 (in Billions). <https://www.statista.com/statistics/278414/number-of-worldwide-social-network-users>, 2019.
- [4] J. Chen, H. Xu, B. and Whinston, "Moderated Online Communities and Quality of User Generated Content," *Journal of Management Information System*, Vol. 28, No. 2, pp. 237-268, 2011.
- [5] J. Lehmann, C. Castillo, M. Lalmas, and E. Zuckerman, "Finding News Curators in Twitter, *In Proceedings of the 22nd Conference on World Wide Web companion*, pp. 863-870, May 2013.
- [6] L. Kean, L. Prividera, W. Howard III, and D. Gates, "Health, Weight, and Fitness Messages in Ebony and Essence: A Framing Analysis of Articles in African American Women'S Magazines," *Journal of Magazine & New Media Research*, Vol. 15, No. 1, pp. 1-25, 2014.
- [7] L. Wanyonyi, M. Themessl-Huber, G. Humphris, and R. Freeman, "A Systematic Review and Meta-Analysis of Face-To-Face Communication of Tailored Health Messages: Implications for Practice," *Patient Education and Counseling*, Vol. 85, No. 3, pp. 348-355, 2011.
- [8] J. Heckman, B. Wilson, and S. Ingersoll, "The Influence of Appearance, Health, and Future Orientations on Tanning Behavior," *American Journal of Health Behavior*, Vol. 33, No. 3, pp. 238-243, 2009.
- [9] A. Bargiota, M. Delizona, A. Tsitouras, and N. Koukoulis, "Eating Habits and Factors Affecting Food Choice of Adolescents Living in Rural Areas," *Hormones*, Vol. 12, pp. 246-53, 2013.
- [10] H. Hevey, M. Pertl, K. Thomas, L. Maher, A. Craig, and S. Ni Chuinniaegen, "Body Consciousness Moderates the Effect of Message Framing on Intentions to Use Sunscreen," *Journal of Health Psychology*, Vol. 15, No. 4, pp. 553-59, 2010.
- [11] M. Kang, *Measuring Social Media Credibility: A Study on a Measure of Blog Credibility*, Institute for Public Relations, 2010.

- [12] T. Hennig-Thurau, K. P. Gwinner, G. Walsh, and D. Gremler, "Electronic Word-of-Mouth via Consumer-Opinion Platforms: What Motivates Consumers to Articulate Themselves on the Internet?," *Journal of Interactive Marketing*, Vol. 18, pp. 38-52, 2004.
- [13] J. Jansen, M. Zhang, K. Sobel, and A. Chowdury, "Twitter Power: Tweets as Electronic Word of Mouth," *Journal of the American Society for Information Sciences and Technology*, Vol. 60, No. 11, pp. 2169-2188, 2009.
- [14] J. Metzger, J. Flanagin, K. Eyal, R. Lemus, and M. McCann, *Credibility for the 21st Century: Integrating Perspectives on Source, Message, and Media Credibility in the Contemporary Media Environment*, Communication Yearbook 27, Routledge, pp. 293-336, 2003.
- [15] D. Kahneman, and A. Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica*, Vol. 47, pp. 263-291, 1979.
- [16] A. J. Rothman, and P. Salovey, "Shaping Perceptions to Motivate Healthy Behavior: The Role of Message Framing," *Psychological Bulletin*, Vol. 121, No. 1, pp. 3-19, 1997.
- [17] M. Gallagher, and A. Updegraff, "Health Message Framing Effects on Attitudes, Intentions, and Behavior: A Meta-Analytic Review," *Annals of Behavioral Medicine*, Vol. 43, No. 1, pp. 101-116, 2012.
- [18] E. Cornelis, V. Cauberghe, and P. De Pelsmacker, "Being Healthy or Looking Good? The Effectiveness of Health versus Appearance-Focused Arguments in Two-Sided Messages," *Journal of Health Psychology*, Vol. 19, No. 9, pp. 1132-1142, 2014.
- [19] K. Thomas, D. Hevey, M. Pertl, S. Ni Chuinneagáin, A. Craig, and L. Maher, "Appearance Matters: The Frame and Focus of Health Messages Influences Beliefs about Skin Cancer," *British Journal of Health Psychology*, Vol. 16, No. 2, pp. 418-429, 2011.
- [20] N. Rumsey, and D. Harcourt, *The Psychology of Appearance*, Milton Keynes: Open University Press, 2005.
- [21] M. Ryan, M. Sheldon, T. Kasser, and L. Deci, "All Goals Were Not Created Equal: An Organismic Perspective on The Nature of Goals and Their Regulation," in P. Gollwitzer, J. Bargh (eds.): *The Psychology of Action: Linking Motivation and Cognition to Behavior*, New York: Guilford, pp. 7-26, 1996.
- [22] Kasser, T., and R. M. Ryan, "Further Examining the American Dream: Differential Correlates of Intrinsic and Extrinsic Goals," *Personality and Social Psychology Bulletin*, Vol. 22, pp. 280-287, 1996.
- [23] T. Kasser, M. Ryan, E. Couchman, and M. Sheldon, Materialistic Values: Their Causes and Consequences, in T. Kasser, D. Kanner (eds.): *Psychology and Consumer Culture: The Struggle for a Good Life in a Materialistic World*, Washington DC: American Psychological Association, pp. 11-28, 2004.
- [24] M. Vansteenkiste, B. Soenens, and B. Duriez, "Presenting A Positive Alternative to Strivings for Material Success and the Thin-Ideal: Understanding The Effects of Extrinsic Relative to Intrinsic Goal Pursuits," in S. Lopez (ed.), *Positive Psychology: Exploring the Best in People*, Westport, CT: Praeger Perspectives, Vol. 4, pp. 57-86, 2008.
- [25] M. Gallagher, and A. Updegraff, "When 'Fit' Leads to Fit, and When 'Fit' Leads to Fat: How Message Framing and Intrinsic vs. Extrinsic Exercise Outcomes Interact in Promoting Physical Activity," *Psychology & Health*, Vol. 26, No. 7, pp. 819-834, 2011.
- [26] I. Goyette, L. Ricard, J. Bergeron, and F. Marticotte, "E-WOM Scale: Word-of-Mouth Measurement Scale for E-Services Context," *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, Vol. 27, No. 1, pp. 5-23, 2010.
- [27] A. J. Flanagin, and J. Metzger, "The Role of Site Features, User Attributes, and Information Verification Behaviors on the Perceived Credibility of Web-Based Information," *New Media & Society*, Vol. 9, pp. 319-342, 2007.
- [28] B. MacKenzie, J. Lutz, and E. Belch, "The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations," *Journal of Marketing Research*, Vol. 23, No. 2, pp. 130-143, 1986.
- [29] BH Lee, JA Kim, The Effect of Health Promotion Behavior on Emotional Happiness, *IJACT*, Vol. 7, No. 1, pp. 20-27, 2019.