The Persuasion Effect of Regulatory Focus on Certified Food - The Moderating Effect of Personalities and Appeal Types

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Abstract
The study focuses on how to communicate with housewives, the majority of decision makers of household buying. Especially, food safety problems are not only matters on personal aspect, but also social environment aspect. We targeted fictitious certification on cooking oil, and while there are less research address to the housewives’ behavior, the goal of this study is to find that how the interaction between chronic regulatory focus, message appeals, and regulatory focus message changes housewives’ attitude toward the product, and try to give some strategic advices to government and practitioners. In our experiment, we examined 2 (chronic regulatory focus: chronic prevention, chronic promotion) x 2 (regulatory focus: prevention, promotion) x 2 (Appeal type: personal health, social environment) between-participants design. Analysis by ANCOVA, we found that people will be more persuaded with prevention focus messages with social environment appeals, rather than prevention focus messages with personal health appeals. There is a fit between regulatory focus and appeal types. However, there is non-significant between promotion focus and appeal types. The result shows that non-significant interaction in the former two variables, while the interaction between regulatory focus and appeal types is significant.

Key Words: food-safety, regulatory focus, chronic regulatory focus, environment appeals, personal health appeals
1. Introduction

Recently, there have been numerous food safety incidents, which have caused negative effects on Taiwan’s overall food safety and public health. This is one of the social problems that need to be solved urgently (Lin and Xie, 2014).

In addition to the front-end of food safety certification system in the integrity of risk management, the propaganda to consumers and communication strategy held by industry, government and academia department is also very important, such as promotion and communication of food safety certification. Food manufacturers often obtain consumer’s recognition through the ads about product appealing to them, which explain it can bring the interests to consumers and avoid losses.

If marketing advertising want to attract and persuade consumers, it is an extensively researched subject in the field of marketing about how to communicate with consumers or even influence their decision-making. In the past, many theories about message persuasion have been developed. One of them is Higgins’ Regulatory Focus (Higgins, 1997), which points out that individuals are differentiated into two types according to their motivational tendencies. The Regulatory Focus can be presented through gain and loss information frames (Lee and Aaker, 2004), to persuade consumers to change attitudes and decision choices. In the past, many studies have focused on the application of Regulatory Focus theory to consumer health communication and promotion of organic products. However, the application of regulatory focus to food safety information communication is rarely mentioned in the past.

From a different point of view, it will give consumers a different starting point of thinking, which related to consumer perception of this product and persuasion effect. While consumers purchasing products, they may consider about themselves (the purchaser is equal to the user), or sometimes buying for family or friends (the purchaser is not equal to the user); therefore, the purchasers may consider products from their own point of view, or thinking about the impact to the family and the social environment. Kareklas, Carlson & Muehling (2012) adopted 2 (Regulatory Focus: Promoting/Preventing) x 2 (Self-Construal: Independent/Interdependent) x 2 (Appealing Type: Environmental Appeal/Personality Health Appeal) situation, discovering that there is a three-way interactions in the effect of consumers’ brand advertising persuasion of organic milk; that is, the pattern of two-way interaction between Regulatory Focus and Self-Construal under the social environment appeals is significantly different from pattern of two-way interaction under personal health appeal. Unfortunately, this study neither examine the interaction between regulatory focus and appeal type, nor the effects of regulatory focus and characteristic, such as chronic regulatory focus. Therefore, our study refer to Kareklas et al. (2012)’s research, exploring whether the consumer will be impacted by different internal variables (i.e. chronic regulatory focus) and the external variables (i.e. appeal type) in different regulatory focus one step further.
2. Literature Review

Regulatory focus have been used to explain the process and phenomenon of consumer decision extensively. (Pham and Higgins, 2005). In marketing research field, scholars have parlay the regulatory focus theory into discussing the consumer persuasion in advertising communication (Haw, Dholakia, and Bearden, 2010).

Many theories about persuasion have been developed in the past, one of which is Higgins’ Regulatory Focus (Higgins, 1997), which points out that individuals are divided into two types according to their motivational tendencies. Motivational tendencies will trigger individuals to have different target focuses and adopt different strategies; moreover, different regulatory focus can be presented through information frameworks of both gain and loss to persuade consumers to change their attitudes and decision making (Lee and Aaker, 2004). In the past, many studies have focused on the application of regulatory focus theory about health communication and promotion of organic products to consumer. However, the application of regulatory focus about communication of food safety information is rarely mentioned. Consequently, this study uses the communicative strategy with consumers as the motivation, hoping to communicate with consumers under different segments through regulatory focus.

3. Regulatory Focus Theory

Regulatory focus is proposed by Higgins (1997), which advocate that individuals can be divided into two different motivational systems according to different target focus: Promotion Focus and Prevention Focus (Higgins, 1997). Different focus of regulation will care about different things and needs, so that their behavioral tendencies are distinct. Individuals with promoting focus will seek to achieve gain, ideal and aspiration. Pursuing a higher level of performance in terms of growth, advancement, accomplishment is their behavioral tendencies. Individuals with prevention focus seek for safety, minimize loss, and therefore form a strong sense of responsibility, striving to meet obligations and duty to fulfill their safety. (Higgins, 1997; Pham & Higgins, 2004).

3.1 Chronic Regulatory Focus and Context Manipulation

Regulatory focus can be either a long-term characteristic or a different focus state of the individual through situational factors (Higgins, 1997, 2000; Avnet and Higgins 2006; Zhou and Pham, 2004). Following are the explanations of chronic regulatory focus and short-term context manipulation.

Chronic regulatory focus is a process (Higgins, 2000, 2002) of individual socialization related to long-term culture and personality (Higgins, 1997, 2000), which shows how the individual interacts with the world (Higgins, 1997). So the emphasis is from the natural tendency of the individual (natural tendency), and this natural tendency is a distinction between personality traits. In the past, scholars have pointed out that the personality traits is shown by the relative stability of the lasting attitudes and behavioral characteristics in different situations.
Individuals may be subject to contextual manipulation by different specific tasks or goals and be induced by different regulatory focus tendencies temporary (Higgins, 1994). In the past, many scholars have used different situations to manipulate individuals to bias to one specific regulatory focus. For example: by induce participant’s thinking, picture stimulation, slogans, context to adjust the focus (Avnet & Higgins, 2006). In the use of messages as a manipulation, scholars have emphasized on the promotional or preventive measures formerly. Such as Courtney Cucchiara (2015), promoting the package of organic seafood products to promotion focus by the message like "help the environment friendly" to promote the message by "damage to the environment," emphasizing the prevention focus, in order to induce participants to produce different short-term regulatory focus. In addition, some scholars make consumers tend to focus a short-term focus through the recalling way, for example, Freitas & Higgins (2002) asked the participants to recall their hopes and dreams in order to induce them producing a short-term promotion focus. On the other hand, they ask the participants to recall their own responsibilities, obligations, to induce them producing a short-term prevention focus.

3.2 Regulatory Fit of Chronic Regulatory Focus and Message Framing

The concept of fit is extended by the regulatory focus theory, so it is called Regulatory Fit. Higgins (2000) proposed the concept of mental value and physical value are different. Thus, value from fit and value from worth are independent.

Lee and Aaker (2004) have shown that consumers with promotion focus are more concerned about the gain-related information while consumers with prevention focus are more concerned about the loss-related. In addition, the messaging framework is an important part of the persuasion process and is widely used in communication about health messages (Lee and Aaker 2004). For example, Zhao and Pechmann (2007) found that while the individual’s regulatory focus fit to message framing (positive or negative), it will have a better persuasive effect in the anti-tobacco message framing. Cesario & Higgins (2004) found that the desired message frame and the promotion focus fit while the message framing of caution with prevention focus fit, which means that when the message framing and regulatory focus match, the message’s persuasion will increase. As can be seen from the above, the regulatory focus and gain / loss information framework are closely related.

Pham and Avnet (2004) studied the relationship between the regulatory focus and the appealing type, they found that consumers who focused on prevention were more persuasive by substance information than those who are with promotion focus. And those who are with promotion focus were more convincing by emotional information than those who are with prevention focus. From the above literature, we deduce the hypothesis 1:

Hypothesis 1: Chronic regulatory focus will moderate the message-framing effect of the message with regulatory focus personality.

Hypothesis 1a: Consumers’ attitude toward promotion focus message with chronic promotion
focus is better than promotion focus message with the chronic prevention focus under the label of edible oil attitude.

**Hypothesis 1b:** Consumers’ attitude toward prevention focus message with long-term prevention personality is better than promotion focus message with the long-term promotion personality under the label of edible oil attitude.

**Appealing Type: Personal Health and Social Environment**

In the past, the issue of organic products is the major one while consumers are selecting food (Kareklas, 2012). Many studies are exploring the motivations behind consumers’ choice of organic foods, which will be based on personal health appeal and social environmental appeal (Michaelidou and Hassan, 2008; Kareklas, Carlson and Muehling, 2014).

Michaelidou and Hassan (2008) explored the concerns of food security, health conscious and ethical self-identity three variables for consumers’ attitude of organic food. Food security is a concern of consumers for chemical residue inside the food or manually added property (Yee, Yeung, & Morris 2005), which is more consistent with personal health appeal we defined in the research. The ethical self-identity shows that morality or the green consumers will tend to support products which are eco-friendly or beneficial for community (Laroche et al., 2001; Harper and Makatouni 2002), this moral motivation will affect consumer demand for organic food. The ethical motivation has focused on the environment, the threat to the life for both animals and mankind and will be prompted for the sympathy to moral things, forming the attitude for relative information and gradually became the self-defined perspective of consumer. This consists with the definition of social environment appeal, the outward interest in the study. The study found that consumers’ concerns for food security and ethical self-identity will influence their attitudes for organic products, while there is no probing for moderation of ethical self-identification, food security concerns to organic food convincing effect.

Many literatures show that consumers prefer organic food due to “personal health considerations” (Botonaki et al., 2006; Chryssohoidis and Krystallis 2005; Padel and Foster, 2005), which is based on Egoistic perspective. They believe that compare to the conventional food, organic food has more nutritious value and will not spray the compound pesticides which is harmful to human body. Moreover, the consumer perceive that the organic cultivation is relatively safe on the food safety side (Kouba, 2003). The past studies also have shown that organic food is healthier and safer than conventional food, which makes consumers have higher purchase intention to organic food (Ahmad Siti and Juhdi, 2010).

The study also found that consumers will be altruistic sometimes, indicating that the natural environment will also affect consumer attitudes (Honkanen, Verplanken, and Olsen 2006; Michaelidou and Hassan, 2008; Squires, Juric, and Cornwell, 2001; Wandel and Bugge 1997) to organic food and purchase intention (Ahmad & Juhdi, 2010). For example: Consumers generally believe that the cultivation of organic food will not spray harmful chemicals on the farmland, which is friendlier to the environment (Wilkins and Hillers, 1994).
Kareklas, et al. (2014) advocates that consumers will be egoistic whether it is conventional food or green food; However, while consumers will be more altruistic to consider while purchasing green food. In the context of green advertising, consumers consider not only the individual but the global issues in the decision-making process (Arnocky, Srroink, and DeCicco, 2007).

The food consumers choose to buy or how they handle the food are not only about the individual aspect, but also include to social, cultural, economic, and environmental dimensions and affect to them. Losasso, Cibin, Veronica Cappa, Roccato, Vanzo, Andrighetto and Ricci (2012) In the developed countries, improper diet creates the problem of obesity in many people and is the root cause of chronic diseases, and this is not the only reason for the development of chronic diseases. This is not just about the impact of personal healthy, but will also likely to raise the social burden. Similarly, the issue of food safety in Taiwan has not only affected the health of the individual, it will also increase a huge social cost and have negative impact to the country. In recent years, studies have pointed out that domestic cancer may be associated with the inferior oil incident, which will increase the cost of medical care in Taiwan.

Therefore, the study deduces that consumers of spoil oil events perceive higher social risks compared to personal health, and that the recurrence of food safety storms will jeopardize the health of the next generation. People will be more alerted, which can trigger the prevention focus. In the social environment appeals with the prevention focus messages, compared with personal health appeals with the prevention focus messages, the attitude of the edible oil enhance more. From the above literature, we deduce the hypothesis 2:

**Hypothesis 2**: Appealing type will moderate the message framing effect of the message with chronic regulatory focus of consumer.

**Hypothesis 2a**: Consumers’ attitude toward preventing focus message with social environment appeal is better than preventing focus message with the personal health appeal under the label of edible oil attitude.

**Hypothesis 2b**: Consumers' attitude toward promotion focus message with personal health appeal is better than promotion focus message with the social environment appeal under the label of edible oil attitude.

### 4. Research

#### 4.1 Experiment Design

Participants were randomly assigned to 2 (regulatory focus message: preventing, promotion) × 2 (appeal type: social environment, personal health) × 2 (chronic regulatory focus: promotion vs. prevention) between-participants design. In the experiment, the fictitious brand of edible oil with GFQ food safety certification was taken as the target of study, and the experimental design contained two covariates, namely "GFQ food safety certification attitude" and "argument quality". In the choice of oil type, since olive oil involved in foreign imports, which will causes
potential noises for this study. In Taiwan, the purchase of sunflower oil is most popular and being used widely. Therefore, the study selected sunflower oil with GFQ food safety mark as the target of the study.

4.2 Sample and Pretest

The main questionnaire was given through the hospitals or parks to survey. In this study 165 questionnaires were distributed, of which 141 were valid, accounted for 85.5% of the total number of samples. The proportion of women was 63%, which is the main part in this study. The distribution of age were mostly concentrated in the 31-45 years old.

Pretest questionnaire could ensure the manipulation framing of experiment is successful to participants before main content is given. Pretest participants were the consumers who have purchased edible oil regardless of gender. A total amount of 55 pretest questionnaires were sent, with 49 valid. Based on the pretest, this study proved that the participants can correctly distinguish four different situations of this questionnaire column design. In the regulatory focus manipulation test section, the amount of prevention focus questionnaire were 24 copies while there were 25 copies of promotion focus questionnaire. We can find that the average number of prevention focus messages (M = 3.50) was significantly less than the average number of promotion focus messages (M = 7.32, p < 0.001). Among the check of appeal types, there were 25 copies of personal health appeals totally and 24 copies for social and environmental appeals. The average number of personal health appeals (M = 2.80) was significantly less than the average number of social environmental appeals (M = 5.13, p < 0.001). According above analysis, both regulatory focus and appeal types were manipulated successfully.

4.3 Procedure

In the research, our questionnaire had four parts. First, the first page of the booklet was titled "The attitude survey of edible oil for new product." Because the main groups for purchasing oil were mostly housewives, the participants in this questionnaire were limited to those who had purchased edible oils. Through the question "Have you ever bought any edible oil? (such as salad oil)" as a filter question. If the participants have not purchased edible oil, then tell them the purpose of the test and terminate the survey. Before reading the main page, this experiment added a high-involved manipulation to improve the concentration of the participants' reading. The questionnaire stated "You are a small group of specifically selected respondents, and your comments will have a significant impact on our follow-up findings" (Petty, Cacioppo & Schumann, 1983). As expected in the manipulation check, the average of involvement of all samples is significantly greater than 4, (M=5.04, t(131)=8.82, p<0.001).

Second, we recommended a new food safety certification: GFQ mark through the special column in Business weekly, a credible magazine in Taiwan. The GFQ certification will be introduced by 2 (regulatory focus: prevention, promotion) x 2 (Appeal type: personal health, social environment) manipulations. In view of the food safety crisis in recent years, the credibility of GMP certification in Taiwan has been greatly reduced, which may cause some
experiment noises (Wegener and Petty 1995). Hence, the fictitious food safety certification can assure the target attitude of consumers is moderate. Moreover, all participants read non-manipulated messages, pictures and typesetting are the same as ads with flat columns for color output. For example, this messages included (a) inspection agency: commissioned by a third-party professional inspection agency, and affixed with the GMP mark, (b) tracing mechanism: vendors must disclose information about all history of the producing. Third, the participants will read the new brand of edible oil with three moderate arguments, i.e. stability, live in High Temperature” and not deteriorating, in main ad. In addition to the introduction of GFQ food safety certification, we also provided the participants with a color print ads of GFQ food safety seal sunflower oil. In the last part, there was a series of questions including dependent measure, manipulation checks, RFQ Questionnaire of chronic regulatory focus (Higgins, Friedman, Harlow, Idson, Ayduk & Taylor 2001) and involvement (Homer and Kahle, 1990). After completing the questionnaire, we will take the questionnaire back and ask if there have any further questions. Finally, we would like to thanks them for their contribution to this academic research.

4.4 Dependent Variables

Product Attitude

Product attitude refers to the consumer’s response to the goods given, including their attitudes towards edible oils with GFQ food safety badges.

4.5 Independent Variables

Regulatory Focus Messages

The manipulation of regulatory focus messages can be divided into two parts: preventing focus message and promotion focus message. In this study, the independent variable of regulatory focus messages is defined as like as Higgins (1987) induced: the preventing focus message and promotion focus message are correspondent to the regulatory focus theory. In the experiment, we refer to the regulatory focus messages manipulation in Aaker and Lee (2001) study. For example, "Food safety standards will upgrade!" was manipulated as promotion focus message, and "Eliminate the black-hearted manufacturers palm us off with inferior oil and re-enter to the market!" was manipulated as prevention focus message.

Appeal types

In this study, the appeal types are divided into individual and family health, social environmental appeal types. The appeal type related to the health of the individual and family are defined as "the health status of individuals and families and the health effects of individuals and their families". On the contrary, the definition of social environmental appeal is defined as "the consideration of food safety in the whole society and the impact on the overall social food safety in the future". This study refers to the manipulation of Kareklas, et al. (2012). The designs of the social environmental appeals in the text message are such as: "GFQ is designed to take the overall social food safety order into account "; and personal health appeals of text message
manipulation are designed like: "GFQ is designed for personal health ".

**Chronic Regulatory Focus**

In the measure of personality, the RFQ Questionnaire (Chronbach's $\alpha = 0.77$) developed by Higgins et al. (2001) was used to measures chronic regulatory focus in the study. Following are some examples, (a) Promotion focus: My performance is always achieving the ideal while I am doing something important; (b) Prevention focus: I often concern about how to avoid making mistake in my daily life.

**4.6 Manipulation Check**

Formal experiment questionnaire of the manipulation check is divided into two parts, one is the regulatory focus message independent variable (promotion focus, prevention focus), the other is the appeal type independent variable (personal health appeals, social environmental appeals). The way to manipulate is the same with the former test. The results of the manipulation check of regulatory focus message shows that the manipulation check of the manipulation prevention focus ($M=3.10$) and the manipulation promotion focus ($M=7.02$) is statistically significant ($F=(1,524.811) = 307.371, p=0.001$); and the results of the manipulation check of appeal type shows that the manipulation check of the personal health appeal type ($M=2.42$) and the social environment appeal type ($M=5.79$) is statistically significant ($F= (1,398.860) =438.564, p<0.001$). Therefore, it is shown from the above results that both of the two independent variables in the experiment are successfully manipulated.

**5. Results**

In this study, the covariance analysis (ANCOVA) was used because it was difficult to exclude the moderation that might affect the results of the experiment: the attitude and quality toward GFQ food safety certification. Through the ANCOVA performed by regulatory focus message, appeal type and chronic regulatory focus, we found the statistical results showed that the interaction of the third-order was not significant ($p>0.05$). This study was carried out further 2 (chronic regulatory focus) x 2 (regulatory focus message) ANCOVA, the results showed that the interaction effects of different chronic regulatory focus and different regulatory focus message on the attitude of edible oil products was statistically insignificant ($F(1,0.466) = .442, p = .51$). Consequently, the results showed that H1 is not valid. The 2 (appeal type) x 2 (regulatory focus message) ANCOVA demonstrated that there is an interaction effect between regulatory focus message and appeal type; at the same time, the attitudes of GFQ food safety certification was statistically significant ($F=7.377, p=0.01$), which indicating that the attitude of GFQ food safety certification had a significant effect on the attitude of edible oil products, the two covariates were significant. The quality of the argument is statistically significant ($F=84.318, p<0.001$), which indicating that the quality of the argument had a significant effect on the attitude of the edible oil.

In order to further validate H2, the study performed a test of simple main effect. According to Figure 1 ($F(1,127) = 5.378, p = .02$), it can be seen that the attitude of edible oil to prevention
focus message with the social environment appeals (M = 4.62) is higher than the attitude of edible oil to prevention focus message with the personal health appeals (M=3.99), which indicating the fitness is high, thus the H2a is valid. On the other hands, there is no significant discrepancy (F(1,127) = 0.274, p = 0.60) between the attitude of edible oil to promotion focus message with the personal health appeals (M=4.50) and the attitude of edible oil to promotion focus message with the social environment appeals (M=4.38), thus, the H2a is not valid.

Figure 1: Interaction of Regulatory Focus Message and Appeal Type in Consumer Attitudes towards Products

The experiment results show that different regulatory focus message with different appeal type will partially affect the consumers' attitudes towards edible oil products. Compared with the prevention focus message matches personal health appeals, consumers’ attitude toward edible oil products will have a significant impact while the prevention focus message with the social environment appeals. Both H1a and H1b is not valid in the experiment.

6. Discussion and Conclusion

In view of the limited awareness of consumers on food safety standards, and they also hold different concepts to food safety issue, so communication with consumers in food safety risks is especially important. How can we attract and persuade consumers to change attitudes about food choices through messages? It may let consumers have different feelings and response level due to different appeal types with different message presentation.

First, the fitness of chronic regulatory focus and regulatory focus message has no significant persuasion effect to the marked edible oil. Although there have been many studies on the message framework in the past, the final experiment still showed many inconsistent results (Lee and Aaker, 2004; Rothman and Salovey, 1997). The participants of this study were mainly housewives aged 30 to 60 years old who have come through abundant social experience, so their personality may be more complex and difficult to distinguish from student samples,
which leads to the fitness of the regulatory focus message has no significant effect on product attitude. Due to the inadequate sample, it may also cause the insignificant effect to the interaction of chronic regulatory focus and regulatory focus message.

Second, the fitness of appeal type and regulatory focus message has significant persuasion effect to the marked edible oil partially. After major events such as the Food Safety Storm, consumers in Taiwan may be generally unsettled about the social environment for food safety, so the message for improving social environment and prevention-oriented may have more convincing effect on them. Furthermore, in terms of perceived risk perspective, even that the unscrupulous products do not usually have an immediate effect on consumer health, the impact on the social environment is still far-reaching and huge. Therefore, consumers will have a higher product attitude to the social environment with prevention focus message. The research result also discover that attitude toward product of promotion focus message matches personal health appeal type is not significant. In this study, the current situation of food safety in Taiwan generally gives people the negative image and damages consumers’ confidence, which associated with lower effects for personal health appeal. Hence, it is easier to induce a tendency to prevention focus.

6.1 Contribution

There have been many articles probing the fitness effect of regulatory focus in the framework of health communication to the past, especially the promotion for organic food and health food (e.g. Karekles et al., 2012). However, two important appeals for food safety: personal health appeal and social environment appeal has been adapted by our research for exploring the fitness of regulatory focus effect by different appeal types. The research discover that the persuasion effect to consumers of edible oil while prevention focus message matches the social environment appeals is higher than the persuasion effect to consumers of edible oil while prevention focus message matches the personal health appeals. The results of this study complement the academic decision-making research on personal health appeals and social environmental appeals of consumers’ choice for food. Besides, little research has been conducted on housewives in the past (Maloney, 2000). It has also been pointed out that housewives have more diversified ideas after watching advertisements. They may have doubts or curious reactions. They are a group of people who are more difficult to be persuaded by ordinary advertisements. And the participants of this study were mainly housewives, we induced their fitness of regulatory focus and appeal type by the experiment result, which can provide a reference for the subsequent study designing the message framing.

6.2 Management Implications

Both the government and the vendors have to pay a certain amount of cost to communicate with the public about food safety-related information. All parties have tried to find out the most appropriate and effective way to communicate with consumers. Thus, this study explores housewives’ expectations to food safety and the optimal communication strategy through a mix
of consumer message frameworks and appeal types, message frameworks matches their personalities, which serves as a reference for practitioners, government and vendor setting strategies. The results of the study found that the prevention message communication like the improvement of the social food safety environment and making next generation to avoid the food safety problem had better persuasion effect on housewives. That is to say, people in Taiwan have focused their attention on preventive strategies such as policies to guard against the recurrence of unscrupulous foods and to improve the social safety of food environment, rather than focusing solely on food safety concerns for themselves and their families. The results of this experiment will be the strategy reference for government, vendors and housewives in the follow-up food safety communication.

6.3 Limitations and Future Research

In this study, we sampled in convenience. Since the research content is related to message communication and characteristics, the questionnaires are up to 10 pages, which is much more to the mainly participant housewife and resulting in many invalid questionnaires. This is a limitation in this study. The research probed into food safety issue with chronic regulatory focus, regulatory focus message, appeal type and self-construal. Therefore, it is suggested that the subsequent study can be carried out on the following unexplored parts. First, perceived risk should be included into experimental considerations. Nowadays, Taiwan's food safety issues are due to the insufficient of risk management and the lack of risk communication. In the current food safety environment, it proposed that the follow-up study can take perceived risk into experimental considerations.

Second, self-efficacy and response efficacy are important variables in communication with the individual's health message framework (Ludolph, & Schulz, 2015). When the individual's self-efficacy is high, the individuals are confident at themselves for achieving the task assigned. On the other hands, response efficacy refers to an individual that believing a particular behavior (or response) can achieve the desired outcome or avoid a negative outcome (Bandura 1997). When communicating with the individual healthily, the individual believes that the desired method can achieve his or her belief in avoiding illness or improving health outcomes if the response is high. This research suggests that follow-up studies may explore the persuasive effects of self-efficacy, response efficacy and regulatory focus messages or fitness under personal health appeal, social-environmental appeal in communication of food safety messages, with a view to better understanding consumers’ desired way of communication about food safety.
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