

메시지 조절목표와 메시지 형식 간 적합성이 메시지 설득력에 미치는 영향

The Persuasive Impact of Fit between Message Goals(Promotion vs. Prevention) and Modality of Message on Social Media

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요약

커뮤니케이션 수단으로서의 소셜미디어의 성장은 소비자가 영양학적 선택과 건강한 음식 소비를 하는 데 소셜미디어의 영향력 역시 증가시켰다. 이 연구는 소셜미디어 상에서 건강한 식습관과 관련한 메시지 목표(향상 vs. 예방)와 메시지 형식(텍스트 vs. 이미지)이 메시지 설득력에 미치는 영향력을 알아보는 데 그 목적이 있다. 연구 결과에 따르면, 향상메시지에 노출된 참가자들은 소셜미디어 메시지 형식에 따른 차이를 보이지 않았으나, 예방메시지에 노출된 참가자들은 텍스트 (vs. 이미지) 형식의 메시지에 노출되었을 때, 메시지에 대한 더 긍정적인 태도를 보였으며, 해당 메시지에 대해 더 높은 클릭 의도를 보였다. 본 연구의 결과는 소셜미디어 상 건강메시지의 형식과 메시지 목표의 적합성이 메시지 효과에 영향을 미침을 이론적으로 증명하였다. 더불어 효과적인 건강메시지 작성 및 전달 방식에 대한 실무적 지침 역시 제공하리라 예상된다.

■ 중심어 : | 조절초점 | 조절초점 적합성 | 디지털 커뮤니케이션 | 소셜미디어 | 헬스커뮤니케이션 |

Abstract

Examination of the concurrent evolution of communication tools and eating behaviors over recent decades reveals that social media and other forms of digital content have become powerful new driving forces for nutritional choices and food consumption. The purpose of this research was to examine the effect between goal orientation of message (promotion versus prevention) and the type of message (text versus image) on effectiveness of the message. The findings showed that individuals exposed to a promotion-focused message similarly responded to the message regardless of the type of the message. By contrast, those who exposed to a prevention-focused message showed significantly more positive responses to the message posted on the text-based social media than the message on the image-based social media. The findings indicated that, if presented effectively, social media could be harnessed to promote healthier eating habits and behaviors, prevent those which can be harmful, and ultimately improve an individual's daily food consumption and overall quality of life.

■ keyword : | Regulatory Focus Theory | Regulatory Fit | Digital Communication | Social Media | Health Communication |

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접수일자 : 2020년 12월 17일

수정일자 : 2021년 01월 15일

심사완료일 : 2021년 01월 27일

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I. Introduction

Food and eating habits have been an important part of every culture, vital not only to human survival but also to interpersonal communication, helping to define relationships, societies, and individuals' way of life[1]. As the increased computational power and digital access, which are represented as the popularity of social media, in recent years, food and eating habits as subjects become more common crucial in everyday lives and interpersonal relationships[2], yielding a profound influence on individual health-related behaviors and health profiles[3]. The 2020 Pew Internet & American Life Project supported the increased importance of social media in health communication by indicating that 80 percent of the Internet users tend to search for health-related topics online [4]. Similarly, in the report published by the International Food and Information Council, Greenblum also found that the millennial generation attempt to obtain the majority of nutritional information from the internet-based sources such as websites and social media[5]. Interestingly, however, the same report shows that while the majority of adults in the United States believe that they have control over how healthy their diet is, only few of them actually take actionable steps to improve their health conditions based on the online or other external influences [5]. Another study showed 81% of adults in the United States use the internet, and 46% of the users who sought out health information online changed their eating habits[6].

These statistics evidence that the health-related drive and the opportunity to enact meaningful change via online resources

do exist. Therefore, the challenge lies not in identifying what constitutes healthy food, but rather in understanding how to harness influential online resources to ultimately understand and present effective health-related contents.

Drawing upon regulatory focus theory and regulatory fit, this research investigated the fit between the types of messages presented in social media (promotion focused vs. prevention focused messaging) and the modality of social media platforms (image-based vs. text-based). It was hypothesized that the individuals will evaluate the message more favorably when the type of messages and the modality of social media is consistent, or when there is a fit between them. To empirically examine the hypothesized relationships, an online experiment using the fictitious messages delivered by the fictitious organization was conducted.

The findings of this research are meaningful in that diverse media landscape requires for health communication practitioners to consider more options and customize their health campaigns to persuade audiences using different medium or social media in this study.

Contribution of this research is two-fold. First, theoretically, this research would be one of very few research investigating the interplay between the modality of the medium and the type of the messages therein. The findings would exhibit a better understanding of how regulatory focus influences persuasiveness of the messages in a certain modality of the medium. And therefore, second, the findings of this research suggest why and how differently health communication practitioners need to approach audiences using the text-based versus

image-based social media in promoting the health-related messages.

II. Literature Review

1. Social Media Use and Food Content

As society becomes increasingly connected online, individual or community-based food-oriented behaviors are frequently and easily discussed in social media. Kinard (2016) found that 49% of consumers learn about food through some type of social networks[7]. The influence of food on entirely image-based social media sites such as Instagram is intuitive, as humans are naturally motivated to share images that stimulate the senses, and food images provide sensory stimulation that is not only visually pleasing but can also create neurological responses associated with hunger satiety and the olfactory system[8]. Duggan showed that photo-sharing is one of the most popular features of social networking sites, and 79% of people between the ages of 18-29 reported sharing photographs online[9]. A 2014 Mintel study, which focused on the use of technology in restaurants, showed that 13% of social media users dining out in May of 2014 posted a photograph of their food online, which accounts to 29.2 million pictures of food[10]. These metrics have continued a steady upward trend of food-related contents on social media in the last several years.

The prevalence of food-related contents online within social networking sites has many variables that exert influence in different ways and have the potential to yield varying food choice outcomes such as gender, age, and even a user's Body Mass Index (BMI)[11]. There are

diverse influences behind health-related behaviors and food choices (e.g., [3][12][13]). For example, based on the social ecological theory, Rothman and his colleagues explained that the key individual factors in food choices are time availability, convenience, and psychosocial factors, and on a larger scale, influences including government, agriculture, and industry. Furthermore, it has been suggested that (that media and technology have such a drastic and direct effect on people's attitudes, perceptions, and beliefs about nutrition in the last 50 years so that it should be considered at the same level of importance as the individual factors[3][12]. Among many, social media in particular has advanced interpersonal and mediated communication styles and created a more profound impact than other types of media or technology[15]. In the context of food choices, this influence yields the ability to achieve a more positive and realistic viewpoint about food and health concerns based on social reinforcement, and ultimately, creates a "health empowerment" process[15]. Empowered users feel completely in control of their healthy food choices and ultimate lifestyle goals. Other studies have focused on more direct impacts of food contents on social media on short term consumption choices. Kinard suggested that an overexposure to food images online could potentially induce satiation and reduced feelings of hunger[7]. Kinard also stated that individuals classified as obese, with a Body Mass Index (BMI) greater than 29.9, reacted more positively to a healthy food post than participants in the normal BMI category[7].

2. Regulatory Focus

Drawing upon the hedonic principle that individuals are attracted to pleasure and avoid pain, Higgins further described how the individuals regulate pleasure and pain to achieve desired end states, so called regulatory focus, and distinguished between a promotion versus a prevention regulatory focus[16][17]. Regulatory focus functions as a motivational principle and is known to impact on individuals' goal pursuing strategies, feelings, and decisions in various contexts[18-21].

The individuals with a promotion focus, whose goal orientation concerns presence and absence of positive outcomes, consider growth, accomplishment, and advancement as ideal end states at which the maximum is reached[17][22]. Due to the focus on positive outcomes, these individuals perceive gain of positive outcomes as success and non-gain of positive outcome as failure[12]. Thus, those individuals adopt an eagerness strategy when pursuing the goal[20]. With the eagerness strategy, the individuals tend to protect themselves from omitting possible alternatives to achieve the goal in the belief that considering more alternatives maximizes the chances of reaching the goal[20][24]. By contrast, the individuals with a prevention focus tend to concern with presence and absence of negative outcomes, considering non-gain of negative outcomes as success while gain of negative outcome as failure[23][25]. They regard protection and safety as their ought end states, and thus, adopt a vigilance strategy to minimize the chances of causing negative outcomes[26][27]. With the vigilance strategy, the individuals refrain themselves from considering alternatives which may cause any mistakes and presumably incur losses[20][28].

This relevance to positive or negative

outcome also explains how regulatory focus interacts with the valence of messages in persuasive communication. For example, Kim and Yoo empirically proved that the individuals with a promotion-focus showed more favorable attitudes toward the positively framed message than the negatively framed message. By contrast, those with a prevention-focused individuals expressed more positive attitudes toward the positively framed message[29].

Additionally, prior research has suggested that regulatory focus is associated with hedonic and utilitarian considerations. According to Dhar and Wertenbroch, hedonic considerations include affective and sensory experience, sensual pleasure, fantasy, and fun, whereas utilitarian considerations are related to cognitively driven, functional and practical features[30]. Given that individuals with promotion-focused orientation are more likely to pursue pleasures, while individuals with prevention-focused orientation tend to avoid pains [16], Lin and Shen suggest that individuals with a promotion focus are inclined to hedonic considerations, whereas individuals with a prevention focus are more concerned with utilitarian and functional considerations[31]. In order to reduce the possible negative outcomes, prevention-focused individuals need to have more detailed information. With this aspect, it can be postulated that individuals with prevention focus may prefer text-based information to image-based information to find more information. By contrast, individuals with promotion focus who are more likely to achieve emotional and sensory pleasure may be inclined to use image-based information where they can get sensory stimulation compared to text-based one.

As aforementioned, the individuals with a certain type of goal orientation often prefer a corresponding goal-pursuit strategy (i.e., eagerness strategy for promotion focus and vigilance strategy for prevention focus) or a certain type of information and messages to maintain their orientations[32]. This match or consistency between goal orientation and goal pursuing means induces 'feeling right' about their action and decisions, which is called regulatory fit[21][33]. When there is regulatory fit, the individuals value the outcomes of their decision more and become confident about the expected outcome, making them change their attitudes or take a certain action relatively easily compared to when there is no fit [18][32][34]. These effects of regulatory focus that enhances motivational intensity and engagement also function in persuasive communication because the way the persuasive messages or the messages themselves can be either promotion- or prevention-framed, and its consistency with the individuals (message recipients) increase the effectiveness of the messages[35].

Previous research on the role of regulatory focus on effectiveness of message has examined how promotion- or prevention-framed messages interacted with other message factors such as congruence between goal orientations of messages and recipients[36], message recipients' traits such as self-construal[37-39], message recipients' mood state [40], or characteristics of products advertised in the message[39][41].

For example, promotion-framed messages were persuasive for individuals holding independent self-view while prevention-framed messages were persuasive for those holding

interdependent self view[36][38]. In the context of advertising, however, this pattern was opposite, indicating that interdependent individuals showed more favorable attitudes towards the promotion-focused versus prevention-focused message[39]. Another study on a child sponsorship ad message empirically examined that a happy mood led more favorable attitudes toward the promotion-framed message while a sad mood brought more favorable attitudes toward the prevention-framed message[40]. There have been only few studies on interplay between regulatory focus of messages and modality of the messages.

The individuals' goal orientations not only influence the way they pursuit the goals but influence the way they communicate about their goals[22]. Based on the premise that the individuals with a promotion focus manage their attitudes and behaviors for their achievement and growth[16], Lee and her colleagues suggested that those individuals tend to interpret the information at a high level because more 'abstract and general' information allows them to maximize the chances of finding means of progress[42]. Also, because those individuals utilize the eagerness strategy, which is inclusive and broad, and concerns aspiration, the most suitable form of the language to represent and reach the goal is considered to be abstract[20][22]. On the other hand, for those with a prevention focus who regulate their attitudes and behaviors for safety and security, appreciation of information at a low level will be considered more favorable because more 'concrete and detailed' form of information allows them to scrutinize every possibility that possibly frustrates their

goals[42][27]. Therefore, in terms of the language, the concrete and detailed one is considered crucial in reaching the goal[22].

Only few studies have empirically examined this suitability of the language respective to the type of regulatory focus. For example, Lee and her colleagues empirically showed that consumers with a promotion focus were more likely to have positive attitudes towards the brand when the brand was introduced in a high level of construals (e.g., "The Ultimate Aerobic Machine for a Great Workout!") while those with a prevention focus showed positive brand attitudes when exposed to the message in a low level of construals (e.g., "The Ultimate Aerobic Machine with the Right Features!")[35]. Like this, although regulatory focus itself does not yield persuasive power, when the message is framed in either promotion- or prevention focus, the message can be considered relatively more effective or ineffective depending on the message recipients' goal orientations[35]. In fact, these regulatory fit effects have been studied in a range of persuasive communication contexts, and health communications research is one of the areas[13].

3. Regulatory Focus and Health Communication

Researchers have studied how regulatory fit functions in the effectiveness of health communication in various contexts such as antismoking[44], healthy eating and diet[45-48], or illness[42]. Some studies examined how regulatory fit works when the persuasive messages are directly related to either promotion or prevention focus. For example, Kim investigated the role of regulatory fit in antismoking messages targeting adolescents and found that the fit between adolescents' goal

orientations and the message orientations caused the lower intention to smoke and lower perceived benefits of smoking[44]. Similarly, Kees and his colleagues examined the effects of fit between chronic regulatory focus and corresponding goal pursuit strategies[45]. Specifically, when chronically promotion-focused individuals were exposed to the advertisement in eager means condition (e.g., "Seek Healthy Food," "Seek Exercise") reported higher attitudes toward the ad, higher perceived persuasiveness, and higher behavior attention. By contrast, for chronically prevention-focused individuals, the advertisement in vigilant condition (e.g., "Avoid Unhealthy Food," "Avoid Inactivity") showed higher effectiveness of the advertisement.

Other studies examined the role of regulatory focus by framing the messages based on a few relevant antecedents of regulatory focus. For example, Spiegel and his colleagues described the goal of eating more fruit and vegetables as a promotion-focused health issue, demonstrating that the messages emphasizing potential benefits of consuming fruits and vegetables were more persuasive than messages associated with potential risks of not consuming fruits and vegetables[48]. Krishen and Bui investigated a high relevance between gain frame and hope, and loss frame and loss, suggesting that hope-based (versus fear-based) messages were more likely to encourage healthier eating habits and lead healthier food choices among the individuals with a promotion (versus prevention) focus and vice versa[47]. However, there are no prior studies examining how interaction between regulatory focus and preferred language type respective to regulatory focus work in health communication

context. Therefore, the purpose of this study was to empirically examine if and how fit between regulatory focus and the language type influences the effectiveness of health-related messages. In particular, because this study focuses on the different interaction effects of image versus texts on regulatory focus, two social media platforms were adopted based on the type of modality of contents, Instagram and Twitter, each of which delivers the content in the form of either image or text respectively.

4. Hypotheses Development

The purpose of this study was to empirically examine if and how fit between regulatory focus and the language type influences the effectiveness of health-related messages on social media. Most of prior studies on persuasive power of regulatory fit tend to examine the relationship between goal orientations of the message recipients and that of the message (e.g., [18][22][33][41][42]). Despite the insightful findings these studies yielded, the findings can be limited in that it is practically impossible to deliver the persuasive messages tailored to every message recipient who may have different goal orientation. Therefore, this study was designed to investigate the relationships between the messages and the medium that delivers the messages.

In particular, because this study focuses on the different interaction effects of image-versus texts-based information on regulatory focus, two social media platforms, Instagram and Twitter, were adopted based on the type of modality of contents, each of which delivers the contents in the form of either image or text respectively. The other social media platforms

such as Facebook and WhatsApp were not considered because most of them allow the its users utilize multiple modalities of contents including text, image, and audiovisual [50]. Also, using Instagram and Twitter can be justified by the fact that these two social media can be grouped in a largely similar sector in terms of its behavioral settings and its following-mechanism compared to other social media platforms. Specifically, both Instagram and Twitter are rather public in that the contents tend to remain public although the users increase the level of privacy settings [51][52] while WhatsApp and Facebook are relatively more private[53][54]. Additionally, in terms of its following mechanism, Instagram and Twitter do not require reciprocal followings while WhatsApp and Facebook require reciprocal followings to view or expose the contents delivered[50].

Based on the fact that there is a fit between the goal orientation derived from regulatory focus (promotion versus prevention focus) and the modality of communication (image versus text), this study assumes that the fit between the goal orientation of messages posted on social media platforms and the modality of the message and the platform increase the effectiveness of the message. Specifically, because a promotion goal orientation tends to be communicated in an abstract and broad manner[22], it can be hypothesized that on Instagram, an image-based social media, a promotion-focused versus a prevention-focused messages therein would induce the fit, increasing the persuasiveness of the message. On the other hand, based on the premise that a prevention goal orientation tends to be communicated well in a detailed and concrete

manner[22][36], it can be hypothesized that for Twitter, a text-based social media, a prevention-focused message posted therein is considered more effective compared to a promotion-focused message. Thus, the following hypotheses were put forth:

H1: In the image-based social media (e.g., Instagram), individuals will show more positive attitudes to a message (H1a) and higher intention to click a message(H1b) when exposed to a promotion-focused message than a prevention- focused message.

H2: In the text-based social media (e.g., Twitter), individuals will show more positive attitudes toward a message(H2a) and higher intention to click a message(H2b) when exposed to a prevention-focused message than a promotion- focused message.

III. Method

1. Stimuli Development

Prior to the final experiment, a pre-test was conducted to confirm the two types of social media contents (promotion vs. prevention) to be used in the experimental research. To avoid the confounding effects of a real health organization that might be perceived differently by participants, a fictitious organization, “Health No Wealth” was used. A total of 54 undergraduate students from a major southeastern university evaluated 12 pieces of social media content. More specifically, there were two social media conditions (image-based vs. text-based social media) and each social media condition contained six different social

media contents (three promotion focused contents vs. three prevention focused content). To increase the effect of regulatory focus, text-based social media posts were written using direct commands that represented a regulatory focus, e.g. “Don’t…” for prevention and “Think of…” for promotion. The participants rated the content using a seven-point semantic differential scale to analyze if the content was prevention-focus or promotion-focus, with a rating of 1 indicating prevention and 7 indication promotion. Among the 12 contents, 2 sets of social media content were selected based on the results of the pretest. For example, for the image-based social media, “Eat good, feel good: the better you eat, the better you feel” was used for the promotion focused content whereas, “Stop junk food, Say no to junk food!” was used for the prevention focused content ($M_{\text{promotion}} = 5.44$ vs. $M_{\text{prevention}} = 1.56$; $t(53) = 11.07$, $p < .01$).

For the text-based social media, “Think of your diet in terms of color, variety, and freshness” was used for the promotion focused content while, “Cut back on the salt! 90% of Americans eat more sodium than recommended for healthy diet. Don’t be one of them” was used for the prevention focused content ($M_{\text{promotion}} = 4.13$ vs. $M_{\text{prevention}} = 2.17$; $t(53) = 6.49$, $p < .01$). The final stimuli are provided in [Figure 1] and [Figure 2] below.





Figure 1. Stimuli for a promotion-focused message(top) and a promotion-focused message(down) in the image-based social media



Figure 2. Stimuli for a promotion-focused message(top) and a promotion-focused message(down) in the text-based social media

2. Sample and Procedure

A total of 133 undergraduate students from a major southeastern university participated in the study in exchange for research participation credit. The research participant pool drew from students enrolled in communication courses who signed up for the online survey participation and provided their informed consent. None of the participants were married, they were mostly (80%) Caucasian, and 75% earned less than \$20,000 a year. The gender makeup of the participants consisted of 75% female and 25% male. The age group ranged from 20-year-old to 24-year-old. Once participants reviewed and consented to the study, they were directed to the online survey evaluating general social media uses,

social media use in regards to food content, social media platform preferences, and their dietary habits. After completing the questions, participants were randomly assigned to one of four experimental conditions. There were four experimental conditions based on types of social media and regulatory focus messages: condition 1: picture-based content to prevent unhealthy eating habits, condition 2: picture-based content to promote healthy eating habits, condition 3: text-based content to promote healthy eating habits, and condition 4: text-based content to prevent healthy eating habits.

3. Measures

To assess the effectiveness of the social media content, two dependent variables were used with 7-point Likert-typed scales (attitude toward the social media contents: 1=bad, negative, unfavorable; 7=good, positive, favorable, $\alpha =.96$; intention to click the post: 1=unlikely, improbable, impossible; 7=likely, probable, possible, $\alpha =.82$). These scales were modified from Lee and Aaker's research (2004)[46].

IV. Results

1. Descriptive Statistics

1.1 Social Media Behaviors

The survey showed that all of the participants accessed their social media accounts multiple times a day, some even multiple times an hour (33%) and 88% of participants used social media for personal purposes. Out of all social media platforms, those which are image-based, i.e. Instagram, Facebook, and SnapChat, were the

most popular, accounting for 67% of participant preference.

1.2 Food Contents Consumption

Approximately 90% of participants enjoy seeing food related content on social media. Out of the participants that do visit food-related websites, more than 72% seek out both ideas and recipes. The survey also found that more than 65% use social media to see what others are posting and the other 30% report using social media equivalently for both posting their own content and to see what content other users are posting. There was a wide spread of responses to spending habits on food, with about half of participants reporting to have “moderate” spending habits and the rest a mixture of “careful”, “frugal”, and “whatever I fancy”. Approximately 80% of the participants describe their diet as an “omnivore”, with the remainder of participants reporting an even spread of vegetarian and flexitarian dietary lifestyles. A handful of participants described themselves as vegan or “other”. Considering the high frequency of daily social media usage, participants primarily reporting flexible dietary lifestyles (e.g., meat and fish), flexible spending habits on food, and the vast majority of respondents reporting that they enjoy seeing food-related content on social media, this paper concludes that food-related content has a high level of influence in the life of a social media user. This statement is further supported by the fact that more than half of the participants use social media to see what content other users are posting.

2. Manipulation Check

To assess if the manipulation of regulatory

focus in the promotion- and prevention-messages in each type of social media was effective enough, participants were asked to indicate on a seven-point bipolar scale whether the messages posted on social media were related to either promotion or prevention (e.g., “Overall, I think the social media post is related to”: 1 = prevention; 7 = promotion)[46]. As expected, in the image-based social media condition, the participants who were exposed to the promotion-focused post showed that the post are more concerned with promotion focus ($M = 5.31$) than a prevention focus [$M = 2.54$, $t(57) = 6.03$, $p < .01$]. Similarly, in the text-based social media condition, a promotion-focused was considered as promotion-focused ($M = 5.00$) than prevention-focused [$M = 2.75$, $t(72) = 5.27$, $p < .01$]. The results demonstrated that the manipulation of the contents was successful.

3. Hypotheses Testing

Two-way analysis of variances (ANOVA) that included two independent variables (social media type and content type) on two dependent variables (attitude toward the content and intention to click) was conducted to examine the hypotheses.

3.1 Attitude toward the Contents(H1a, H2a)

The results of an ANOVA showed that there was a significant interaction effect on attitude toward the social media content. Two main effects (social media platform: SMP and contents types: MT) were also significant.

Table 1. Summary of ANOVA(Attitude toward the Contents)

Factors	SS	MS	F	η^2
Contents Type (text vs. image)	13.65	13.65	8.35*	.06

Regulatory Focus (promotion vs. prevention)	50.51	50.51	30.91*	.19
Type × RF	19.58	19.58	11.98*	.09

Note: $p < .05^*$

Table 2. Means and SDs for Attitude toward the Contents

	Mean	SD
Promotion-focused message	5.22	1.21
Prevention-focused message	4.15	1.50
Text-based social media	4.90	1.26
Image-based social media	4.46	1.65

To further explore the interaction effect, a planned contrast test was performed. The results of the planned contrast showed that participants who were exposed to the promotion focused content did not show significantly different reactions to the different social media, disconfirming the hypothesis H1a. However, when the prevention focused content was distributed by text-based social media, participants showed more positive attitude toward the content compared to when it was distributed by image-based social media, which confirmed the hypothesis H2a.

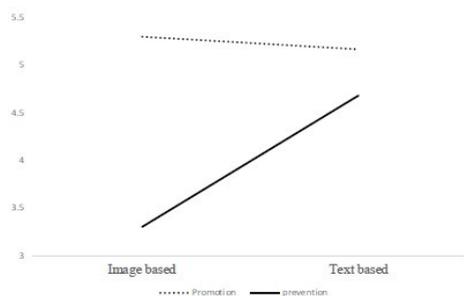


Figure 3. Interaction between goal of contents and modality of contents (DV: Attitude to Contents)

3.2 Intention to Click(H1b, H2b)

The interaction effect of the two variables on

the intention to click was examined by a two-way ANOVA. Similar to the attitude toward the content, the results demonstrated that there were significant main effects and interaction effects.

Table 3. Summary of ANOVA(Intention to Click)

Factors	SS	MS	F	η^2
Contents Type (text vs. image)	9.82	9.82	7.01*	.05
Regulatory Focus (promotion vs. prevention)	8.39	8.39	5.99*	.05
Type × RF	11.11	11.11	7.93*	.06

Note: $p < .05^*$

Table 4. Means and SDs for Intention to Click

	Mean	SD
Promotion-focused message	2.78	1.17
Prevention-focused message	2.40	1.30
Text-based social media	2.81	1.34
Image-based social media	2.35	1.08

Subsequent contrast analyses were conducted to investigate the two-way interaction. Consistent with the attitude toward the content, for the promotion focused contents, participants did not respond differently to the different social media types, which disconfirmed the hypothesis H1b. However, for the prevention focused contents, participants showed higher intention to click the posting when the content was posted on text-based social media rather than when it was posted on image-based social media. Therefore, only H2 was supported, i.e. individuals responded more positively to prevention of unhealthy food choices when the content was distributed by text-based rather than image-based social media posts, which supported the hypothesis H2b.

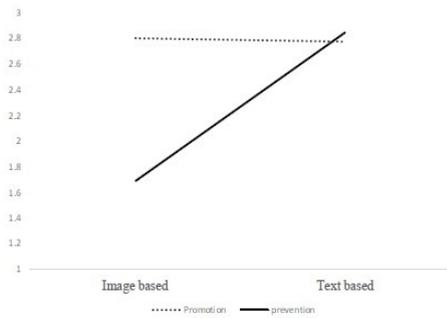


Figure 4. Interaction between goal of contents and modality of contents (DV: Intention to Click)

V. Discussion

The ultimate goal of digital health communications emphasizing healthy eating is for people to identify digital resources, social media, and online tools as reliable sources for credible information that will improve their overall health profile; to obtain positive encouragement to eat healthy; to realize that it is possible to eat healthy on a budget, and to find reasonable, efficient recipes that will allow them to fulfill their own goal of a healthy lifestyle through food. The digital revolution has created a new marketplace that can demonstrate a variety of ways in which the average person can live a healthy lifestyle through food, a message that cannot be effectively and ubiquitously delivered to consumers on-air or in print. Vaterlaus et al. suggest that individuals can use social media as a tool to learn about health behavior and search social support related to health issues[3]. Consistent with previous research, the responses to the questions asked in the current study about individuals' social media uses related to health behaviors showed 90% of respondents reported that they enjoyed seeing

food-related content on social media and 50% of participants indicated they were open to both recipes and ideas.

Drawing upon regulatory focus theory, the current research investigated the interplay between social media types and content types on the efficacy of health communication contents on social media. The findings of this study demonstrated that individuals showed more positive reactions to the prevention-focused message when the message was posted on text-based social media compared to when posted on image-based social media.

Unexpectedly, this interaction effect was not found in the promotion focused content condition. That means, the prevention-focused message condition is more conducive to the matching effects of social media types than the promotion focused content. A possible explanation might be found from the main effect of content types (promotion and prevention focused). Findings of this study indicated that overall, individuals showed more favorable responses to the promotion focused content regardless of social media types. Given that one of the main motivations to use social media is creating and maintaining users' social relationships, users may prefer the promotion focused message which is more associated with positive outcomes to the prevention focused message related to negative outcomes.

By contrast, when users are exposed to the prevention focused message, to avoid the negative outcomes which the content may remind users of, they may need more detailed information. With this aspect, the fit effect of the prevention focused message and text-based social media can be enhanced.

VI. Theoretical and Managerial Implications

This research provides several theoretical and practical implications. First, the current research extends regulatory focus theory using the different social media platforms (text-based vs. image-based) in the social marketing context. Previous studies have mainly examined the relations between individuals' regulatory orientations and message types or their selves (e.g., [53][54]). By connecting two different regulatory foci on the distinctive features of social media platforms, this research offers a fresh approach on how regulatory focus theory can be applied for more effective online health communications.

Second, this research empirically supports the effect of promotion-focused content in social media contexts. Overall, individuals tend to prefer promotion-focused content to prevention-focused content. In other words, regardless of social media platforms, a positive message is more likely to connect with the social media user. According to Joireman and colleagues, the more promotion-focused an individual is, the more likely he or she is to report their healthy eating habits[54]. With this aspect, by using social media with a promotion-focused approach, users can be motivated to achieve a more positive and realistic viewpoint about food and health concerns and create a "health empowerment" process[15]. The health crisis in America and its financial and social implications continues to grow by the day[55]. With the Millennial generation using digital resources to gather nutritional information[5], it is possible to curb the trend of unhealthy eating habits with a promotion-based regulatory focus approach on

social media. It would be quite feasible, from both a financial and staffing standpoint, for governmental organizations, health advocacy groups, or members of society to take a stance in improving eating habits.

Also, the finding suggests practitioners that when no opportunities are allowed to modify the messages in health campaign in accordance with the type of medium (text- versus image-based), it would be better to keep the message in promotion-framed. For example, American Heart Association posted a promotion-focused message introducing healthy holiday recipes during last Thanksgiving [Figure 3].

As seen in this example, it is not difficult to find promotion-focused messages in the context of healthy eating. With the theoretical underpinnings of the strategy, health communication practitioners design and execute health campaigns with confident directionality.

Lastly, building on the research conducted by Freeland-Graves and Nitzke concerning the

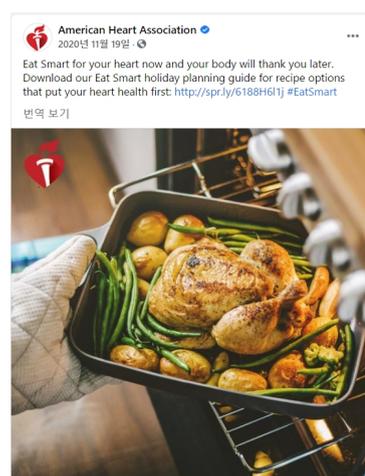


Figure 3. Promotional message by American Heart Association on Facebook

effect of media and technology on individuals' attitudes, perceptions, and beliefs about nutrition[12], the results of this research showed the congruence between social media type and the message type is highly related to the perceived effectiveness of the presented message. Therefore, digital content producers need to be careful in their choice of language and manner in which they convey their intended message. Considering that creating main messages is among the most difficult and critical work in social media content marketing, the findings of the current research can be used as new guidelines for practitioners to increase the efficacy of their online health communications. For example, by distributing content emphasizing negative health outcomes caused by wrong behaviors and habits through text-based social media, practitioners can elicit more positive reactions from their target demographics.

VII. Limitations

As with all research studies, this research has some limitations. First, the participant sample was composed entirely of undergraduate students, which therefore did not allow for a wide range of ages, income, marital status, and social media usage. In order to enhance the external validity of the current findings, an expanded sample issue should be addressed by future research. In a similar vein, the imbalance in gender ratio of this study is also another limitation of this study. Although it has been known that women were more engaged in health-related information searching behavior online compared to men[56], the balance in

gender ratio of the participants could increase the generalizability of the findings.

Second, this research manipulated two different social media platforms by two different types of social media (i.e., text-based and image-based social media). To increase the generalizability of the findings, further studies need to use the actual social media such as Instagram (image-based social media) and Twitter (text-based social media). In addition to this, as video-based social media such as YouTube is gaining more popularity among the U.S. adults[57], it would be insightful to investigate how video-based social media function differently or similarly compared to the text- or image-based social media.

Third, according to Cha, paralinguistic digital affordances (PDA) such as "Like" or clicking the messages on social media implies the beyond the superficial meaning of mere positive attitudes toward the messages[58]. Based on this, research on true meaning of clicking the health-related message will allow deeper understanding.

Lastly, previous regulatory focus research has suggested the role of individuals' self-concept or emotions on their regulatory orientations. Thus, future research needs to investigate the influence of self-concepts or emotions on the interaction effect of regulatory focused messages and different social media platforms.

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