

# The Effects of Stimulus and Consumer Characteristics on the Utilization of Nutrition Information and Purchase Intention

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## ABSTRACT

**Objective** – This research study investigates the effect of stimulus and consumer characteristics on the utilization of nutrition information.

**Methodology** – Details of stimulus in this research study are negative arousal consequence information (paired 3 levels: high, low, control) and reference information (with and without information on Recommended Dietary Allowance or RDA). Meanwhile, details for consumer characteristics are nutrient familiarity (familiar, unfamiliar), and preventive orientation (high, low). The measurements of utilization of nutrition information are through the motivation to process, ability to process, and purchasing intention. This quantitative research employs 3x2x2 experimental design.

**Findings** – Based on the data of 353 respondents, the findings showed that the variables affecting motivation to process are consequence information, nutrient familiarity, and preventive orientation. In contrast, preventive did not affect the purchasing intention.

**Novelty** – This study can predict the best strategy of nutrition information that makes people utilize the knowledge and attract them regarding their purchasing intention. This will not only help policy makers design legal policies that promote health but will also help corporations develop products that better match consumers' desire for healthy food.

**Keywords:** *Nutrition Information; Negative Consequence Information; Nutrient Familiarity; Reference Information; Preventive Orientation; Motivation to Process; Purchase Intention*

**JEL Classification:** M3, O3

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## I. INTRODUCTION

Packaging is the last significant point of contact before actual purchase decisions (Khan et al., 2015). Labeling with nutrition information is an essential and practical technique to help consumers make better food choices (Kleef & Dagevos, 2014). Despite a plethora of marketing research on package information and nutritional labeling in countries, there has been minimal study completed in Indonesia.

The dairy supply chain provides milk to over six billion people globally each year, making it one of the most important food industries (FAO, 2019). In Indonesia, milk consumption per capita is likely to rise in the long run (Hidayah et al., 2015). An expanding middle class, growing consumer knowledge of milk's health benefits, and a burgeoning food and beverage processing sector will contribute to this expansion. In addition, population increase and milk consumption in developing countries are currently driving up milk production (Muehlhoff et al., 2013; Wyrzykowski & Reincke, 2018).

Awareness of Indonesian consumers about nutrition information is still lacking even though consumers can explore the information on the labels. However, understanding to read labels as stipulated in a message based on nutrition-balanced particularly among the Indonesian people, still needs to be improved. Furthermore, the researchers would like to know if and how the Indonesian consumers given stimulus characteristics affect the utilization of nutrition information and purchasing intention of the product. Therefore, this study aims to determine the importance of dairy product packaging information and its impact on consumer purchase intentions in Indonesia.

## II. LITERATURE REVIEW

### Nutrition Information

Food labeling is any information on food-shaped pictures, writings, or combination between both or another form that is included on food, put in, affixed to, or constituting the packaging. Information nutritional value or nutrition facts are the lists of ingredients of nutrition food following a standardized format. The effectiveness of these in-store programs depends on the perception by shoppers that the value of offered nutrition information is high enough to warrant their paying attention and processing the messages contained in the display (Miller & Cassady, 2015). For this reason, the strategy of most reported programs has been to try to reach the most significant possible number of shoppers by designing prominent, persuasive, and easily legible messages that reduce the effort required to notice and comprehend the offered nutrition information.

Consumer information is frequently seen differently depending on the qualities of the consumer, the product attributes, the consumer's behavior, and individual differences among consumers (Garrido-Morgado et al., 2016). Public policy concerns have traditionally guided nutrition information research. Increased consumer understanding of the link between nutrition, diet, and health was a major public policy concern. As consumers' interest in health and diet issues began to increase, their interest in the nutritional value of food products grew (Hughner et al., 2007), and researchers turned their attention to the more complex issues involved in consumer acquisition utilizing the information. Research on nutritional information primarily has concerned two general themes: information provision and information acquisition and utilization. Stimulus and characteristics as two critical antecedents of motivation and ability information. From a public point of view, the food labels can be valuable sources of nutrition information that assist consumers in choosing food and encourage the use of nutrition principles when making food choices and preparing meals.

### Stimulus Characteristics

Consumers use more nutrition information when it is presented in an easily processed fashion, according to studies on stimulus features such as information content and presentation (Miller & Cassady, 2015). Although some variables affect the stimulus of characteristics, the first stimulus characteristics consequence information communicates the relationship between product-level or brand-level attributes (i.e., Nutritional attributes, for this research) and consumer consequences. Consequences are defined as any result accruing to the consumer from their behavior (Gutman, 1982). The nature of the relation between attributes and consequences determines the personal relevance of consequence information and consumers' willingness to process it (Petty & Cacioppo, 1986). For example, the case in Indonesia is the advertising of food. Consumers will be attracted when there is a product with nutrition facts like "less sugar" rather than "more vitamin A."

People are more likely to put their attention on what is preventing. Since consumers find the consequences associated with negatively perceived nutrients (such as sugar, sodium, and fat) more relevant than those associated with nutrients judged more positively (e.g., vitamins and minerals), the emphasis of this research is on consequence information communicating negatively evaluated nutrients. Research suggests that information communicating negative consequences is utilized more effectively when it creates two interacting states. First, the message should arouse or emotionally activate consumers (Ray & Wilkie, 1970; Sternthal & Craig, 1974). Second, consumers should be provided with a way to minimize the hazards communicated to them (Leventhal, 1970). For example, Evans et al. (1970) found that individuals receiving highly arousing messages (a description and portrayal of the hazards of poor dental hygiene) and elaborated recommendations (they were told when and how to behave) experienced the greatest change in dental hygiene behavior. Given this logic, nutrition disclosures containing negative consequence information that is arousing and that offers remedies for overcoming this arousal should increase consumers' need for information about the relevant attribute, its negative consequences, and ways to avoid their occurrence (Burnkrant & Sawyer, 1983). This increased need for information reflects consumers' motivation to process the message. Information about negative consequences should also increase consumers' levels of information acquisition and elaboration.

### **Motivation to Process**

Motivation to process is an internal readiness to process information, created by the personal relevance of the stimulus (Moorman, 1990). Another statement is individual differences, such as the enduring motivation to process nutrition information, may affect consumers' perception, processing, and evaluation of information on specific claims and nutrient data offered on product packages (Keller et al., 1997). This motivation construct, defined as a disposition to attend to nutrition information that reflects goal-directed arousal (Moorman, 1996), may affect perceptions of accessibility and diagnosticity (i.e., usefulness) of specific types of information in product evaluations. Furthermore, based on research from Caudill (1994), motivation seems to be the driving force behind consumers seeking further information once their attention is gained. Without motivation, other consumer characteristics such as ability, cognitive style, or prior knowledge may not be engaged in purchasing situations. Motivation is a constraint that forces us to take action, and in this study, the motivation to process is a dependent variable measurement to measure the utilization of nutrition information.

### **Ability to Process**

Not only motivation to process, but related research also indicates that communication effectiveness is in part driven by consumers' ability to process information (Macinnis et al., 1991). Over the long run, motivation to process can form into a predecessor condition affecting one's capacity to prepare. For instance, those motivated to discover all the more around a publicized subject may be more likely, over the long run, to create more evident mastery or conjure self-composition than the less motivated individuals. According to Moorman (1990), the ability to process is the capacity to transform perceptual stimuli into meaningful information. In this study, the ability to process is another dependent variable besides motivation to process as a measurement to measure the utilization of nutrition information.

### **Purchase Intention**

The point at which a consumer's interest, motivation, or preference becomes an actionable and directed likelihood that a purchase will result from time spent consuming, evaluating, and deciding that a defined need can be met through the exchange of hard-earned dollars for utility, value, and/or service is referred to as purchasing intention (Ivan & Penev, 2011). This also as an important stage to define whether the company understand what customer wants and needs. In the buying process, the consumer should stop looking for and evaluating information about alternative option in the evoked set and makes a purchase decision. As a result, the consumer may develop a purchase intention or a predisposition to buy a certain brand or product in the evaluation stage.

## **III. RESEARCH METHODOLOGY**

This research chose dairy as the main object to be investigated on the basis of consumers' familiarity with the product and perceptions that the products contained high nutrient levels. Besides, the increasing of Indonesian economy will directly be proportional with increasing middle class impacting the change of their lifestyle and behavior. People with high economic of status have more concern over their health in drinking milk as one of their important needs.

The study is intended to assess the effect of stimulus characteristics and consumer characteristics on utilizing nutrition information on Indonesian customers using online questionnaire. The respondents were various cities of the country, i.e., Padang, Palembang, Lampung, Jakarta, Depok, Bekasi, Bandung, Majalengka, Yogyakarta, Surabaya, Makassar, and Bali.

In choosing the number of samples, this study uses convenience sampling, with the number of respondents per cell between 27 and 41 and total respondents for all cells is 360. The support for a sample size of 30 is assumed to come from the central limit theorem. The number of samples with a range greater than 25 or 30 is enough as a sampling to get a normal distribution.

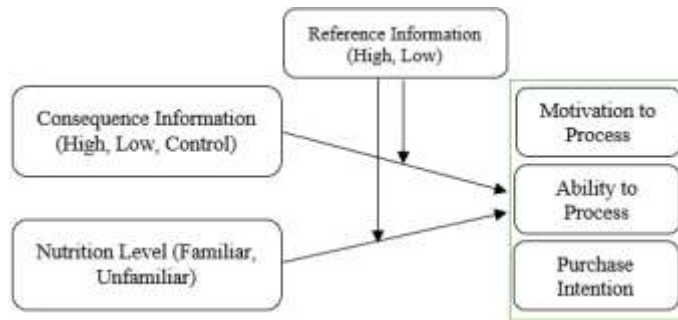


Figure 1. Research Model

Based on research model in Figure 1, there are six research variables. Reference Information consists of two levels of information (high and low information). Consequence Information has three paired levels (high, low, and control) of the arousal and recommendation components. Nutrient Familiarity consists of two levels (familiar and unfamiliar nutrition). Meanwhile, Motivation to Process, Ability to Process, and Purchase Intention are to measure the utilization on nutrition information.

This study conducted a randomized, controlled field experiment. In the experiment design, the experimenter is often interested in the effect of some process or intervention (the “treatment”) on some objects, and in this study, the objects are a group of people. The factorial design of the study is presented in Table 1, featuring 3 consequence information (high, low, control) x 2 nutrient familiarity (familiar, unfamiliar) x 2 reference information (present, absent) between subject factorial design.

Table 1. Experimental Research Design

	Familiar		Unfamiliar	
	Present	Absent	Present	Absent
High	M1.1.1	M1.1.2	M1.2.1	M1.2.2
Low	M2.1.1	M2.1.2	M2.2.1	M2.2.2
Control	M3.1.1	M3.1.2	M3.2.1	M3.2.2

Note: M = Mean Score of Variable Response

The respondents in this experiment will be given 12 twelve stimuli on labels of advertising with different kinds of visualization for each group of people. Below the details of each cell treatment:

1. Cell 1 (M 1.1.1) is to find out if there is an effect of high arousal consequence information with familiar nutrient and a reference of Recommended Dietary Allowance (RDA),
2. Cell 2 (M 1.1.2) is to find out if there is an effect of high arousal consequence information with familiar nutrient and without an RDA reference (absence of RDA),
3. Cell 3 (M 1.2.1) is to find out if there is an effect of high arousal consequence information with unfamiliar nutrient and a reference of RDA,
4. Cell 4 (M 1.2.2) is to find out if there is an effect of high arousal consequence information with unfamiliar nutrient and without an RDA reference (absence of RDA),
5. Cell 5 (M 2.1.1) is to find out if there is an effect of low arousal consequence information with familiar nutrient and a reference of RDA,
6. Cell 6 (M 2.1.2) is to find out if there is an effect of low arousal consequence information with familiar nutrient and without an RDA reference (absence of RDA),
7. Cell 7 (M 2.2.1) is to find out if there is an effect of low arousal consequence information with unfamiliar nutrient and a reference of RDA,
8. Cell 8 (M 2.2.2) is to find out if there is an effect of low arousal consequence information with unfamiliar nutrient and without an RDA reference (absence of RDA),
9. Cell 9 (M 3.1.1) is to find out if there is an effect of no arousal consequence information (control) with familiar nutrient and a reference of RDA,

10. Cell 10 (M 3.1.2) is to find out if there is an effect of no arousal consequence information (control) with familiar nutrient and without an RDA reference (absence of RDA),
11. Cell 11 (M 3.2.1) is to find out if there is an effect of no arousal consequence information (control) with unfamiliar nutrient and a reference of RDA, and
12. Cell 12 (M 3.2.2) is to find out if there is an effect of no arousal consequence information (control) with unfamiliar nutrient and without an RDA reference (absence of RDA)

To escape the effects other than independent variable, this study develops control in experimental design with equal treatment for each cell or group. Thus, the difference that happened to dependent variable is caused by influence of independent variable (Alif, 2006). Random control was employed to make sure that the treatment condition for all the participants in every cell (group) happened randomly. The respondent will get one from twelve label ads in this experiment randomly through this random assignment to avoid extraneous factors in this treatment.

### Hypothesis Development

In this study, the subjects were given specific information to measure the negative consequence information communicating the dangers of excessive nutrient consumption, such as arousal and recommendation manipulation. Moorman (1990) defines the possibility of curvilinear relationship between exposure consequence information and information-processing outcomes suggested the need manipulate three paired levels (for example: high, low, and control) of the arousal and recommendation components of consequence information.

In the high arousal condition, the manipulation stated that The Indonesian Association had confirmed that a series of health problems were fostered by the nutrient. Then, in the low arousal condition, the manipulation stated that The Indonesian Medical Association had found that the nutrient might be linked to health problems. In contrast, the control level (no-arousal) condition, no other information was provided. For the recommendation manipulation, the high recommendation group will be shown an explicit instruction to look at the nutrient's RDA and to stay with the suggested daily allowance. Meanwhile, the low recommendation group will be required to only observe moderation in their consumption of nutrient. The control group would receive no instruction at all. Therefore,

H1: Nutrition disclosures containing highly arousing negative consequences and specific guidance on ways to minimize these consequences will result in higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than the disclosures that are less arousing and specific in guidance.

Reference information was operationalized as the presence or absence of the RDA percentage for the target nutrient. In this case, the authors describe the Recommended Dietary Allowances (RDAs) for familiar and unfamiliar nutrition divided by age and gender due to different subject conditions. When present, reference information was placed on the product labels with other RDA information (e.g., vitamin, phosphorus, zinc). In both present and absent conditions, the actual nutrient levels (in milligram) were available to understand that people will have a different motivation to process, ability to process, and purchasing intention. Hence,

H2: Nutrition disclosures containing reference information and consequence information evoke higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than disclosures not containing both types of information.

In this research, the nutrient familiarity was manipulated in the experiment. One of the reasons behind this manipulation is that familiarity is a critical determinant of the type and extent of consumer information processing activities. Second, nutrient familiarity was isolated to ensure that the experimental effects were due to the stimulus characteristics and not prior knowledge. Finally, manipulating familiarity allowed its effects to be assessed more systematically. Therefore,

H3: Nutrition disclosures containing familiar information evoke higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than disclosures containing unfamiliar information.

Health orientation is an individual-differences concept defined as an individual's motivation to engage in healthy attitudes, beliefs, and behaviors (Dutta et al., 2008). Essentially, health orientation represents individuals' inclinations toward their own health, and is important in understanding the extent to which individuals are willing to take responsibility for their own health (Sørensen et al., 2012). A person that is highly oriented toward their health is motivated to search, attend, and comprehend health information as well as perform health behaviors. Health orientation is conceptualized "as an intrinsic interest rather than an interest that is prompted by situational factors in the environment" (Dutta-Bergman, 2005). Thus, the greater an individual's interest in health-related issues, the stronger the likelihood of the individual engaging in health-related behaviors. Therefore,

H4: Across a diversity of consumer characteristics, people who have high preventive orientation evoke higher motivation to process, or/and ability to process, or/and purchasing intention than people who have low preventive orientation.

#### **Data Collection (Pilot Test and Manipulation Check)**

Before the real test, a pilot test to 12 respondents was conducted to make sure the manipulation of design advertisement content was suitable and acceptable with the research design. For the pre-test, 36 different respondents were sampled.

Manipulation checks are measured variables that show what manipulated variables simultaneously influence other than the dependent variable of interest. In experiments, an experimenter manipulates some aspect of a process or task and randomly assigns subjects to different levels of the manipulation ("experimental conditions"). Then, variation in the manipulated variables is observed, whether it causes contrast in the dependent variable. Manipulation checks focus on variables beside the dependent variable of interest. The summary of consequence information, recommendation, and nutrient familiarity manipulation in this study is as follows:

#### **CONSEQUENCE-INFORMATION AND RECOMMENDATION MANIPULATIONS**

##### **Unfamiliar Nutrient:**

**High:** Milk contains added pyridoxine (vitamin B6). The Indonesian Medical Association (IDI) has recently confirmed the severe health problems associated with excessive pyridoxine and warns consumers that excessive pyridoxine consumption creates a dangerously irregular heartbeat causing fatal and premature heart disease. Please look for the pyridoxine recommended daily allowance (RDA) on the nutrition label and stay within your pyridoxine allowance for the day. Your health risks will be lessened greatly.

**Low:** Milk contains added pyridoxine (vitamin B6). The Indonesian Medical Association (IDI) has found that excessive pyridoxine may be linked to the onset of health problems. Observe moderation in your pyridoxine consumption.

**Control:** Milk contains added pyridoxine (vitamin B6).

##### **Familiar Nutrient:**

**High:** Milk contains added calcium. The Indonesian Medical Association (IDI) has recently confirmed the severe health problems associated with excessive calcium and warns consumers that excessive calcium consumption creates dangerously pressure to nerve system over calcification, causing fatal of paralyzed, and premature heart disease.

Please look for the calcium recommended daily allowance (RDA) on the nutrition label and stay within your calcium allowance for the day. Your health risks will be lessened greatly.

- Low: Milk contains added calcium. The Indonesian Medical Association (IDI) has found that excessive calcium may be linked to the onset of health problems. Observe moderation in your calcium consumption.
- Control: Milk contains added calcium.

These manipulations are listed on label design advertising given to respondents based on treatment for each cell of the groups. We would like to test them through the first pilot test of design and wording, then also through the questionnaires.

### Reliability Check

Reliability is the degree to which an assessment tool produces stable and consistent results between time, observer, and indicator. Reliability is a method to measure the quality of measurement instrument, whether the data obtained from the observation same in different time. According to Malhotra (2010), reliability check is used to know the consistency of data as a measurement, thus those data can be trusted. Reliability check will be analyzed by Cronbach's alpha (Hair, 2010). The formula which used to examine instrument reliability of this research is through Coefficient Alpha from Cronbach and the acceptable limit of reliability value is  $>0.60$ .

### Validity Check

Validity is concerned with how well the concept is defined by the measure. It is the degree to which a measure accurately represents what it is supposed to. Validity starts with a thorough understanding of what is to be measured and then making the measurement as correct and accurate as possible (Hair, 2010). Validity can be defined as a test of the extent to which the observed score scale reflects the differences observed in fact, rather than systematic or random error.

According to Malhotra (2010), validity checks are used to know how valid one question from questionnaire to measure one variable tested. There are three indicators to measure validity:

- Kaiser Meyer Olkin (KMO) measure of sampling adequacy to assist users; to assess the adequacy of their correlation matrices for factor analysis. If the value of KMO is above 0.5 then the analysis factor is valid and usable.
- Bartlett's Test of Sphericity determines whether the correlations between the variables, examined simultaneously within factors are related or unrelated. If the significance value is below 0.5 then there is significant correlation between variables.
- Component Anti Image Matrix which means the value is loading factor from component factor variables. The value of loading factor should be higher or equal with 0.5.

### Compare Mean Analysis

Compare mean analysis is conducted in order to know the differentiation of mean from each research object. A contrast is a linear combination of variables whose allowing compares treatments, for example, cell M1 vs. M2 vs. M5 vs. M7, and so on. ANOVA is used to know there is a differentiation among mean from two or more population (Malhotra, 2010). A one-way ANOVA is where independent variable is tested and grouped into one factor. The research advertisements are classified based on level of manipulation consequence information, reference information, and nutrient familiarity then tested its effect towards the dependent variable.

## IV. FINDINGS AND DISCUSSION

### Pilot Test

The first test was a word test in manipulation design advertising to make sure that the label design advertisement is suitable and acceptable with the decision for research. For instance, the test asks about the

respondent’s understanding for each different cell treatment advertisement, then whether there are any differences between advertisements, and finally the message or content for each advertisement.

**Pre-Test**

After conducting several pilot tests and before conducting the experiment writer should working on pre-test to check all variables are reliable and valid. This pre-test involved 33 respondents, however because of four respondents filled incompletely, thus the number of respondents in this pre-test is 29. First analysis is manipulation check whether the respondents aware or not that advertisement were given is milk label advertising. Then the result is 26 of respondents agreed that the advertisement given shows about milk label advertising.

The reliability test shows that preventive orientation variable and motivation to process are reliable with each Cronbach’s alpha of 0.748 and 0.911. In contrast with the ability to process variable, it has value below 0.7 (0.414) meaning that this variable is unacceptable or not reliable. The validity test results indicate that the value of KMO and Anti Image Matrices on preventive orientation variable and motivation are more than 0.05 meaning that both variables are valid.

**Manipulation Check**

This manipulation check is to ensure the majority of 363 samples of respondents in the experiment understand about the design advertising and its message or content. The result of this manipulation check also shows that the majorities of respondents match between the treatments towards the response. For instance, group of respondents who received treatment control or no arousal consequence information said they did not know what would happen if they consumed too much milk and vice versa. This can be proven by a t-test to check the difference between consequence info High, Low, and Control in Table 2.

Table 2. Manipulation tests by t-test (One-Sample Test)

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
PHP	19.977	29	.000	1.700	1.53	1.87
	Test Value = 1.70					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
PLP	-4.212	27	.000	-.379	-.56	-.19
	Test Value = 1.32					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
PCP	-7.640	26	.000	-.283	-.36	-.21
	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CHP	19.326	28	.000	1.690	1.51	1.87
	Test Value = 1.69					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CLP	-2.046	29	.050	-.190	-.38	.00
	Test Value = 1.50					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
CCP	-5.951	34	.000	-.357	-.48	-.24

Table 2 identified that there are differences between group of respondents who received advertising PHP, PLP, PCP; CHP, CLP, CCP. The P in PHP, PLP, and PCP means those who received the



Pyridoxine/Vitamin B6 ad (Unfamiliar nutrient). Meanwhile, the C in CHP, CLP, and CCP is those receiving the Calcium ad (Familiar nutrient). Since we would like to test the level of consequence information, hence the t-test on the cells M121 (PHP), M221 (PLP), M321 (PCP) and M111 (CHP), M211 (CLP), M311 (CCP).

- a) The t-test of  $M121 \neq M221 \neq M321$   
 M121:M221 df M221 = 27, t-value = -4.212, t-table = 2.052 (t-value < t-table)  
 M221:M321 df M221 = 26, t-value = -7.640, t-table = 2.056 (t-value < t-table)
- b) The t-test of  $M111 \neq M211 \neq M311$ .  
 M111:M211 df M211 = 29, t-value = -2.046, t-table = 2.045 (t-test < t-table)  
 M211:M311 df M221 = 34, t-value = -5.951, t-table = 2.042 (t-test < t-table)

**Measurement of Consequence Information, Reference Information, and Nutrient Familiarity**

This measurement is needed to form group category into a category of consequence information (High, Low, Control), reference information (Present, Absent), nutrient familiarity (Familiar, Unfamiliar). Randomly, respondents are classified into different twelve-cell treatments (see Table 3).

Table 3. Original Data of Group Respondents

	Familiar		Unfamiliar		Total
	Present	Absent	Present	Absent	
High	27	30	29	27	113
Low	28	32	30	27	117
Control	27	30	35	41	133
<b>Total</b>	<b>82</b>	<b>92</b>	<b>94</b>	<b>95</b>	<b>363</b>

However, due to the difference of group respondents was quite a lot which is from 27-41 respondents then it will derive to different range of mean. Thus, the authors decided to make the distribution frequency not too far, which is 27-33 respondents, with total samples of 353 respondents. Hence, the number of distribution frequency or data of group respondents in Table 4.

Table 4. Adapted Data of Group Respondents

	Familiar		Unfamiliar		Total
	Present	Absent	Present	Absent	
High	27	30	29	27	113
Low	28	32	30	27	117
Control	27	30	33	33	123
<b>Total</b>	<b>82</b>	<b>92</b>	<b>92</b>	<b>87</b>	<b>353</b>

Table 5. Cell of the Experiment

	Familiar		Unfamiliar	
	Present	Absent	Present	Absent
High	M1.1.1	M1.1.2	M1.2.1	M1.2.2
Low	M2.1.1	M2.1.2	M2.2.1	M2.2.2
Control	M3.1.1	M3.1.2	M3.2.1	M3.2.2

Note: M = Mean Score of Variable Response

Table 5 shows the condition of each cell and the respondents in this experiment will be given twelve stimuli on labels of advertising with different kind of visualization for each group of people. The details of each cell treatment are as follows:

1. Cell 1 (M 1.1.1) is to check the effect of high arousal consequence information with familiar nutrient and a reference of RDA
2. Cell 2 (M 1.1.2) is to check the effect of high arousal consequence information with familiar nutrient and without an RDA reference (absence of RDA)
3. Cell 3 (M 1.2.1) is to check the effect of high arousal consequence information with unfamiliar nutrient and a reference of RDA,
4. Cell 4 (M 1.2.2) is to check the effect of high arousal consequence information with unfamiliar nutrient and without an RDA reference (absence of RDA)
5. Cell 5 (M 2.1.1) is to check the effect of low arousal consequence information with familiar nutrient and a reference of RDA,
6. Cell 6 (M 2.1.2) is to check the effect of low arousal consequence information with familiar nutrient and without an RDA reference (absence of RDA)
7. Cell 7 (M 2.2.1) is to check the effect of low arousal consequence information with unfamiliar nutrient and a reference of RDA,
8. Cell 8 (M 2.2.2) is to check the effect of low arousal consequence information with unfamiliar nutrient and without an RDA reference (absence of RDA)
9. Cell 9 (M 3.1.1) is to check the effect of no arousal consequence information (control) with familiar nutrient and a reference of RDA,
10. Cell 10 (M 3.1.2) is to check the effect of no arousal consequence information (control) with familiar nutrient and without an RDA reference (absence of RDA)
11. Cell 11 (M 3.2.1) is to check the effect of no arousal consequence information (control) with unfamiliar nutrient and a reference of RDA,
12. Cell 12 (M 3.2.2) is to check the effect of no arousal consequence information (control) with unfamiliar nutrient and without an RDA reference (absence of RDA)

**Hypothesis Testing**

In this one-way ANOVA analysis, we investigated each response variable (dependent): motivation to process (MOTIVAS), ability to process (ABILITY), and purchasing intention (PURCHASE).

1. Motivation to Process (MOTIVAS)

In Table 6, the impact of consequence information, reference information, and nutrient familiarity towards motivation to process (MOTIVAS) can be found.

Table 6. Level of Significance Cell towards MOTIVAS

MOTIVAS					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7.724	11	.702	1.178	.301
Within Groups	203.217	341	.596		
Total	210.941	352			

Table 6 points out that the significant value is 0.301 (>0.05) which means that there is no significant difference between consequence information, reference information, and nutrient familiarity towards MOTIVAS. Then, we identified individually whether there is a group of cells that is significantly different or not and which cell it is, hence testing the contrast, which result can be seen in Table 7.

Table 7. Contrast Test Cell towards MOTIVAS

Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	0	0	0	-1	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	0	-1	0	0	0
3	0	1	0	0	0	-1	0	0	0	0	0	0
4	0	0	0	0	0	1	0	0	0	-1	0	0
5	0	0	1	0	0	0	-1	0	0	0	0	0
6	0	0	0	0	0	0	1	0	0	0	-1	0
7	0	0	0	1	0	0	0	-1	0	0	0	0
8	0	0	0	0	0	0	0	1	0	0	0	-1

Contrast Tests								
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment	
MOTIVAS	Assume equal variances	1	.5115	.20822	2,456	341	.015	M111 > M211
		2	-.0300	.20822	-.144	341	.886	M211 > M311
		3	-.0535	.19618	-.273	341	.785	M112 > M212
		4	.0424	.19618	.216	341	.829	M212 > M312
		5	-.0962	.20103	-.478	341	.633	M121 > M221
		6	-.0111	.19474	-.057	341	.955	M221 > M321
		7	.2222	.21010	1,058	341	.291	M122 > M222
		8	-.1796	.20033	-.896	341	.371	M222 > M322
	Does not assume equal variances	1	.5115	.19094	2,679	52,855	.010	
		2	-.0300	.20523	-.146	52,558	.884	
		3	-.0535	.22374	-.239	59,996	.812	
		4	.0424	.19346	.219	53,126	.828	
		5	-.0962	.17042	-.564	54,709	.575	
		6	-.0111	.22753	-.049	56,984	.961	
		7	.2222	.20670	1,075	49,010	.288	
		8	-.1796	.17008	-1,056	55,399	.296	

Contrast Coefficients												
Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	-1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	1	-1	0	0	0	0	0	0
3	0	0	1	-1	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	1	-1	0	0	0	0
5	1	0	-1	0	0	0	0	0	0	0	0	0
6	0	0	0	0	1	0	-1	0	0	0	0	0
7	0	1	0	-1	0	0	0	0	0	0	0	0
8	0	0	0	0	0	1	0	-1	0	0	0	0

Contrast Tests								
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment	
MOTIVAS	Assume equal variances	1	.3432	.20478	1,676	341	.095	M111 > M112
		2	-.2217	.19977	-1,110	341	.268	M211 > M212
		3	-.0085	.20645	-.041	341	.967	M121 > M122
		4	.3099	.20478	1,513	341	.131	M221 > M222
		5	.2060	.20645	.998	341	.319	M111 > M121
		6	-.4016	.20285	-1,980	341	.049	M211 > M221
		7	-.1457	.20478	-.711	341	.477	M112 > M122
		8	.1300	.20173	.645	341	.520	M212 > M222
	Does not assume equal variances	1	.3432	.20229	1,697	54,242	.096	
		2	-.2217	.21352	-1,038	57,679	.303	
		3	-.0085	.19477	-.044	45,182	.965	
		4	.3099	.18394	1,685	54,998	.098	
		5	.2060	.16801	1,226	51,133	.226	
		6	-.4016	.19307	-2,080	55,612	.042	
		7	-.1457	.22501	-.647	54,378	.520	
		8	.1300	.20531	.633	55,752	.529	

Based on the contrast test, we can see that contrast number 1 and number 6 are below the p-value (<0.05). Each value of significant (in order) is 0.015 and 0.049.

- M111 > M211 with a p-value below 0.05 indicates that the group of respondents with high arousal consequence information evokes higher motivation to process than group of respondents who received advertising with low arousal consequence information.
- M211 > M221 with a p-value below 0.05 indicates that the group of respondents who received advertising with familiar nutrition evokes higher motivation to process than group of respondents with advertising regarding unfamiliar nutrition.

From the analysis, we can conclude that:

H1: Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher motivation to process than do disclosures that are less arousing and specific in guidance.

H3: Nutrition disclosures containing familiar information evoke higher motivation to process than do disclosures containing unfamiliar information.

2. Ability to Process (ABILITY)

In Table 8, we can see the impact of consequence information, reference information, and nutrient familiarity towards ability to process (ABILITY). Table 8 points out that the significant value is 0.063 which means that there is a significant difference between consequence information, reference information, and nutrient familiarity towards ABILITY at 10% confidence interval (0.10). Then, we identified whether any cell is different, hence testing the contrast, which can be seen in Table 9.

Table 8. Level of Significance Cell towards ABILITY

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.280	11	.844	1.743	.063
Within Groups	164.999	341	.484		
Total	174.279	352			

Table 9. Contrast Test Cell towards ABILITY

Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	0	0	0	-1	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	0	-1	0	0	0
3	0	1	0	0	0	-1	0	0	0	0	0	0
4	0	0	0	0	0	1	0	0	0	-1	0	0
5	0	0	1	0	0	0	-1	0	0	0	0	0
6	0	0	0	0	0	0	1	0	0	0	-1	0
7	0	0	0	1	0	0	0	-1	0	0	0	0
8	0	0	0	0	0	0	0	1	0	0	0	-1

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment
ABILITY	1	,3704	,18762	1,974	341	,049	M111 > M211
	2	,1389	,18762	,740	341	,460	M211 > M311
	3	,2031	,17678	1,149	341	,251	M112 > M212
	4	-,1448	,17678	-,819	341	,413	M212 > M312
	5	-,1483	,18115	-,819	341	,414	M121 > M221
	6	,2303	,17548	1,312	341	,190	M221 > M321
	7	,2685	,18932	1,418	341	,157	M122 > M222
	8	-,1204	,18051	-,667	341	,505	M222 > M322
ABILITY	1	,3704	,17530	2,113	51,875	,039	
	2	,1389	,17477	,795	51,952	,430	
	3	,2031	,18209	1,115	59,999	,269	
	4	-,1448	,18856	-,768	59,679	,446	
	5	-,1483	,16035	-,925	56,847	,359	
	6	,2303	,20256	1,137	54,473	,261	
	7	,2685	,16540	1,623	48,869	,111	
	8	-,1204	,14890	-,808	57,963	,422	

Contrast Coefficients

Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	-1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	1	-1	0	0	0	0	0	0
3	0	0	1	-1	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	1	-1	0	0	0	0
5	1	0	-1	0	0	0	0	0	0	0	0	0
6	0	0	0	0	1	0	-1	0	0	0	0	0
7	0	1	0	-1	0	0	0	0	0	0	0	0
8	0	0	0	0	0	1	0	-1	0	0	0	0

Contrast Tests

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment
ABILITY	1	,1204	,18453	,652	341	,515	M111 > M112
	2	-,0469	,18001	-,260	341	,795	M211 > M212
	3	-,0964	,18603	-,518	341	,605	M121 > M122
	4	,3204	,18453	1,736	341	,083	M221 > M222
	5	,0686	,18603	,369	341	,712	M111 > M121
	6	-,4500	,18278	-2,462	341	,014	M211 > M221
	7	-,1481	,18453	-,803	341	,423	M112 > M122
	8	-,0828	,18177	-,455	341	,649	M212 > M222
ABILITY	1	,1204	,18284	,658	54,539	,513	
	2	-,0469	,17453	-,269	57,845	,789	
	3	-,0964	,17446	-,553	52,596	,583	
	4	,3204	,15043	2,130	54,900	,038	
	5	,0686	,17503	,392	52,500	,696	
	6	-,4500	,16064	-2,801	55,697	,007	
	7	-,1481	,18230	-,813	54,594	,420	
	8	-,0828	,16517	-,501	55,507	,618	

Based on the contrast test, we can see there is an interesting point which is the consistency between contrast test on MOTIVAS and ABILITY that shows contrast number 1 and 6 below the p-value (<0.05). Each value of significant (in order) is 0.049 and 0.014.

- M111 > M211 with a p-value below 0.05 indicates that the group of respondents with high arousal consequence information evokes higher ability to process than group of respondents who received advertising with low arousal consequence information.
- M211 > M221 with a p-value below 0.05 indicates that the group of respondents who received advertising with familiar nutrition evokes higher ability to process than group of respondents with advertising regarding unfamiliar nutrition.

From the analysis, we can conclude that:

H1: Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher ability to process than do disclosures that are less arousing and specific in guidance.

H3: Nutrition disclosures containing familiar information evoke higher ability to process than do disclosures containing unfamiliar information.

### 3. Purchasing Intention (PURCHASE)

In Table 10, we can observe the impact of consequence information, reference information, and nutrient familiarity towards purchasing intention (PURCHASE).

Table 10. Level of Significance Cell towards PURCHASE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.481	11	3.135	2.056	.023
Within Groups	519.769	341	1.524		
Total	554.250	352			

In contrast with previous tests on MOTIVAS and ABILITY, Table 10 shows that the significant value is 0.023, meaning that there is a significant difference of consequence information, reference information, and nutrient familiarity towards PURCHASE.

Table 11. Contrast Test Cell towards PURCHASE

Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	0	0	0	-1	0	0	0	0	0	0	0
2	0	0	0	0	1	0	0	0	-1	0	0	0
3	0	1	0	0	0	-1	0	0	0	0	0	0
4	0	0	0	0	0	1	0	0	0	-1	0	0
5	0	0	1	0	0	0	-1	0	0	0	0	0
6	0	0	0	0	0	0	1	0	0	0	-1	0
7	0	0	0	1	0	0	0	-1	0	0	0	0
8	0	0	0	0	0	0	0	1	0	0	0	-1

Contrast Tests							
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment
PURCHASE	1	,4043	,33300	1,214	341	,226	M111 > M211
	2	-,7253	,33300	-2,178	341	,030	M211 > M311
	3	-,0972	,31375	-,310	341	,757	M112 > M212
	4	,0972	,31375	,310	341	,757	M212 > M312
	5	-,1517	,32151	-,472	341	,637	M121 > M221
	6	-,2889	,31144	-,928	341	,354	M221 > M321
	7	-,1728	,33602	-,514	341	,607	M122 > M222
	8	,3928	,32038	1,226	341	,221	M222 > M322
PURCHASE	1	,4043	,39892	1,014	52,987	,315	
	2	-,7253	,34369	-2,110	47,708	,040	
	3	-,0972	,30175	-,322	58,861	,748	
	4	,0972	,31297	,311	57,645	,757	
	5	-,1517	,27694	-,548	56,675	,586	
	6	-,2889	,34794	-,830	54,187	,410	
	7	-,1728	,26974	-,641	51,332	,525	
	8	,3928	,27616	1,422	56,422	,160	

Contrast	FS											
	1	2	3	4	5	6	7	8	9	10	11	12
1	1	-1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	1	-1	0	0	0	0	0	0
3	0	0	1	-1	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	1	-1	0	0	0	0
5	1	0	-1	0	0	0	0	0	0	0	0	0
6	0	0	0	0	1	0	-1	0	0	0	0	0
7	0	1	0	-1	0	0	0	0	0	0	0	0
8	0	0	0	0	0	1	0	-1	0	0	0	0

		Contrast Tests							
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment		
PURCHASE	1	,0432	,32751	,132	341	,895	M111 > M112		
	2	-,4583	,31948	-1,435	341	,152	M211 > M212		
	3	,3495	,33017	1,059	341	,291	M121 > M122		
	4	,3284	,32751	1,003	341	,317	M221 > M222		
	5	,2060	,33017	,624	341	,533	M111 > M121		
	6	-,3500	,32442	-1,079	341	,281	M211 > M221		
	7	,5123	,32751	1,564	341	,119	M112 > M122		
	8	,4367	,32262	1,354	341	,177	M212 > M222		
Does not assume equal variances	1	,0432	,36004	,120	51,047	,905			
	2	-,4583	,34721	-1,320	50,190	,193			
	3	,3495	,26983	1,295	53,676	,201			
	4	,3284	,27685	1,186	54,315	,241			
	5	,2060	,34622	,595	47,797	,555			
	6	-,3500	,34053	-1,028	47,838	,309			
	7	,5123	,28735	1,783	53,542	,080			
	8	,4367	,28504	1,532	56,584	,131			

Source: Writer's Statistical Analysis (2015)

Based on the contrast test, we can see that this variable shows fewer significant differences on specific cell treatment. Only contrast number 2 is below the p-value ( $0.03 < 0.05$ ).

- M211 > M311 with a p-value below 0.05 indicates that the group of respondents who received advertising with low arousal consequence information evokes higher purchasing intention than group of respondents with no arousal consequence information given.

From the analysis, we can conclude that:

H1: Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher purchasing intention than do disclosures that are less arousing and specific in guidance.

Sometimes there may be comparisons between the levels of a treatment factor that we are particularly keen to assess. In this case, we tested the significance of these individual comparisons cell treatment using contrasts. The results of contrast tests on MOTIVAS, ABILITY, and PURCHASE show that there are some treatment conditions not affected to variable response. Contrast test found out that the group of respondents who received advertising with no arousal consequence information (control) has no impact to MOTIVAS, ABILITY, and PURCHASE. In addition, surprisingly, reference information which consists of presence and absence of RDA has no effect to MOTIVAS, ABILITY, and PURCHASE. Therefore, we reject hypothesis 2.

H2: Nutrition disclosures containing reference information and consequence information did not evoke higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than do disclosures not containing both types of information.

After these results, we had to omit cells M311, M312, M321, and M322, then replaced the reference information to preventive orientation (High, Low) as the new design experiment. Preventive orientation will give an impact to variables response and this new model or design experiment aims to test whether preventive orientation could affect or not (Moorman, 1990). Thus, the updated model or design experiment is now having 2 consequence information (High, Low) x 2 familiarity nutrient (familiar, unfamiliar) x 2 preventive orientation (high, low) between subject factorial design. Hence the illustrations in Figure 2.

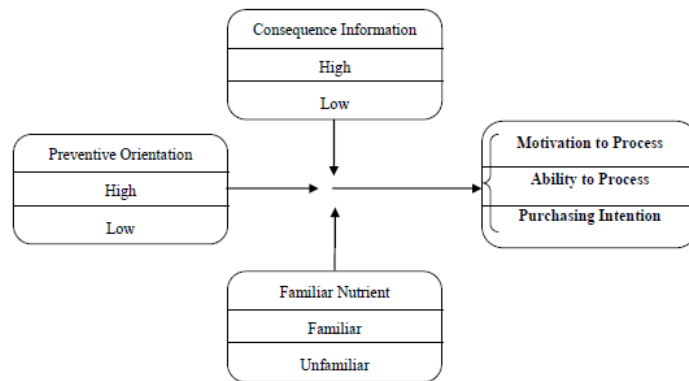


Figure 2. New Research Model

Below the details of each new cell treatment:

1. Cell 1 (M 1.1.1) is to check the effect of high arousal consequence information with familiar nutrient and high preventive orientation
2. Cell 2 (M 1.1.2) is to check the effect of high arousal consequence information with familiar nutrient and low preventive orientation
3. Cell 3 (M 1.2.1) is to check the effect of high arousal consequence information with unfamiliar nutrient and high preventive orientation
4. Cell 4 (M 1.2.2) is to check the effect of high arousal consequence information with unfamiliar nutrient and low preventive orientation
5. Cell 5 (M 2.1.1) is to check the effect of low arousal consequence information with familiar nutrient and high preventive orientation
6. Cell 6 (M 2.1.2) is to check the effect of low arousal consequence information with familiar nutrient and low preventive orientation
7. Cell 7 (M 2.2.1) is to check the effect of low arousal consequence information with unfamiliar nutrient and high preventive orientation
8. Cell 8 (M 2.2.2) is to check the effect of low arousal consequence information with unfamiliar nutrient and low preventive orientation.

Table 12. New Experimental Design

	Familiar		Unfamiliar	
	High Preventive	Low Preventive	High Preventive	Low Preventive
High	M1.1.1	M1.1.2	M1.2.1	M1.2.2
Low	M2.1.1	M2.1.2	M2.2.1	M2.2.2

Note: M = Mean Score of Variable Response

### Hypothesis Testing II (with new design experiment)

This measurement is needed to form group category into a category of preventive orientation (High, Low) towards MOTIVAS, ABILITY, and PURCHASE. For the respondents who have preventive score above median, they are placed in high preventive group which automatically influential against mean of MOTIVAS, ABILITY, and PURCHASE. On the other hand, the respondents who have preventive score below median, they are placed in low preventive group which automatically influential against mean of MOTIVAS, ABILITY, and PURCHASE. The number of respondents in each cell can be seen in Table 13.

Table 13. New Data of Respondents

	Familiar		Unfamiliar	
	High Preventive	Low Preventive	High Preventive	Low Preventive
High	40	17	36	20
Low	38	22	35	22

**Results of Analysis Compare Mean II**

This analysis is using one way ANOVA to identify whether there are any significant differences between variances of motivation to process, ability to process, and purchasing intention based on influences from consequence information, nutrient familiarity, and preventive orientation. In this one-way ANOVA analysis, we investigate for each response variable (dependent), which is: motivation to process (MOTIVAS), ability to process (ABILITY), and purchasing intention (PURCHASE).

Table 14. New level of Significance Cell towards MOTIVAS

MOTIVAS					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14.137	7	2.020	3.758	.001
Within Groups	119.320	222	.537		
Total	133.458	229			

1. Motivation to Process (MOTIVAS)

Table 14 analyzes the impact of consequence information, nutrient familiarity, and preventive orientation towards motivation to process (MOTIVAS). Table 14 points out that the value of significant is 0.001 (<0.01) means there is significantly different of consequence information, nutrient familiarity, and preventive orientation towards MOTIVAS. This proved that group of respondents with high or low preventive will affect motivation to process on utilization nutrition information. Then to identify by individually which group of cells that significantly difference, thus experimenter trying to test the contrast.

Table 15. New Contrast Test Cell towards MOTIVAS

Contrast Coefficients								
Contrast	FS							
	1	2	3	4	5	6	7	8
1	1	0	0	0	-1	0	0	0
2	0	1	0	0	0	-1	0	0
3	0	0	1	0	0	0	-1	0
4	0	0	0	1	0	0	0	-1
5	1	-1	0	0	0	0	0	0
6	0	0	0	0	1	-1	0	0

Contrast Tests								
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment	
MOTIVAS	1	.0002	.16608	.001	222	.999	M111 > M211	
	2	.5680	.23674	2.399	222	.017	M112 > M212	
	3	-.0980	.17403	-.046	222	.963	M121 > M221	
	4	.1210	.22651	.534	222	.594	M122 > M222	
	5	.0901	.21226	.283	222	.777	M111 > M112	
	6	.6279	.18641	3.197	222	.002	M211 > M212	
Does not assume equal variances	1	.0002	.17620	.001	75.790	.989		
	2	.5680	.26270	2.162	34.119	.038		
	3	-.0980	.15044	-.053	68.960	.958		
	4	.1210	.22659	.534	38.444	.596		
	5	.0601	.23429	.256	28.765	.799		
	6	.6279	.21252	2.954	43.896	.005		

Contrast Coefficients								
Contrast	FS							
	1	2	3	4	5	6	7	8
1	0	0	1	-1	0	0	0	0
2	0	0	0	0	0	0	1	-1
3	1	0	-1	0	0	0	0	0
4	0	0	0	0	1	0	-1	0
5	0	1	0	-1	0	0	0	0
6	0	0	0	0	0	1	0	-1



Contrast Tests								
		Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment
MOTIVAS	Assume equal variances:	1	.4446	.20446	2.175	222	.031	M122 > M121
		2	.5737	.19947	2.876	222	.004	M221 > M222
		3	-.1199	.16843	-.712	222	.477	M111 > M121
		4	-.1281	.17176	-.746	222	.457	M211 > M221
		5	.2647	.24185	1.094	222	.275	M112 > M122
		6	-.1823	.22105	-.825	222	.410	M212 > M222
	Does not assume equal variances:	1	.4446	.20187	2.202	33,527	.035	
		2	.5737	.18227	3.147	41,708	.003	
		3	-.1199	.16224	-.739	75,344	.462	
		4	-.1281	.16540	-.774	69,949	.441	
		5	.2647	.26330	1.005	33,181	.322	
		6	-.1823	.22590	-.807	41,127	.424	

Based on the contrast test in Table 15, we can see that contrast numbers 2, 6, 1, and 2 are below the p-value (<0.05). Each value of significance is 0.017, 0.002, 0.031, and 0.004, respectively.

- M112 > M212 with a p-value below 0.05 indicates that the group of respondents with high consequence information evokes higher motivation to process than group of respondents who are low consequence information.
- M211 > M212 with a p-value below 0.01 indicates that group of respondents with high preventive evokes higher motivation to process than group of respondents who are low preventive.
- M121 > M122 with a p-value below 0.05 indicates that the group of respondents with high preventive evokes higher motivation to process than group of respondents who are low preventive.
- M221 > M222 with a p-value below 0.01 indicates that group of respondents with high preventive evokes higher motivation to process than group of respondents who are low preventive.

From the analysis, we can conclude that:

H1: Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher purchasing intention than do disclosures that are less arousing and specific in guidance.

H4: Across a diversity of consumer characteristics, people who have high preventive orientation evoke higher motivation to process than people who have low preventive orientation.

## 2. Ability to Process (ABILITY)

Table 16 analyzes the impact of consequence information, nutrient familiarity, and preventive orientation towards ability to process (ABILITY). Table 16 points out that the value of significance is 0.000 (<0.01) which means that there is significant difference of consequence information, nutrient familiarity, and preventive orientation towards ABILITY. This proved that group of respondents with high or low preventive will affect ability to process on utilization nutrition information.

Table 16. New Level of Significance Cell towards ABILITY

ABILITY					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.888	7	2.270	6.010	.000
Within Groups	83.845	222	.378		
Total	99.733	229			

Based on the contrast test in Table 17, we can see that more contrast numbers that are significantly different compared to motivation to process (contrast numbers 2, 6, 1, 2, and 6 that are below the p-value of 0.05). Each value of significance is 0.000, 0.000, 0.044, 0.004, and 0.021, respectively.

- M112 > M212 with a p-value below 0.01 indicates that the group of respondents with high consequence information evokes higher motivation to process than group of respondents who are low consequence information.
- M211 > M212 with a p-value below 0.01 indicates that the group of respondents with high preventive evokes higher motivation to process than group of respondents who are low preventive.
- M121 > M122 with a p-value below 0.05 indicates that the group of respondents with high preventive evokes higher ability to process than group of respondents who are low preventive.

- M212 > M222 with a p-value below 0.01 indicates that respondents with familiar nutrient conditions have a higher ability to process than those with unfamiliar nutrient treatment.
- M221 > M222 with a p-value below 0.01 indicates that respondents with high preventive values evoke a higher ability to process than respondents with low preventive treatment.

Table 17. New Contrast Test Cell towards ABILITY

Contrast	FS							
	1	2	3	4	5	6	7	8
1	1	0	0	0	-1	0	0	0
2	0	1	0	0	0	-1	0	0
3	0	0	1	0	0	0	-1	0
4	0	0	0	1	0	0	0	-1
5	1	-1	0	0	0	0	0	0
6	0	0	0	0	1	-1	0	0

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment	
ABILITY	1	.9043	.13922	.631	222	.526	M111 > M211	
	2	.7701	.19845	3.880	222	.000	M112 > M212	
	Assume equal variances	3	-.0155	.14588	-.092	222	.926	M121 > M221
	4	.1250	.18987	.658	222	.511	M122 > M222	
	5	-.0445	.17793	-.250	222	.803	M111 > M112	
	6	.7213	.16464	4.381	222	.000	M211 > M212	
Does not assume equal variances	1	.9043	.14780	.629	75.671	.527		
	2	.7701	.20305	3.792	29.108	.001		
	3	-.0155	.13141	-.103	68.494	.919		
	4	.1250	.19997	.625	56.847	.536		
	5	-.0445	.20099	-.221	30.056	.826		
	6	.7213	.15060	4.789	49.382	.000		

Contrast	FS							
	1	2	3	4	5	6	7	8
1	0	0	1	-1	0	0	0	0
2	0	0	0	0	0	0	1	-1
3	1	0	-1	0	0	0	0	0
4	0	0	0	0	1	0	-1	0
5	0	1	0	-1	0	0	0	0
6	0	0	0	0	0	1	0	-1

	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment	
ABILITY	1	-.3472	.17139	-2.026	222	.044	M111 > M112	
	2	.4857	.16721	2.905	222	.004	M221 > M222	
	Assume equal variances	3	-.1785	.14319	-1.264	222	.208	M111 > M121
	4	-.1962	.14398	-1.363	222	.174	M211 > M221	
	5	.2132	.20279	1.052	222	.294	M112 > M122	
	6	-.4318	.18530	-2.330	222	.021	M212 > M222	
Does not assume equal variances	1	-.3472	.18530	-1.874	33.646	.070		
	2	.4857	.15139	3.208	41.339	.003		
	3	-.1785	.14640	-1.219	73.740	.227		
	4	-.1962	.13397	-1.476	70.556	.144		
	5	.2132	.23687	.924	34.385	.362		
	6	-.4318	.16708	-2.584	41.695	.013		

Based on the discussion, we can conclude that:

- H1: Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher purchasing intention than do disclosures that are less arousing and specific in guidance.
- H4: Across a diversity of consumer characteristics, people who have high preventive orientation evoke higher motivation to process than people who have low preventive orientation.
- H3: Nutrition disclosures containing familiar information evoke higher ability to process than do disclosures containing unfamiliar information.

### 3. Purchasing Intention (PURCHASE)

Table 18 analyzes the impact of consequence information, nutrient familiarity, and preventive orientation towards purchasing intention (PURCHASE). Table 18 shows that the value of significance is 0.308 above the p-value (>0.05) which means that there is no significant difference of consequence information, nutrient familiarity, and preventive orientation towards PURCHASE. This analysis described that there is an exception against preventive orientation to purchasing intention. However, if we flash back to the first compare means analysis without preventive, there is an effect towards PURCHASE.

Table 18. New Level of Significance Cell towards PURCHASE

PURCHASE					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10.284	7	1.469	1.192	.308
Within Groups	273.643	222	1.233		
Total	283.927	229			

Table 19. New Contrast Test Cell towards PURCHASE

Contrast Coefficients									
Contrast	FS								
	1	2	3	4	5	6	7	8	
1	1	0	0	0	-1	0	0	0	0
2	0	1	0	0	0	0	-1	0	0
3	0	0	1	0	0	0	0	-1	0
4	0	0	0	1	0	0	0	0	-1
5	1	-1	0	0	0	0	0	0	0
6	0	0	0	0	0	1	-1	0	0

Contrast Tests									
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment		
PURCHASE	1	.3096	.25150	1.231	222	.220	M111 > M211		
	2	-.2557	.35852	-.715	222	.476	M112 > M212		
	3	-.4949	.26355	-1.878	222	.062	M121 > M221		
	4	.0995	.34302	.290	222	.772	M122 > M222		
	5	.5085	.32144	1.582	222	.115	M111 > M112		
	6	-.0568	.29743	-.191	222	.849	M211 > M212		
PURCHASE	1	.3096	.31283	.990	73.057	.326			
	2	-.2557	.41544	-.616	28.106	.543			
	3	-.4949	.18669	-2.651	33.428	.011			
	4	.0995	.27519	.362	28.103	.720			
	5	.5085	.40391	1.259	27.065	.219			
	6	-.0568	.32761	-.173	55.478	.863			

Contrast Coefficients									
Contrast	FS								
	1	2	3	4	5	6	7	8	
1	0	0	1	-1	0	0	0	0	0
2	0	0	0	0	0	0	1	-1	0
3	0	0	0	0	0	0	0	0	0
4	0	0	0	0	1	0	0	-1	0
5	0	1	0	-1	0	0	0	0	0
6	0	0	0	0	0	1	0	0	-1

Contrast Tests									
	Contrast	Value of Contrast	Std. Error	t	df	Sig. (2-tailed)	Hypothesis Cell Experiment		
PURCHASE	1	-.1087	.30963	-.351	222	.726	M121 > M122		
	2	.4857	.30207	1.608	222	.109	M221 > M222		
	3	.5434	.25506	2.127	222	.035	M111 > M112		
	4	-.2620	.26011	-1.007	222	.313	M211 > M221		
	5	-.0748	.36625	-.204	222	.838	M112 > M122		
	6	.2805	.33475	.838	222	.403	M212 > M222		
PURCHASE	1	-.1087	.29608	-.367	35.895	.716			
	2	.4857	.15139	3.208	41.339	.003			
	3	.5434	.25979	2.088	72.507	.040			
	4	-.2620	.25541	-1.026	46.748	.310			
	5	-.0748	.42815	-.175	29.656	.863			
	6	.2805	.25497	1.100	32.685	.279			

Based on contrast test in Table 19, we can see that only one contrast number that is significantly different, which is contrast number 2 ( $0.035 < 0.05$ ).

- M111 > M121 with a p-value below 0.05 indicates that the group of respondents with familiar nutrient condition evokes higher purchasing intention than group of respondents who received unfamiliar nutrient treatment.

Thus, we can conclude that:

H3: Nutrition disclosures containing familiar information evoke higher purchasing intention than do disclosures containing unfamiliar information.

### Research Discussion

Based on the research findings, there are some support and difference compared to previous study from Moorman (1990). In overall this study found no significantly different mean regarding three levels of consequence information (high, low, control), two kinds of reference information (present, absent), and two

paired of nutrient familiarity (familiarity, unfamiliar) towards MOTIVAS. However, when it tested PURCHASE and ABILITY, it is significantly different. It is difference from Moorman's findings that consequence information (high, low, control), two kinds of reference information (present, absent), and two paired of nutrient familiarity (familiar, unfamiliar) are influential to MOTIVAS. This study proved that Indonesian people are less motivated or less interested to read nutrition information in label product packaging. Moreover, nutrient familiarity is significantly different, and then in consequence information just high and low arousal which affects the variable response, yet reference information did not find any impact. Moorman's (1990) study found that reference information appears to play more limited role in the utilization of nutrition information.

Related to those findings, the second experiment with preventive orientation had significantly different means on the MOTIVAS, ABILITY, and PURCHASE variables. This finding is quite the opposite to the first test, which was significantly different towards MOTIVAS and ABILITY, but not for PURCHASE. However, overall results, individually all independent variables tested are having impacts. According to all findings, we conclude that we can accept hypotheses 1, 3, and 4, but reject hypothesis 2, which is related to reference information. Therefore, based on all research findings, the variable that affects motivation and ability to process are consequence information (high and low negative arousal), nutrient familiarity (familiar, unfamiliar), and preventive orientation (high, low). The level of their preventive orientation of health hazards directly proportional with how motivated they are. People who have high preventive orientation will have more motivation to process on utilizing nutrition information product label when the negative arousal of consequence information is high. Logically, with high preventive orientation, they might have enough knowledge regarding health hazards. Thus, when they are given an advertising with highly negative arousal consequence information, it will increase their personal relevance impacting an increase in motivation. Additionally, this experiment found out that their capacity to transform perceptual stimuli into meaningful information determined by the length of message itself. They pay more attention and utilize more of the message when it is simple and easy to understand. Contents with more complex and complicated will be more difficult to digest. Another finding is their capability to utilize the message is increased when there is information regarding familiar nutrition rather than unfamiliar nutrition. In order to solve that problem, companies are advised to educate people who have low preventive orientation concerning health hazards. In contrast, the effect of purchasing intention is not associated or influenced by consumer's preventive orientation. They will be affected to purchase a product just when there are recommendation statement and specific guidance from expertise, present of reference, and high negative arousal consequence information on product label or packaging.

## V. CONCLUSION

This research experiment aims to find out if and how the Indonesian consumer characteristics and stimulus characteristics affect the utilization of nutrition information and purchasing intention. First, the stimulus and characteristics are manipulated and transformed into a label of the product by some treatments of negative arousal consequence information (three paired levels: high, low, and control) and recommendation components, reference information (consist of present and absent of RDA), and nutrient familiarity (divided into familiar and unfamiliar) inside. Then, for the dependent variables, such as motivation to process and ability to process, are the measurements of the utilization of nutrition information. Finally, for purchasing intention, it is the action of impact on utilization nutrition information. After further testing, the authors proved that there is another variable that affects the variable response, which is preventive orientation.

Nutrition disclosures containing highly arousing consequences and specific guidance on ways to minimize these consequences result in higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than do disclosures that are less arousing and specific in guidance. Three categories have proven to have significant differences or have an impact on the motivation to process, ability to process, and purchasing intention.

Nutrition disclosures containing reference information and consequence information evoke higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than do

disclosures not containing both types of information. No category has significant differences or impacts on the motivation, ability to process, and purchasing intention.

Nutrition disclosures containing familiar information evoke higher motivation to process, or/and higher ability to process, or/and higher purchasing intention than disclosures containing unfamiliar information. Three categories have proven to have significant differences or impact the motivation to process, ability to process, and purchasing intention.

Across a diversity of consumer characteristics, people with high preventive orientation evoke higher motivation to process, or/and ability to process, or/and purchasing intention than people with low preventive orientation. Three categories have proven to have significant differences or impact the motivation to process, ability to process, and buying intention.

### Managerial Implication

This research finding could bring some managerial implications to apply the strategy that makes consumers utilize more nutrition information on product packaging and attract potential customers to purchase the product. This implication may benefit companies and assist policymakers in designing legal policies that promote health. Moreover, it can help consumers in choosing products associated with nutrition and their health. The suggestion or recommendation related to this research for managerial implication in Indonesia to develop product packaging requiring nutrition info companies should consider several components: 1. To use other popular nutrition on product packaging. 2. To apply negative arousal consequence information to increase consumers' need for information about the relevant attribute. This would increase the need for information reflecting consumers' motivation to process the message, 3. To give complete information with specific guidance, especially from the expertise, but an easy way to understand, proceed, or simple word. It would be more accurate if the sample study were to the broader population. It is recommended to do a further study using infant milk. Further research is also advised to implicitly analyze why Indonesian people are less motivated and interested to read nutritional information.

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