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경제학 석사 학위논문

The Effect of Temporal Distance  
between Purchase and  
Consumption  
over Food Purchasing Behavior

식품 섭취 시점의  
시간적 거리에 따른 소비자 구매행동

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서 소 영

# Abstract

## The Effect of Temporal Distance between Purchase and Consumption over Food Purchasing Behavior

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Governments worldwide, as well as researchers, are making a concerted effort to prevent food stockpiling, which has been identified as a cause of obesity. Nevertheless, the problem of obesity has gradually become a widespread worldwide concern. For this reason, researchers have shed light on the importance of factors that cause the consumer to purchase a large quantity of food at one time. Therefore, this study indicates that, according to previous studies, it can be inferred that the temporal distance between purchase and consumption is the result of an individual's decision, an endogenous factor affecting consumer food-purchasing behavior. Two experimental studies were therefore established. In study one it was shown that at the situation of purchasing a single item, such as a loaf of bread, ramen, milk, or coke, whether the temporal distance of the consumption moment was near or distant,

such as directly following purchase or two days later, the effect of the consumer's food-purchasing behavior was confirmed. Following study one, study two involved the purchase of multi-food products at an online market that a large retail offline shop operated. This study also confirmed the influence of the temporal distance between purchase and consumption, which was set by a delivery date of immediately after purchase versus two days after purchase. Additionally, the effect of the availability of nutrition information was confirmed. The common result of both studies was that consumers increased their purchasing when they purchased food for distant-future consumption rather than for near-future consumption. In study two, regarding nutrition information, the results indicated that, when nutrition information was provided, the total calorie count of a subject's shipping order was lower than when nutrition information was not stated. The concluding results indicate to us that consumers' food-purchasing behaviors differ according to the temporal distance of purchase and consumption. Moreover, the availability of nutrition information at the time of purchase also can affect consumers' food-purchasing behaviors.

**Keyword:** Temporal distance, Food product, Consumer behavior, Nutrition information

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# Chapter 1. Introduction

## 1.1. Study Background

Due to the development of science, and in accordance with the development of the cold chain system, we can purchase food for both the near future (e.g., right after purchasing) and the distant future (e.g., one week later). In fact, when we go grocery shopping, we face numerous marketing promotions that encourage us to purchase large quantities of food at one time. The most common marketing promotion in grocery stores is the point-of-purchase (POP) advertisement. With the POP advertisement, consumers face the promotion in the same place and at the same time of purchase, so it directly influences their purchasing decisions (Belch & Belch, 2003; Buscher et al., 2001). Especially for low-involvement products, such as food, consumers are easily influenced by POP advertisements, which means they purchase products without giving them much consideration (Krugman, 1997). However, purchasing a large quantity of food at one time causes food wastage (Porpino, 2016) and especially obesity (Sede & Ehizele, 2015), as storing a large quantity of food causes us to consume food twice as quickly (Sede & Ehizele, 2015). Accordingly, governments and researchers

are making an effort to solve the obesity problem. Previous studies revealed that individual exogenous factors, such as the type and size of a package (Kahn & Wansink, 2004), the size of a serving bowl, a product's taste (Rolls et al., 1981), and a product promotion (Belch & Belch, 2003; Buscher et al., 2001), lead us to stockpile food. However, few studies have focused on individual endogenous factors, such as the purpose of purchasing a product (e.g., Chandon & Wansink, 2002). However, whether the temporal distance between the purchase moment and the consumption moment influences consumers' food-purchasing behaviors has still not been examined.

For these reasons, in this paper, two experimental studies were conducted. These studies investigated whether consumers' purchasing behaviors differed according to the temporal distance between the purchasing moment and the consumption moment, whether the temporal distance was near or far. Through the results of these studies, we can understand more specifically what consumers' needs and priorities are regarding food. Moreover, the results of the study will help to create more practical food marketing strategies.

## 1.2. Purpose of Research

The main goal of this study was to investigate whether consumers' food-purchasing behaviors can differ according to the temporal distance between the purchasing moment and the consumption moment.

As such, through two experimental studies, the influence of the temporal distance between the purchasing moment and the consumption moment on consumers' food-purchasing behaviors was examined. To establish study one and study two, literature regarding 1) consumers' food-related behaviors, 2) temporal distance, and 3) nutrition information were reviewed. First, to check the influence of nutritional information and the temporal distance between the purchasing moment and the consumption moment on consumers' behaviors, the author conducted experiments involving each of four different food items. Moreover, the author investigated whether the components of consumers' shopping carts could differ due to the temporal distance between the purchasing moment and the consumption moment and due to nutritional information.

## Chapter 2. Theoretical Background

### 2.1. Consumers' Food-Related Behaviors

When it comes to making a decision regarding food, consumers are influenced by many kinds of factors, such as advertisements, package design, and information regarding food products. The factors that influence our decisions can be divided into two aspects. The first aspect is the internal element of products, and the second aspect is the external element of products. In the following sections, the literature regarding consumer food-purchasing behavior is reviewed in detail.

#### 2.1.1 The internal element of the product

The most basic factor that influences consumer food selection is the flavor of food (Grunert et al., 2000; Tepper & Trail, 1998). Accordingly, when consumers' expectations regarding the flavors of certain food items are not confirmed, consumers reduce their preferences for those food choices (Tepper, 1993). The variety of products' tastes (Rolls et al., 1981) and packaging (Kahn & Wansink, 2004) ultimately increases consumption. The

availability of large amounts of food also increases consumption (Chandon & Wansink, 2002; Wansink et al., 2005; Raynor et al., 2007; Devitt & Mattes, 2004; Fisher & Kral, 2008; Wansink, 1996). Chandon and Wansink (2002) found that stockpiling, which is the act of purchasing a large quantity of a product, increases the amount of consumption that takes place even if the purpose of the purchase was different (exogenous reason vs. endogenous reason). Also, Wansink and Kim (2005) found that, regardless of the taste of popcorn, consumers increased their popcorn consumption when they were given popcorn in large containers. Moreover, Raynor et al. (2007) found that it was not the package unit size but rather the amount of food that increased food consumption. Small quantities of food sometimes increases food intake, too (Do Vale et al., 2008; Scott et al., 2008). Consumers' attitudes toward food products can differ based on whether the products have hedonic or utilitarian attributes. For instance, when the product's attribute is related to hedonic, when self-regulatory concerns are activated, consumers believe that small packaging helps to regulate consumption; however, it actually increases consumption (Do Vale et al., 2008). The hedonic attribute and utilitarian attribute are closely related to virtue and vice attributes. Virtue characteristics are related to utility because consumers categorize virtue foods as healthy, and

vice characteristics are related to the hedonic attribute because they categorize vice food as unhealthy. Previous studies found that people estimate the number of calories of food to be lower when they cognitively think the food is a virtue food (Andrew et al., 2000; Wansink & Chandon, 2006). Also, prior research revealed that consumers' perception of vice food is negative; however, based on desire, which is an associated sensation, consumers have a tendency to purchase energy-dense foods impulsively. (Thomas et al., 2011). Therefore, we can see that consumers' attitudes toward food products can differ based on whether the products have virtue or vice characteristics.

### **2.1.2 The external element of the product**

Well-known brand-name products are more frequently selected among consumers because they help to reduce search costs (Chandon et al., 2009; Van der Lans et al., 2008). Therefore, a brand's unique set of factors, characteristics, color, design, and packaging texture—the components of brand identity (Harris et al., 2009)—can influence food-purchasing decisions. Consumers also have expectations about the flavor of a food item based on the color of the packaging (Piqueras-Fiszman & Spence, 2011). Moreover,

Becket et al. (2011) found that the visual elements of a package, such as the color and shape, influence a consumer's product evaluation. The transparency of packaging also influences food consumption. Consumers showed a large amount of consumption behavior for visually attractive food products packed in transparent packaging (Deng & Srinivasan, 2013). Descriptive labels and names (vs. regular names) also influence sales and consumers' sensory perceptions (Wansink et al., 2001; Wansink et al., 2005), they found that descriptive names increased unit sales and increased sensory perceptions. Previous studies also found that the sustainability information of products also influences consumer behavior (Sörqvist et al., 2013; Lee et al., 2013; Rousseau, 2015). Sörqvist et al. (2013) found that consumers concerned about sustainability rated foods higher in taste evaluations and showed a willingness to pay for eco-friendly labeled coffee. Moreover, participants indicated a higher willingness to pay for organic-labeled food products over regularly labeled products (Lee et al., 2013). Rousseau (2015) found that consumer preference for fair-trade-labeled chocolate was higher than that for organic-labeled chocolate. In general, increasing the complexity of the sensory experience improves palatability (Elder & Krishna, 2010). Downs et al. (2009) found that displaying healthy foods conspicuously on a

menu significantly increased sales. Moreover, Tal and Wansink (2013) conducted a laboratory study dealing with level of hunger and found that hungrier consumers purchased more calorie-dense foods than did less hungry consumers.

Through the available literature, we can conclude that several main factors may cause the consumer stockpiling of food. Furthermore, we can see that two types of factors influence consumers' food-purchasing decisions: One is related to individual exogenous factors, such as the size or color of packaging, and the other is related to individual endogenous factors, such as self-regulatory concerns or concern regarding sustainability, derived from oneself. We frequently do advance purchases for future consumption; this means that a temporal distance exists between purchase and consumption. Future outcomes imply a degree of uncertainty; nevertheless, we postpone the result of choice. Therefore, many researchers have focused on the significance of temporal distance in individual decision-making.

## 2.2. Temporal Distance

At fast food restaurants, we order food and receive it shortly thereafter. In these situations, the results of decision-making appear immediately. On the other hand, at places such as a supermarket, we purchase food in advance for consumption over a few days or up to a month later. The results of the decision-making that takes place there appear later. We make decisions for the near future and the distant future, and these are common in the consumer domain. Therefore, numerous studies have been done on the temporal distance between decisions and results.

### 2.2.1 Time discounting

Prior studies done on time discounting explained how the preference for decisions changes over time (e.g., Ainslie, 1975; Read & Loewenstein, 2000) and why temporal distance may alter decisions (Trope & Liberman, 2000; Zhao et al., 2007). If the amount of the reward between a near-future reward and a distant-future reward is the same, individuals prefer the near-future reward over the distant-future reward (Liberman & Trope, 1998).

The discounted utility model (Samuelson, 1937) explains this phenomenon. However, the discounted utility theory is not constant all of the time.

### **2.2.2 Construal level theory (CLT)**

Another popular theory related to temporal distance is the construal level theory (CLT). Inferences are different according to time–distance (Förster et al., 2004; Trope & Liberman, 2003). The distant future is related to high–level construal; thus, we expect results from concrete, complex, secondary, and goal–irrelevant inferences. On the contrary, the near future is related to low–level construal, and we expect results from abstract, simple, core, and goal–relevant inferences. A more interesting characteristic is that, when the temporal distance is further away, people have more positive perceptions; meanwhile, people have more negative perceptions when the temporal distance is closer (Trope & Liberman, 2003).

### **2.2.3 Anticipated satisfaction**

Consumers form mental images related to one or more of the options presented to them. Their final decisions are likely to be based on the focus of their imagery-related processes. McGill and Anand (1989) suggested that, whenever consumers engage in mental imagery, vivid attributes (i.e., those easy to visualize) attract more attention. In other words, consumers imagine alternatives and evaluate the desirability of these alternatives through their imaginations (Keller & McGill, 1994). Therefore, Shiv and Huber (2000) suggested that, when the purpose of making a decision is based on the anticipated satisfaction, a consumer makes the decision based on the mental imaging process. Therefore, he or she attaches more importance to the vividness of the results.

#### **2.2.4 Theories violate discounted utility theory**

Previous research demonstrates a variety of findings that violate the discounted utility theory. Some previous studies found that, even though the amount of a near-future reward may be smaller than that of a distant-future reward, consumers often prefer the near-future reward (Benzion et al., 1989; Green et al., 1994), and this is called “time preference.” Another theory that violates the discounted utility theory is called the “rosy view.”

Consumers have a tendency to evaluate an event more positively when they anticipate the results of the event compared to after they have actually experienced the event (Mitchell et al., 1997). Therefore, consumers pass over the demerits of an upcoming event (Buehler et al., 1994; Newby-Clark et al., 2000). In other words, a consumer's evaluation of an event can differ in accordance with when he or she evaluates the event. It is because at the moment of pre-event evaluation, we infer distant-future results with abstract, simple, and core cues (Förster et al., 2004; Trope & Liberman; 2003). When the temporal distance increases, consumers are less influenced by the affective features of tasty foods; as a result, they are more likely to consume healthy foods (Laran, 2010). The other theory, which violates the discounted utility theory, is that of "anticipated satisfaction." The consumer forms mental images related to one or more of the options available, and the final decision is likely to be based on the focus of these imagery-related processes. When consumers engage in mental imagery, vivid attributes (i.e., those easy to visualize) attract more attention (McGill & Anand, 1989). Consumers make decisions based on the mental imaging process; therefore, they attach more importance to the vividness of the results (Shiv & Huber, 2000). Therefore,

consumers prefer alternatives that can be described in vivid mental images.

Based on the literature regarding the issue of consumers' food-related behaviors and temporal distance, we can positively infer that the temporal distance between purchase and consumption can significantly influence such behavior. Consumers' evaluations of distant-future outcomes may vary according to the attributes of a product. The most important attribute of a food product is its nutritional value. Recently, governments around the world have mandated that the nutrition information of certain food products be provided to consumers. Consequently, numerous researchers have focused on the effects of providing nutrition information. Moreover, although providing this information may be mandated, not every consumer reads it. Therefore, it is necessary that we further review the literature on the subject of nutrition information and its long-term effects.

## **2.3. Nutrition Information**

Numerous studies exist regarding nutrition information. Previous studies regarding nutrition information can be divided into two aspects. The first aspect is focused on the factors that make consumers use nutrition information. The second aspect is focused on the effect of providing nutrition information to consumers. In this section, the literature regarding nutrition information is reviewed in two sections.

### **2.3.1 The factors that make consumers use nutrition information**

An individual's information-search behavior affects his or her individual characteristics (Ippolito & Mathios, 1990). The use of nutrition information varies due to the perceived amount of benefit and risk of using such information (Baltas, 2001). Past studies focused on various demographic characteristics. Some previous studies found that gender and the use of nutrition information are correlated. Previous studies (Guthrie et al., 1995; Mangleburgg et al., 1997; Nagya, 1997) found that the usage of nutrition information is greater among female consumers. Previous studies

also revealed that age can affect an individual's use of nutrition information (Burton & Andrews, 1996; Bender & Derby, 1992). Researchers also found that higher education levels lead to higher levels of nutrition information use (Drichoutis et al., 2005; Feick et al., 1986). Other demographic characteristics are related to the use of nutrition information as well. For instance, an individual's income has a positive correlation with the use of nutrition information (McLean-Meyinsee, 2001; Piedra et al., 1996). Especially low-income consumers choose not to read nutrition information, preferring instead to rely on the visual estimation of a package's weight or volume to infer the amount of product it contains (Dammann & Smith, 2009). However, household size has a negative correlation (Drichoutis et al., 2005; Govindasamy & Italia, 2000). Moreover, an individual's concern about diet is also related to nutrition information usage. Some previous studies (Drichoutis et al., 2006; Levy & Fein, 1998) argued that a positive relationship exists between the use of nutrition information and an individual's knowledge regarding nutrition. People with high body mass indexes (BMIs) underestimate calories more than do people with low BMIs (Livingstone & Black, 2003). Therefore, consumers' use of nutrition information can also differ according to individuals' BMIs.

### 2.3.2 The effects of providing nutrition information to consumers

As with other marketing actions, labeling effects are context dependent and have different effects when framed positively or negatively. For example, “75% fat-free” beef was perceived to be leaner and higher in quality than that labeled “25% fat” (Levin & Gaeth, 1988). Consumers were more sensitive to negative nutrition attributes compared to positive nutrition attributes (Balasubramania & Cole, 2002). In addition, previous literature (Burton & Andrews, 1996) argued that nutrition information may be more useful and relevant to consumers for product categories that are perceived to be less nutritious. However, some found that consumer attitudes toward food with nutrition information can differ according to the perceived healthfulness of the product (Wei & Miao, 2013). Wei and Miao (2013) found that, when the healthfulness of a restaurant is high, people choose energy-dense foods when the nutrition information is not given. In contrast, when the healthfulness of a restaurant is low, people choose energy-dense food when the nutrition information is given. Previous studies found that calorie information improves food decisions (Downs et al., 2009; Ludwig & Brownell, 2009; Roberto et al., 2010; Bollinger et al., 2011). Roberto et al. (2010) found that providing calorie

information leads to reduced calorie intake. Bollinger et al. (2011) also found that providing calorie information can reduce the average calories per transaction.

In summary, the literature regarding nutrition information indicates to us that the use of this information differs depending on an individual consumer's characteristics, including gender, BMI, educational level, and knowledge of nutrition. Also, it may be noted that fundamentally providing the nutrition information of food products affirmatively affects a consumer's food-purchasing behavior. Accordingly, further focus and study of the factors that are related to the use of nutrition information and the effects of providing this information are required.

# Chapter 3. Study One: The Effect of Temporal Distance between Purchase and Consumption on Consumers' Food–Purchase Behaviors

## 3.1. Hypothesis Development

As humans, we consume food every day. We purchase food for both the near future and the distant future. However, food is easily perishable. Despite this, we tend to purchase large quantities of food at one time. The reasons for this can be explained by three theories: the rosy view, anticipated satisfaction, and CLT.

The theory of rosy view explains why consumers have a tendency to evaluate an event more positively when they anticipate the results of the event than after they actually experience the event (Mitchell et al., 1997). In other words, consumers' evaluations of an event can differ in accordance with when they evaluate the event. According to anticipated satisfaction, the consumer forms mental images related to one or more of the options available, and the final decision is likely to be based on the focus of these imagery–related processes. Many previous studies found that consumers typically prefer the alternative options, which

can be described in vivid mental images (McGill and Anand, 1989; Anand–Keller& McGill, 1994; Shiv and Huber, 2000). In particular, products whose attributes are related to hedonic factors have a higher level of imaginability; therefore, the preference for and imagining of the consumption of food products before having them are positive. This is because at the moment of pre–event evaluation, we infer distant–future results with abstract, simple, and core cues (Förster et al., 2004; Trope & Liberman, 2003).

As mentioned above, food is related to desire; therefore, basically, the attributes of food products are related to hedonic characteristics. Thus, even though some previous studies found that consumers' attitudes toward food can differ according to products' attributes, such as virtue or vice characteristics, in this study, we hypothesized that no difference exists in consumers' purchase intentions; therefore, the purchase quantity will not differ. As a result, we constructed the following hypothesis:

*H1: Consumers will purchase large quantities of food when they purchase food for distant–future consumption rather than for near–future consumption.*

Figure 1 represents the research model of study one based on the proposed hypothesis.

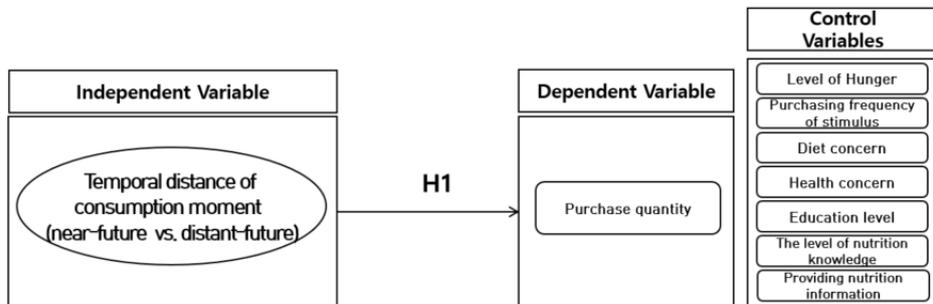


Figure 1 Research model of study one

### 3.2. Experimental Design

In study one, a between-subjects design regarding four different kinds of food products (two virtue foods and two vice foods) was employed to test H1. To check the influence of the temporal distance between the food purchasing moment and food consumption moment, the temporal distance of the consumption moment (near future vs. distant future) was set as an independent variable. To test consumers' food-purchasing behaviors, the purchase quantity was set as a dependent variable. It was valuable to use commonly consumed food as stimuli, as they are closely

related to Korean consumers' nutrition intake. Therefore, four different kinds of products that Koreans commonly consume were chosen, based on 2013 Korea National Health and Nutrition Examination Survey data (Korea Health Industry Development Institute, 2013). Previous studies suggested that consumers' attitudes toward food products whose nutritional information is given can differ according to the product' s attributes (virtue vs. vice). To generalize the effect of the food consumption moment, the author selected comparable products, which are virtue and vice products, based on Thomas et al.' s (2012) food vice index of 100 kinds of food products,. As a result, a loaf of bread and milk were selected as virtue products, and ramen and coke were selected as vice products. According to Eyal et al. (2009), the circumstance of the purchasing moment was manipulated with phrases such as, "You are in a small retail grocery store to purchase food (loaf of bread, ramen, milk, coke), and you will consume it right after (near future) (vs. two days after [distant future]) purchasing it." The nutritional information was given for all stimuli, as providing nutritional information for processed food is mandatory in Korea. To provide the stimuli' s nutritional information, The National Standard Food Composition (Table 1), which is published by a Korean government institution, the Rural Development

Administration (RDA), was used. The RDA provides each product's specific nutritional information. However, providing a large amount of information can cause cognitive load (Chandler & Sweller, 1991; Sweller, 1988). Moreover, a previous study mentioned that providing only the calories of food does not have a significant influence on consumers' food selections or consumption of calories (Sinclair et al., 2014). Therefore, eight kinds of nutrients' (Table 1) values per 100g and the serving size (unit: g) of each item were provided. Through an online experiment, the main effect of the temporal distance between the purchasing moment and the consumption moment (near vs. distant) was investigated.

**Table 1. Nutrient Information**

<b>Nutrient</b>	<b>Unit</b>
Water	g
Protein	g
Carbohydrate	g
Calcium	mg
Sodium	mg
Fat	g
Vitamin C	mg
Dietary Fiber	g

Moreover, based on prior research, the use of information can differ according to an individual's characteristics; as mentioned above, diet concerns (DC), health concern (HC), education level, and the level of nutrition knowledge (NK) can affect the use of nutritional information. These were set as controlled variables. To prevent the bias that can arise from brand preference (Cobb–Walgren et al., 1995), all stimuli were designed as unbranded products. Moreover, the purchasing frequency of a stimulus in daily life and the level of hunger can affect people's food–purchasing behaviors; therefore, the purchasing frequency of a stimulus and the level of hunger (LH) were also controlled. Table 2 shows the operationalization of the variables.

Table 2. Operationalization of Variables

Variable	Scale	Reference	
<b>Diet Concern</b>			
DC	Are you concerned with managing weight a lot?	7-point Likert scale (1=not at all concerned ~7=extremely concerned)	Chernev (2011)
<b>Health Concern</b>			
HC1	I handle myself well with respect to my health.		
HC2	I don't give up easily when it comes to improving my health.		
HC3	I am willing to make daily sacrifices to maintain good health.	7-point Likert scale (1=not at all ~7=very much)	Gebhardt et al. (2001)
HC4	I am determined to be as healthy as I can be.		
HC5	I take care of my health as best as I can.		
HC6	When something goes wrong with my health, I do everything I can to get to the root of the problem.		
<b>Nutrition Knowledge</b>			
NK1	Does an ounce of butter contain more calories than an ounce of polyunsaturated margarine?	1=yes, 2=no (correct answer=no)	
NK2	Is drinking water fattening?	1=yes, 2=no (correct answer=no)	
NK3	Does synthetic vitamin C added to fruit drink give the same benefit as an equal amount of vitamin C from fresh oranges?	1=yes, 2=no (correct answer=yes)	Dugdale et al. (1979)
NK4	Can people stay healthy if they never eat meat, poultry, or fish?	1=yes, 2=no (correct answer=yes)	

NK5	Can eating 2 eggs a day double the blood cholesterol level?	1=yes, 2=no (correct answer=no)	
NK6	Does breast milk contain more protein and calories than cow's milk?	1=yes, 2=no (correct answer=no)	
NK7	Nutritionally, is honey significantly better than sugar?	1=yes, 2=no (correct answer=no)	
<hr/>			
<b>Level of hunger</b>			
<hr/>			
LH	How hungry are you now?	7-point Likert scale (1=not at all ~7=very much)	Tal and Wansink (2013)
<hr/>			

The data analysis of this study was performed using the partial least square (PLS) method for the assessment of the measurement model; one-way analysis of variance (ANOVA) to check whether the control variables (level of hunger, purchasing frequency of stimulus, diet concerns, health concern, education level, level of nutrition knowledge) were controlled; the t-test; and two-way ANOVA for testing the hypothesis (using PLS graph and SPSS 2.1).

### 3.3. Results

#### 3.3.1 Data collection

In study one, an experimental approach was adopted for collecting data and verifying the hypothesis. The experiments were conducted through an online survey company. As Table 3 indicates, a total of 502 subjects participated (loaf of bread, 122; ramen, 127; milk, 128; coke, 125), and data were analyzed according to each stimulus.

**Table 3. The number of responses**

(unit: N)	Loaf of bread	Ramen	Milk	Coke	Total
Near future	62	63	65	63	253
Distant future	60	64	63	62	249
<b>Sum</b>	<b>122</b>	<b>127</b>	<b>128</b>	<b>125</b>	<b>502</b>

#### 3.3.2 Sample characteristics

Demographic characteristics are shown in Table 4. Approximately 50% of the subjects of each stimulus were male, and 50% were female, with ages indiscriminately distributed.

Table 4. Demographic Statistics of Study One

		Loaf of bread		Ramen		Milk		Coke	
		N	%	N	%	N	%	N	%
Sex	Male	62	50.8	65	51.2	65	50.8	62	49.6
	Female	60	49.2	62	48.8	63	49.2	63	50.4
Age	20-29	31	25.4	33	26.0	33	25.8	30	24.0
	30-39	30	24.6	31	24.4	32	25.0	32	25.6
	40-49	31	25.4	33	26.0	30	23.4	32	25.6
	50-59	30	24.6	30	23.6	33	25.8	31	24.8
Marriage	N	49	40.2	53	41.7	50	39.1	49	39.2
	Y	73	59.8	74	58.3	78	60.9	76	60.8
Education	Middle school								
	Diploma or less	1	0.8	2	1.6	0	0.0	0	0.0
	High school	18	14.8	20	15.7	21	16.4	19	15.2
	Undergraduate or college graduate	87	71.3	89	70.1	95	74.2	93	74.4
	Graduate	16	13.1	16	12.6	12	9.4	13	10.4
Job	Office worker	70	57.4	64	50.4	70	54.7	68	54.4
	Public official	6	4.9	5	3.9	7	5.5	3	2.4
	Owner	12	9.8	14	11.0	15	11.7	13	10.4
	Student	13	10.7	16	12.6	14	10.9	14	11.2
	Housewife	17	13.9	16	12.6	15	11.7	18	14.4
	others	4	3.3	12	9.4	7	5.5	9	7.2
Household Monthly Income	2,000,000 KRW less	9	7.4	13	10.2	10	7.8	14	11.2
	2,000,000 KRW ~ 2,990,000 KRW	17	13.9	16	12.6	30	23.4	17	13.6
	3,000,000 KRW ~ 3,990,000 KRW	20	16.4	25	19.7	23	18.0	19	15.2
	4,000,000 KRW	16	13.1	23	18.1	18	14.1	21	16.8

	KRW ~ 4,990,000								
	KRW 5,000,000								
	KRW ~ 5,990,000	28	23.0	23	18.1	15	11.7	27	21.6
	KRW 6,000,000								
	KRW ~ 6,990,000	7	5.7	14	11.0	5	3.9	11	8.8
	KRW 7,000,000								
	KRW ~ 7,990,000	11	9.0	9	7.1	11	8.6	5	4.0
	KRW 8,000,000								
	KRW higher	14	11.5	4	3.1	16	12.5	11	8.8
	1	12	9.8	9	7.1	15	11.7	12	9.6
	2	21	17.2	15	11.8	24	18.8	18	14.4
Household size	3	39	32.0	34	26.8	27	21.1	31	24.8
	4	38	31.1	55	43.3	53	41.4	60	48.0
	5	12	9.8	11	8.7	8	6.3	4	3.2
	6	0	0.0	3	2.4	1	0.8	0	0.0

### 3.3.3. Analysis for Control variables

One-way ANOVA was conducted to check the mean difference between 2x2 between-subjects groups. Table 5 shows the characteristics of group one and group two.

**Table 5. Characteristics of Group 1 and Group 2**

Temporal Distance of Food Consumption	
Near Future	Distant Future
Group 1	Group 2

No differences exist among the experimental groups for each product (Table 6). All of the control variables were controlled.

**Table 6. Mean Difference between Group 1 and Group 2**

Control Variable	Group	M	SD	F-value
<b>Loaf of bread</b>				
Level of hunger	Group 1	4.210	1.357	0.635
	Group 2	4.050	1.419	
Purchasing frequency of stimulus	Group 1	1.210	0.813	1.423
	Group 2	1.033	0.520	
Diet concern	Group 1	4.661	1.254	0.297
	Group 2	4.600	1.012	
Health concern	Group 1	4.427	0.901	-0.195
	Group 2	4.458	0.846	

Education level	Group 1	2.968	0.600	0.011
	Group 2	2.967	0.520	
The level of nutrition information	Group 1	3.387	1.347	1.451
	Group 2	3.050	1.213	
<b>Ramen</b>				
Level of hunger	Group 1	4.206	1.608	1.311
	Group 2	3.859	1.367	
Purchasing frequency of stimulus	Group 1	1.746	1.636	-0.262
	Group 2	1.813	1.194	
Diet concern	Group 1	4.794	1.472	1.367
	Group 2	4.453	1.332	
Health concern	Group 1	4.513	1.031	0.983
	Group 2	4.346	0.877	
Education level	Group 1	2.921	0.655	-0.310
	Group 2	2.953	0.517	
The level of nutrition information	Group 1	3.286	1.156	0.176
	Group 2	3.250	1.127	
<b>Milk</b>				
Level of hunger	Group 1	3.862	1.456	-0.047
	Group 2	3.873	1.289	
Purchasing frequency of stimulus	Group 1	2.138	1.676	0.373
	Group 2	2.032	1.555	
Diet concern	Group 1	4.785	1.293	0.840
	Group 2	4.587	1.364	
Health concern	Group 1	4.523	0.997	-0.511
	Group 2	4.614	1.011	
Education level	Group 1	2.908	0.491	-0.499
	Group 2	2.952	0.521	
The level of nutrition information	Group 1	3.338	1.149	0.742
	Group 2	3.508	1.424	
<b>Coke</b>				
Level of hunger	Group 1	3.397	1.432	-0.872
	Group 2	3.613	1.335	
Purchasing frequency of stimulus	Group 1	1.302	1.291	1.284
	Group 2	1.065	0.674	
Diet concern	Group 1	4.714	1.211	0.598
	Group 2	4.581	1.287	

Health concern	Group 1	4.426	1.043	-0.055
	Group 2	4.435	0.875	
Education level	Group 1	3.016	0.523	1.429
	Group 2	2.887	0.483	
The level of nutrition information	Group 1	3.476	1.120	-0.199
	Group 2	3.516	1.127	

\*p< .1, \*\*p< .05, \*\*\*p< .01

### 3.3.4 Reliability test and convergent validity test

For the assessment of the measurement of health concerns, the reliability test and the convergent validity test were used. To determine the internal consistency of health concerns, the composite reliability (CR) test and Cronbach' s alpha were chosen. According to Bohrnstedt and Knoke (1982), an alpha value higher than 0.70 indicates that a construct has internal validity. Based on Chin (1998), the reliability of individual measures is ensured if factor loading is higher than 0.70, and according to Fornell and Larker (1982), reliability is ensured if the average variance extracted (AVE) is greater than 0.5. All factor loadings of health concerns were greater than 0.70, and the AVE of health concerns was also greater than 0.50 (Table 7).

**Table 7. Reliability and Convergent Validity Check for Study One**

Construct	Items	Factor Loading	AVE	CR	Cronbach's Alpha
Health Concern	HC1	0.758	0.651	0.918	0.892
	HC2	0.852			
	HC3	0.842			
	HC4	0.794			
	HC5	0.837			
	HC6	0.752			

### 3.3.5 Mean difference of virtue and vice food

Before conducting a hypothesis test for this section, the mean difference between virtue food (loaf of bread or milk) and vice food (ramen or coke) was checked using the vice rate (seven-point Likert scale) (Table 8).

**Table 8. Mean Difference of Perceived Viceness between Virtue and Vice Food**

Vice rate (7-point Likert scale)		N	M	SD
Set 1	Loaf of bread	122	3.082	1.340
	Ramen	127	4.150	1.496
t-value		-5.936***		
Set 2	Milk	128	2.414	1.325
	Coke	125	4.848	1.270
t-value		-14.195***		

\*p< .1, \*\*p< .05, \*\*\*p< .01

A significant mean difference between virtue food (loaf bread or milk) and vice food (ramen or coke), subjects rated higher viceness for vice foods (Ramen and Coke) than Virtue foods (Loaf bread and Milk). Results indicated that statistically subjects' perception of ramen was more vice than loaf bread.

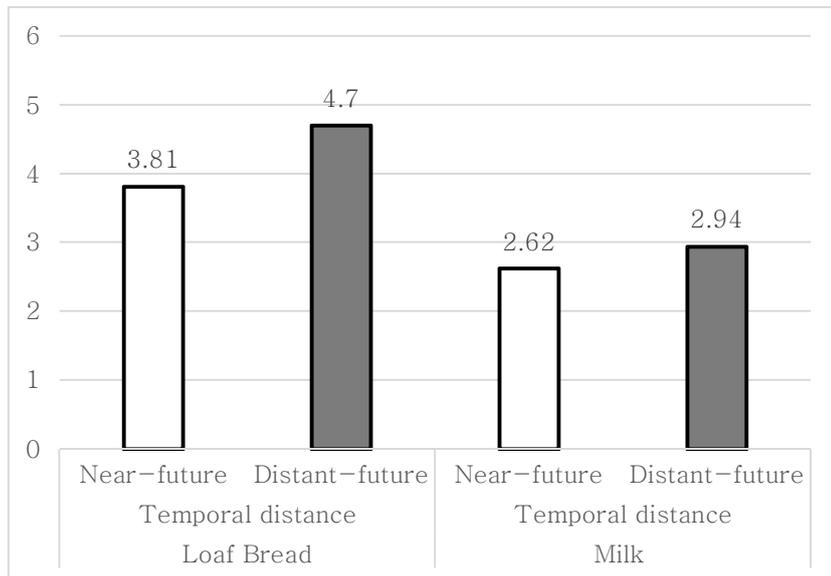
### **3.3.6 Hypothesis test**

To test the effect of temporal distance between purchasing moment and consumption moment, the author analyzed by t-test virtue foods (loaf of bread and milk) and vice foods (ramen and coke). The first set of virtue and vice products was a loaf of bread and ramen set. The second set was a milk and coke set.

#### **3.3.6.1 Virtue foods**

The influence of the temporal distance between the purchasing moment and consumption moment relative to subjects' purchase quantities was confirmed (Table 9, Figure 2). As expected, there were mean differences of purchase quantity in accordance with the temporal distance for a loaf of bread ( $p < .05$ ). The subjects showed higher purchase quantities of loaves of bread

for distant-future consumption (M=4.7) than for near-future consumption (M=3.81). In the case of milk, there was no significant difference ( $p>0.1$ ) of the purchase quantity according to the temporal distance between the purchasing moment and consumption moment. However, as with a loaf of bread, the tendency for consumers to show a higher purchase quantity for distant-future consumption (M=2.94) than for near-future consumption (M=2.62) was found.



**Figure 2 Influence of the temporal distance on purchase quantity: loaf of bread and milk (unit)**

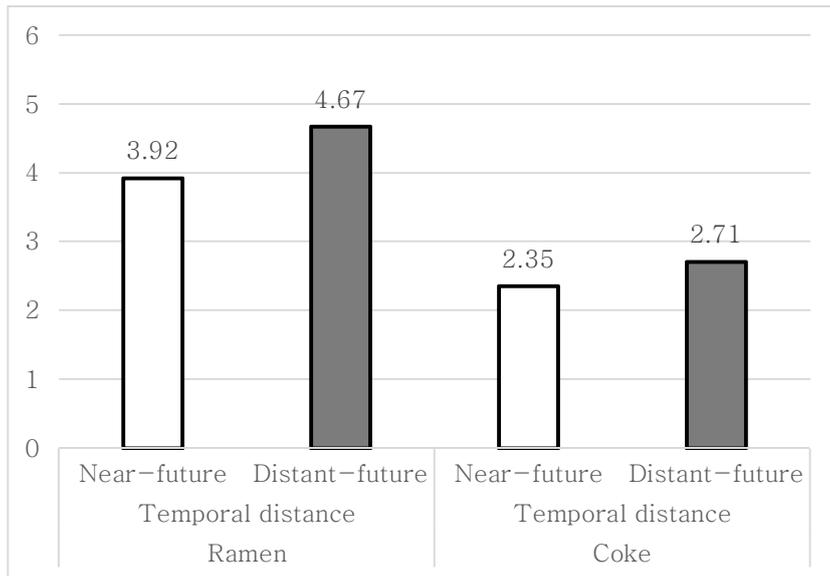
**Table 9. T-Test Result of Study One: Loaf of Bread and Milk**

		Purchase quantity (unit)			
			N	M	SD
Loaf of bread	Temporal	Near future	62	3.81	2.164
	distance	Distant future	60	4.70	2.695
	t-value		-2.022**		
Milk	Temporal	Near future	65	2.62	1.926
	distance	Distant future	63	2.94	1.585
	t-value		-1.028		

\*p< .1, \*\*p< .05, \*\*\*p< .01

### 3.3.6.2 Vice foods

The influence of the temporal distance between the purchasing moment and consumption moment on the purchase quantity for vice food was equal to that for a loaf of bread and milk (Table 10, Figure 3). There were mean differences in the purchase quantity according to the temporal distance for ramen ( $p < .05$ ). The subjects showed higher purchase quantities of ramen for distant-future consumption ( $M = 4.67$ ) than for near-future consumption ( $M = 3.92$ ). For coke, there was no significant difference ( $p > 0.1$ ) of purchase quantity. However, as with ramen, the subjects tended to show higher purchase quantities for distant-future consumption ( $M = 2.71$ ) than for near-future consumption ( $M = 2.35$ ).



**Figure 3 Influence of the temporal distance on purchase quantity: ramen and coke (unit)**

**Table 10. T-Test Result of Study One: Ramen and Coke**

		Purchase quantity (unit)			
		N	M	SD	
Ramen	Temporal distance	Near future	63	3.92	2.288
		Distant future	64	4.67	1.944
	t-value		-1.995**		
Coke	Temporal distance	Near future	63	2.35	2.179
		Distant future	62	2.71	2.364
	t-value		-0.887		

\*p< .1, \*\*p< .05, \*\*\*p< .01

### 3.3.6.3 Two-way ANOVA: loaf of bread versus ramen

Two-way ANOVA (Table 11 and Table 12) analysis indicated the interaction effect between the temporal distance (near

future vs. distant future) and products' attributes (virtue and vice). Similar to the t-test, the two-way ANOVA was used to analyze the loaf of bread and ramen set and then the milk and coke set. The loaf of bread and ramen set, as expected, revealed that the main effect of the temporal distance on subjects' purchase quantities was significant ( $F(1, 245) = 8.073, p=0.005$ ). The participants showed higher purchase quantities for distant-future consumption ( $M= 4.69$ ) than for near-future consumption ( $M= 3.86$ ). However, the main effect of products' attributes was not significant ( $F(1, 245) = 0.022, p=0.882$ ). There was no notable interaction effect between the temporal distance and products' attributes ( $F(1, 245) = 0.06, p=0.806$ ).

**Table 11. Descriptive Statistics of Two-Way ANOVA Results: Loaf of Bread vs. Ramen**

Temporal distance	Product attribute	M	SD	N
Near future	Virtue	3.81	2.164	62
	Vice	3.92	2.288	63
	Sum	3.86	2.219	125
Distant future	Virtue	4.70	2.695	60
	Vice	4.67	1.944	64
	Sum	4.69	2.328	124

**Table 12. ANOVA Results of Study One – Purchase Quantity: Loaf of Bread vs. Ramen**

Source	df	F	p
Intercept	1	872.5	0.000
Product attributes	1	8.073	0.005
Temporal distance	1	0.022	0.882
Product attributes × Temporal distance	1	0.060	0.806
Corrected model	3	2.714	0.045

### 3.3.6.4 Two-way ANOVA: milk versus coke

Similar to the results of the two-way ANOVA (Table 13 and Table 14) for the loaf of bread and ramen set, statistically, there was no significant main effects and interaction effect. However, the results showed that participants tended toward higher purchase

quantities for distant–future consumption than for near–future consumption.

**Table 13. Descriptive Statistics of Two–Way ANOVA Results: Milk vs. Coke**

Temporal distance	Product attribute	M	SD	N
Near future	Virtue	2.615	1.9259	65
	Vice	2.349	2.1788	63
	Sum	2.484	2.0505	128
Distant future	Virtue	2.937	1.5849	63
	Vice	2.710	2.3636	62
	Sum	2.824	2.0043	125

**Table 14. ANOVA Results of Study One – Purchase Quantity: Milk vs. Coke**

Source	df	F	p
Intercept	1	431	0.000
Product attributes	1	1.778	0.184
Temporal distance	1	0.930	0.336
Product attributes × Temporal distance	1	0.006	0.939
Corrected model	3	0.902	0.441

### 3.4. Discussion

The results of study one showed that the purchasing behaviors of consumers differed according to the temporal distance between the purchasing moment and the consumption moment. Consumers tend to purchase large quantities of food whether the products' attributes are related to virtue and vice, when they are buying for distant-future consumption, rather than for near-future consumption. The results of study one also suggest that not only individual exogenous factors (characteristics of product packages, nutrition information, the atmosphere of the market, etc.) but also individual endogenous factors (goal of purchasing food) can affect the purchase amount or the amount of food intake.

The results of study one can suggest to consumers that, to reduce the purchase amount, they should develop the habit of shopping for near-future consumption. On the other hand, the results also suggest that markets can use temporal distance as a marketing promotion strategy. Urging consumers to advance purchase for distant-future consumption can be a new and effective way of promotion.

However, study one has several limitations. First, this study controlled the price of the stimuli. Second, at large retail grocery

stores, consumers compare the prices of many kinds of alternatives before making decisions. They also purchase many kinds of food products. The selected stimuli in this study are commonly consumed foods for Koreans and therefore are meaningful. However, the effect of the temporal distance between the purchase moment and the consumption moment for single items was checked. Therefore, the results can explain only the circumstances when a consumer purchases a single item.

# Chapter 4. Study Two: The Effect of Temporal Distance and Nutrition Information on Consumers' Food-Purchasing Behaviors

## 4.1. Hypothesis Development

In study one, it was confirmed that consumers increased their purchase quantities of food products when they purchased food for distant-future consumption rather than for near-future consumption. At a small retail establishment, we often purchase only a single food product. However, when we go to a large retail store, we tend to purchase a larger number and variety of food products. In study two, by conducting shopping experiments, according to anticipated satisfaction (Keller & McGill, 1994; McGill & Anand, 1989; Shiv & Huber, 2000) the rosy view (Mitchell et al., 1997), and CLT, consumer shopping behaviors that were identical to those of study one were confirmed. Thus, it is possible to suppose that consumers will increase their total payment sizes when they purchase groceries for distant-future consumption rather than for near-future consumption. In addition, as the shopping basket increases, the total calorie count of shopping basket will increase. Therefore, this study hypothesized as follows.

*H2: Subjects' total payments will be greater when they purchase groceries for distant-future consumption rather than for near-future consumption.*

*H3: The total calorie count of the shopping basket will be higher when a consumer purchases groceries for distant-future consumption rather than for near-future consumption.*

Previous studies found that calorie information improves food decisions (Bollinger et al., 2011; Downs et al., 2009; Ludwig & Brownell, 2009; Roberto et al., 2010). By correlating the nutrition label effect with consumers' food consumption patterns, a healthier dietary behavior is urged (Coulson, 2000). Moreover, prior studies (Bollinger et al., 2011; Roberto et al., 2010) found that, when nutrition information and calorie information are given to consumers, they reduce their calorie intake, indicating that nutrition information urges consumers to make more rational decisions. However, providing nutrition information for agricultural products is still not mandatory worldwide. As a result of this, online groceries seldom provide nutrition information. In general, the prices of fresh products are higher than those of processed food products.

Consequently, Hypothesis 4 and Hypothesis 5 were established as follows:

*H4: Subjects' total payments will be greater when the nutrition information of each product is provided (vs. not provided).*

*H5: The total calorie count of the shopping basket will be lower when the nutrition information of each product is provided (vs. not provided).*

In study two, following study one and based on the literature, a research model was developed as follows (Figure 4).

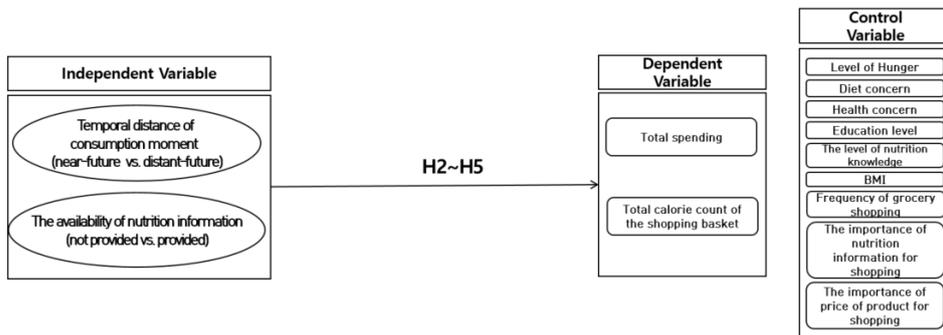


Figure 4 Research model of study two

## 4.2. Methodology

In study two, a 2x2 between-subject design was employed to explore H2 to H5. The temporal distance of the consumption moment (near future vs. distant future) and the availability of nutrition information (not provided vs. provided) were set as independent variables. Also, the total payment and total calorie count of the shopping basket were set as dependent variables. In Korea, large grocery retailers operate both in the offline and online markets, and they provide delivery services. Consumers can freely set the time of delivery. Therefore, by classifying the shopping circumstance as online shopping, the temporal distance between the purchasing moment and consumption moment is clearly divided. To increase the reality of experiment, all product pricing and volumes were set as the real market price and the market volume, respectively. The circumstance of the purchasing moment in study two was manipulated with phrases such as, “You are shopping in a large retail online grocery store that a large offline grocery is operating. There is a promotion campaign. If you purchase among 20 types of products and spend more than 20,000 won, you can get a 1,000-won discount coupon. Therefore, you have decided to purchase groceries costing more than 20,000 won, up to 25,000

won.” This author set the moment of food consumption with, “And you will set the delivery dates to right (vs. two days) after ordering.” As in study one, based on 2013 Korea National Health and Nutrition Examination Survey data and Thomas et al. (2012), the author selected 10 types of virtue and vice food products (a total of 20 types of food products). Because the ordering effect (Kjaer et al., 2006) can be caused by the array of products, the author randomized an array of 20 types of products. The following Table 15 shows the list and information of the stimuli.

**Table 15. The List of Food Products of Study Two**

NO	Virtue	Price	Volume	Vice	Price	Volume
1	Whole Milk	₩ 2,500	1000ml * 1 bottle	Coke	₩ 2,300	1.5L * 1 bottle
2	Orange Juice	₩ 4,600	1.8L * 1 bottle	Sprite	₩ 2,400	1.5L * 1 bottle
3	Pork's Belly	₩ 2,000	100g	Canned ham	₩ 5,500	340g * 1 can
4	Apple	₩ 5,800	250g * 6 apple	Potato chip	₩ 2,400	137g * 1 pack
5	Plain Yogurt	₩ 2,600	85g * 4 unit	Chocolate Milk	₩ 3,600	225ml * 4 bottle
6	Bagel	₩ 3,100	100g * 3 bagel	Chocolate chip Muffin	₩ 5,700	140g * 4 muffin
7	petit Tomato	₩ 4,900	750g * 1 pack	Frozen dumpling	₩ 8,000	490g * 2 pack
8	Tangerine	₩ 6,000	2kg (20 tangerine )	Chocolate chip cookie	₩ 2,700	200g (10 chocolate chip

cookies)

9	Almond Flake	₩ 4,900	620g * 1 box	Instant Ramen	₩ 3,100	120g * 5 pack
10	Almond	₩ 4,600	200g * 1 pack	Milk Chocolate	₩ 1,600	70g * 1 unit

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Also, as in study one, the participants were informed of the eight kinds of nutrition information. Following study one, the level of hunger, diet concerns, health concerns, the education level, and the level of nutrition knowledge were set as control variables. Moreover, because the BMI and individuals' concern for nutrition information (Shine et al., 1997) can affect food-purchasing behavior, the BMI and the importance of nutrition in purchasing food products according to Shine et al. (1997) were set as other control variables. The importance of price (Shine et al., 1997) can also affect the contents of the shopping basket. Because consumers are sensitive to food prices, pricing was also set as a control variable. Hence, by following study one, all stimuli were designed to be unbranded products.

A data analysis of study two was also conducted by using the PLS method to check the reliability and convergent validity; one-way ANOVA was done to check whether the control variables

were controlled; and two-way ANOVA was done for testing the hypotheses. In study two, the PLS graph and SPSS 2.1 were also used.

### 4.3. Results

#### 4.3.1. Data collection

In study two, through an online experiment, hypotheses H2 to H5 were verified. As with study one, the experiments were conducted through an online survey company. A total of 172 subjects participated in study two. The number of responses are as follows (Table 16).

Table 16. Number of Responses of Study Two

		Availability of Nutrition Information	
		Not provided	Provided
Temporal distance	Near future	62	63
	Distant future	60	64
<b>Sum</b>		<b>122</b>	<b>127</b>

#### 4.3.2 Sample characteristics of study two

The gender ratio of study two was around fifty–fifty. Also, the age distribution was evenly distributed. The demographic statistics of study two are as follows (Table 17).

**Table 17. Demographic Statistics of Study Two**

Profile Category		N	%
Gender	Male	84	48.8
	Female	88	51.2
Age	20–29	47	27.3
	30–39	46	26.7
	40–49	38	22.1
	50–59	41	23.8
Marriage	N	74	43.0
	Y	98	57.0
Education	Middle school diploma or less	2	1.2
	High school	33	19.2
	Under graduate or College graduate	121	70.3
	Graduate	16	9.3
Job	Office worker	85	49.4
	Public official	5	2.9
	Owner	19	11.0
	Student	30	17.4
	Housewife	24	14.0
	others	9	5.2
Household Monthly Income	2,000,000KRW less	15	8.7
	2,000,000KRW ~ 2,990,000KRW	28	16.3
	3,000,000KRW ~ 3,990,000KRW	35	20.3
	4,000,000KRW ~ 4,990,000KRW	36	20.9
	5,000,000KRW ~ 5,990,000KRW	27	15.7
	6,000,000KRW ~	10	5.8

	6,990,000KRW		
	7,000,000KRW ~	6	3.5
	7,990,000KRW		
	8,000,000KRW higher	15	8.7
	1	22	12.8
	2	25	14.5
Household	3	35	20.3
size	4	78	45.3
	5	12	7.0
	6	0	0.0

#### 4.3.3 Analysis for control variables

Table 18 shows the characteristics of group one to group four. One-way ANOVA was conducted to check the mean difference between 2x2 between-subjects groups (Table 19).

Table 18. Characteristics of Group 1 to Group 4

		Temporal Distance	
		Near-future	Distant-future
Nutrition	Provided	Group 1	Group 3
Information	Not Provided	Group 2	Group 4

Table 19. Results of One-Way ANOVA

Control Variable	Group	M	SD	F-value
Level of hunger	Group 1	3.977	1.389	0.411
	Group 2	4.326	1.358	
	Group 3	4.146	1.574	
	Group 4	4.182	1.559	
Diet concern	Group 1	4.909	1.137	0.829
	Group 2	4.767	1.130	
	Group 3	4.976	1.440	
	Group 4	4.591	1.187	
Health concern	Group 1	4.720	0.889	1.028
	Group 2	4.504	0.925	
	Group 3	4.724	0.820	
	Group 4	4.837	0.969	
Education level	Group 1	2.818	0.620	0.8
	Group 2	2.814	0.588	
	Group 3	2.976	0.474	
	Group 4	2.909	0.563	
Level of nutrition knowledge	Group 1	3.523	1.191	0.814
	Group 2	3.349	1.131	
	Group 3	3.244	1.179	
	Group 4	3.614	1.316	
BMI	Group 1	23.624	3.755	1.905
	Group 2	22.879	3.727	
	Group 3	23.209	2.980	
	Group 4	21.967	2.945	
Frequency of grocery shopping	Group 1	2.523	1.502	0.422
	Group 2	2.791	1.567	
	Group 3	2.805	1.600	
	Group 4	2.864	1.519	
Importance of nutrition information for shopping	Group 1	5.250	1.184	0.267
	Group 2	5.186	0.852	
	Group 3	5.390	1.046	
	Group 4	5.273	1.149	
Importance of price of product for shopping	Group 1	5.818	0.947	0.105
	Group 2	5.884	0.931	
	Group 3	5.927	0.848	

Group 4      5.864      0.905

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\*p < .1, \*\*p < .05, \*\*\*p < .01

#### 4.3.4 Reliability test and convergent validity test

Following study one, in study two, the reliability and convergent validity of health concerns were also analyzed. Factor loadings (Chin, 1998) and Cronbach's alpha of health concern were higher than 0.7, and also, the AVE of health concern was higher than 0.50 (Table 20).

Table 20. Reliability and Convergent Validity Check for Study Two

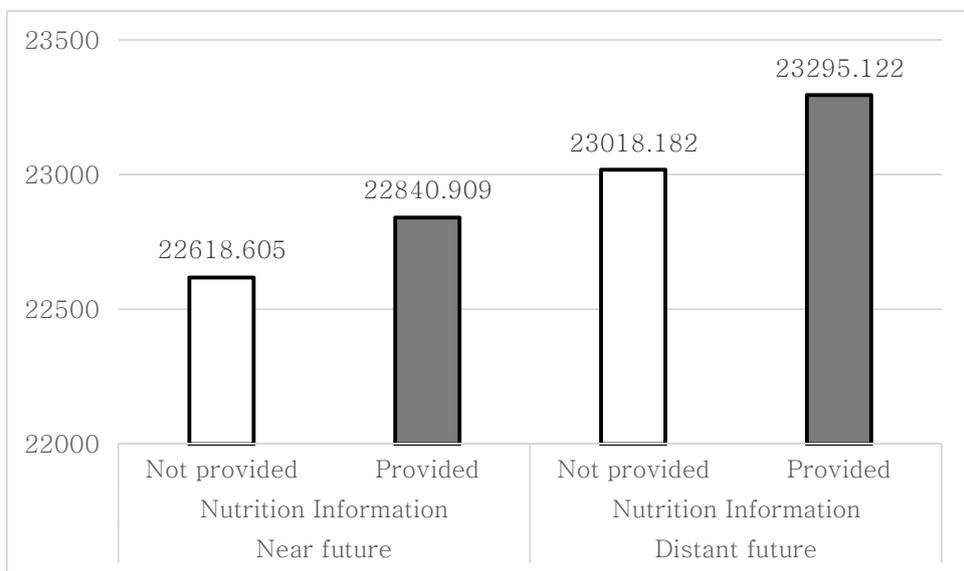
Construct	Items	Factor Loading	AVE	CR	Cronbach's Alpha
Health Concern	HC1	0.762	0.643	0.915	0.889
	HC2	0.845			
	HC3	0.814			
	HC4	0.789			
	HC5	0.845			
	HC6	0.751			

#### 3.3.5. Hypothesis Test for study two

In study two, the influence of the temporal distance (near future vs. distant future) and the availability of nutrition information (not provided vs. provided) on subjects' total payments (Figure 5,

Table 21, and Table 22) and on the total calorie count of the shopping basket (Figure 6, Table 23, and Table 24) was confirmed.

As expected for total payment, there was a significant difference according to the temporal distance ( $p < .05$ ). The participants rated higher total payment for the distant future ( $M=23,151$ ) rather than the near future ( $M=22,731$ ). However, there was no significant effect of the availability of nutrition information on the total payment and interaction effect between the temporal distance and the availability of nutrition information.



**Figure 5 Influence of the temporal distance and availability of nutrition information on total payment (unit: won)**

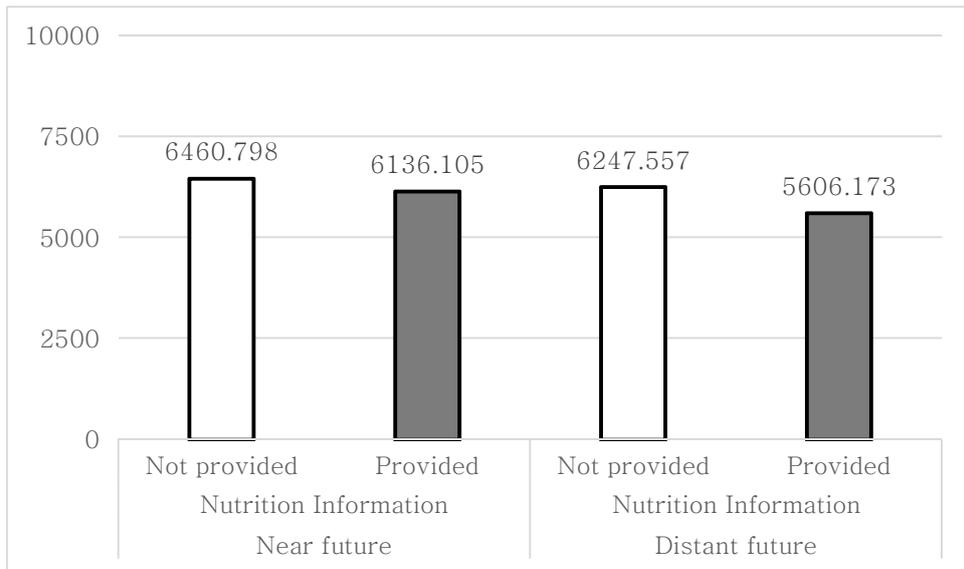
**Table 21. Descriptive Statistics of Subjects of Study Two: Total Payment**

Temporal Distance	Nutrition Information	M	SD	N
Near future	Not provided	22618.605	1352.996	43
	Provided	22840.909	1324.601	44
Distant future	Not provided	23018.182	1331.946	44
	Provided	23295.122	1158.437	41

**Table 22. ANOVA Results of Study Two: Total Payment**

Source	df	F	p
Intercept	1	53836.926	0.000
Temporal distance	1	4.660	0.032
Nutrition information	1	1.593	0.209
Temporal distance × Nutrition information	1	0.019	0.890
Corrected model	3	2.046	0.109

ANOVA analysis for the total calories of the shopping basket (Table 23 and Table 24) shows a significant main effect of the availability of nutrition information on the total calorie count of the shopping rate ( $p < .1$ ). The subjects purchased lower calorie amounts for the distant future than for the near future. However, there was no significant main effect of the temporal distance ( $p = .198$ ) and interaction effect between the two independent variables ( $p = .583$ ).



**Figure 6.7 Influence of the temporal distance and availability of nutrition information on total calories of shopping basket (unit: kcal)**

**Table 23. Descriptive Statistics of Subjects of Study Two: Total Calories of Shopping Basket**

Temporal Distance	Nutrition Information	M	SD	N
Near future	Not provided	6460.798	1801.476	43
	Provided	6136.105	1797.818	44
Distant future	Not provided	6247.557	2141.730	44
	Provided	5606.173	1763.534	41

**Table 24. ANOVA Results of Study Two: Total Calories of Shopping Basket**

Source	df	F	p
Intercept	1	1807.233	0.000
Temporal distance	1	1.670	0.198
Nutrition information	1	2.821	0.095
Temporal distance × Nutrition information	1	0.303	0.583
Corrected model	3	1.552	0.203

#### 4.4. Discussion

Through study two, the influence of the temporal distance between the moment of purchase and the moment of consumption was examined. The total calorie count of the food in the shopping basket did not differ in accordance with the temporal distance, near or far. However, subjects' total payments differed based on the temporal distance between the moment of purchase or consumption. When purchasing food for distant–future consumption, in comparison to near–future consumption, subjects increased the total payment. They increased the total payment regardless of whether nutrition information was provided or not. Consistent with the results of study one, the results of study two indicated that the amount of purchase increases when a consumer purchases food for distant–future consumption.

As in study one, to prevent food stockpiling, it was determined that habits need to be created for purchasing food for the near future rather than for the distant future. The effect of providing nutrition information in an online market shows a reduction in the total calories of items in the shopping basket. This explains the importance of providing nutrition information in an online market. Providing nutrition information for most processed products are mandated by law in Korea. However, we seldom find nutrition information for items in an online market. Hence, there is a need to provide nutrition information for each item in an online market. Additionally, providing nutrition information about agricultural products is not currently mandated. Therefore, to encourage the purchase of low-calorie foods, producers of agricultural products need to provide nutrition information for their products.

## Chapter 5. General Discussion and Conclusion

### 5.1. Summary of Findings

Two interrelated studies have uncovered the effect of temporal distance between the purchasing moment and the consumption moment on consumers' food-purchasing behavior. In Study One, hypothesis test 1 (H1) was confirmed not only by a single item, but also by multiple items (a loaf of bread, ramen, milk and coke) which were selected based on the level of vice perceived by the consumer. For example, two loaves of bread and milk are lower in the level of vice (which is equal to virtue) versus ramen and coke that are higher in the level of vice (which is equal to vice). These results can be generalized for all virtuous and vice-filled foods. Furthermore, during Study Two, which remedies Study One's weakness, the effect of temporal distance and nutrition information on the composition of consumers' shopping baskets was confirmed. Therefore, the results of Study One and Study Two provide insight into consumers' shopping attitudes in both small and large retail markets.

In Study One, it was found that consumers' purchase quantity is influenced by temporal distance. When purchasing food for consumption in the distant future (e.g., two days later), the purchase quantity was greater than with purchases for near future consumption (i.e., immediately after purchase). In Study Two, the purchasing situation for various products, consumers' shopping baskets were also greater in total payment of shopping basket when purchasing food for distant future consumption, compared with shopping baskets for near future consumption. The calorie totals of shopping baskets did not differ, whether food was for near or distant future consumption. Furthermore, when nutrition information was provided, although consumers' total payments did not differ according to temporal distance, the calorie totals of shopping baskets were lower for distant future consumption than for near future consumption. Table 25 summarizes the hypothesis tests.

**Table 25. The results of the hypothesis tests**

Study	Hypothesis	Support
Study One	H1 Consumers will purchase large quantities of food when they purchase food for distant-future consumption rather than for near-future consumption.	Supported

Study Two	H2	Subjects' total payments will be greater when they purchase groceries for distant–future consumption rather than for near–future consumption.	Supported
	H3	The total calorie count of the shopping basket will be higher when a consumer purchases groceries for distant–future consumption rather than for near–future consumption.	Not supported
	H4	Subjects' total payments will be greater when the nutrition information of each product is provided (vs. not provided).	Not supported
	H5	The total calorie count of the shopping basket will be lower when the nutrition information of each product is provided (vs. not provided).	Supported

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## 5.2. Academic Contributions

This study set the temporal distance between the purchasing moment and the consumption moment by manipulating the circumstances of the purchasing moment. The purpose was to conduct theoretical research into the application of rosy view, anticipated satisfaction, and construal level theory to the academic study of food regulation and promotion. In addition, this study examined the effects of providing nutrition information on consumers' food purchasing behavior to confirm the effect of

providing nutrition information on consumers' food purchasing decisions.

Following on from previous research (Chandon and Wansink, 2002; Wansink et al., 2005; Raynor et al., 2007; Devitt and Mattes, 2004), the present research expands understanding of the factors that increase food consumption. Previous studies have explained the effect of exogenous factors (characteristics of product packages, nutritional information, and so forth). The results of this research, however, introduce the concept of temporal distance between the purchasing moment and the consumption moment. This describes the individual's endogenous motivation (namely, the goal of purchasing food) as a cause of overeating. Furthermore, previous studies have focused on the actual amount of food intake (Rolls et al., 1981; Kahn and Wansink, 2004; Chandon and Wansink, 2002; Wansink et al., 2005; Raynor et al., 2007), but this study focuses on food stockpiling, which is the behavior prior to consuming and a cause of overeating.

These results have increased understanding of the effect of temporal distance on consumer attitudes. Previous studies regarding temporal distance have focused on the effect of temporal distance on the consumer's choice between near future reward and distant future reward, which have been researched by others

(Trope and Liberman, 2000; Zhao et al., 2007). However, this study researches the goals of purchasing food, which are set out as near future and distant future. Furthermore, this study explains the consumer's assessment of future value according to the temporal distance between purchasing and consumption in terms of "near" or "far," as estimated through purchasing quantity. While conducting Study One, the author identified the effect of temporal distance in the circumstance of purchasing a single food item, and by conducting Study Two, also confirmed the effect of temporal distance in the circumstance of purchasing multiple food items.

This study also emphasizes the necessity of providing nutritional information to consumers. In previous studies (for example, Downs et al., 2009; Ludwig and Brownell, 2009; Roberto et al., 2010; Bollinger et al. 2011), the results indicated that nutritional information influences consumers' food choices. As shown, this study corroborates that conclusion, showing that participants reduced the calorie total in their shopping baskets when a nutritional fact panel was provided.

### 5.3. Practical Suggestions

The results of the current research have several practical implications, which indicate a need to prevent excessive advance purchasing as a deterrent to obesity. Overeating causes obesity. Consumers should identify a purpose for purchasing food for near-future consumption as opposed to distant-future consumption, whether they are purchasing a single item or multiple items. Health officials can mitigate obesity problems by conducting promotions that urge people to purchase a single food item or multiple food items for near-future consumption. Moreover, with regard to the point that companies should be socially responsible, manufacturers also need to urge consumers to purchase single or multiple food products for near-future consumption. The results also indicate practical implications for marketers. To increase profits, marketers should utilize the concept of the temporal distance of purchasing and consumption as a promotional strategy. For instance, most POP (point of purchase) advertisements are price promotions or promotions designed to appeal to the senses. By using the results of this study, marketers can create new promotions emphasizing temporal distance in both purchasing and consumption. Enabling consumers to imagine the future consumption of a particular food

product will increase the sales volume of that product. In addition, advertisements such as ‘Enrich your holiday by purchasing groceries two days in advance!’ may increase store revenue.

Furthermore, more attention to nutritional information is necessary. In recent years, providing nutritional information for most processed food has become mandatory in Korea. However, whether or not to provide nutritional information for agricultural products is still left to the discretion of individual producers. This study found that providing nutritional information about both processed and agricultural foodstuffs can reduce the total calorie count of the shopping basket. Therefore, governments and producers alike should provide nutritional information for both processed products and agricultural products. Currently, nutritional information for food products is rarely found for online grocery markets. Promoting the inclusion of this information will help consumers with their decision making.

## 5.4. Limitations and Future Research

This study has several limitations that suggest areas for future research. In both Study One and Study Two, the author defined the "near future" as a period directly after purchasing and the "distant future" as a period two days after purchasing. Most of the prior literature set the distant-future at more than two days (e.g., one month later). However, to increase the reality of the experiment, the author set the distant-future as a period two days hence. Therefore, it is necessary to confirm whether consumers recognize a period of two days as the distant future. Moreover, by introducing temporal distance using delivery circumstances, as indicated in Study Two, it is possible to examine whether the increase of temporal distance between the purchasing moments and the consumption moments increases the amount purchased. Previous research relating to CLT (construal level theory) shows that increased temporal distance allows consumers to infer the results of selected alternative through the abstract, simple, and core characteristics of products. Therefore it will be worthwhile to confirm whether consumers actually infer the results of selected alternative through those characteristics.

Experiments for the present research were conducted online, which may have created some gaps between the actual market size and the small sample size analyzed in the laboratory. It should also be noted that the consumer's preference for each item was not evaluated. In Study One, the author only checked subjects' attitudes toward a single item, whereas it is usual to consider alternatives and purchase multiple products at the grocery market. Therefore, it would be worthwhile setting shopping circumstances where customers may select an alternative when various alternatives are shown. As mentioned, Study Two concentrated on virtual shopping. It identified that there can be a gap between the actual physical shopping situation and virtual shopping. The shopping situation was manipulated to include subjects in an online shopping situation. It is, however, difficult to determine a consumer's attitude in offline shopping circumstances. Furthermore, as mentioned, the author set a limit on the shopping budget, but consumers' eating habits in everyday life were not checked.

Although this study considered products' virtue and vice attributes to generalize results, it is necessary to consider other product attributes. One representative example is certification. Many certification types are available with regard to food products; accordingly, these affect products differently. For instance,

previous studies have found that even if products are the same, consumers show different attitudes toward organic and non-organic products. In particular, with conventional food products, consumers perceive the number of calories in an organic food product as being lower than in non-organic food.

Moreover, in everyday life, consumers purchase groceries for themselves and for others (e.g., for their family.) Prior studies have found that consumer behavior can vary depending on who they are purchasing food for; in other words, consumer behavior can vary depending on whether the motivation is selfish or altruistic. However, this study did not determine the motivation for purchasing groceries. Therefore, it would be valuable to conduct experiments that distinguish between differing grocery-purchasing motivations.

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# Appendix A. Stimuli of study one



**영양성분**  
1회 제공량 200ml, 100g당 열량: 61kcal

수분(g)	88.4
단백질(g)	2.8
탄수화물(g)	5
칼슘(mg)	91
나트륨(mg)	40
지질(g)	3.3
비타민 C(mg)	0
식이섬유(g)	1.4



**영양성분**  
1회 제공량 200mL, 100g당 열량: 47kcal

수분(g)	88.2
단백질(g)	0
탄수화물(g)	11.7
칼슘(mg)	2
나트륨(mg)	3
지질(g)	0
비타민 C(mg)	0
식이섬유(g)	0



**영양성분**  
1회 제공량 120g, 100g당 열량: 445kcal

수분(g)	5.4
단백질(g)	7.5
탄수화물(g)	71.2
칼슘(mg)	193
나트륨(mg)	506
지질(g)	13.9
비타민 C(mg)	0
식이섬유(g)	3.1



**영양성분**  
1회 제공량: 2쪽(90g), 100g당 열량: 293kcal

수분(g)	30.4
단백질(g)	9
탄수화물(g)	54.4
칼슘(mg)	119
나트륨(mg)	592
지질(g)	4
비타민 C(mg)	0
식이섬유(g)	2.5

# Appendix B. Stimuli of study two: nutrition information—not provided

감자칩		귤		라면		만두	
 제품용량: 137g * 1개, 총 137g		 제품용량: 100g * 20과, 총 2kg		 제품용량: 120g * 5개, 총 600g		 제품용량: 490g * 2개, 총 980g	
1개, ₩2,400	▼개수	2kg, ₩6,000	▼개수	5개, ₩3,100	▼묶음	2봉, ₩8,000	▼묶음
머핀		방울토마토		플레인베이글		사과	
 제품용량: 140g * 4개, 총 560g		 제품용량: 750g * 1팩, 총 750g		 제품용량: 100g * 3개, 총 300g		 제품용량: 250g * 6개, 총 1.5Kg	
4개, ₩5,700	▼묶음	750g, ₩4,900	▼개수	3개입, ₩3,100	▼묶음	6과, ₩5,800	▼묶음
사이다		삼겹살		아몬드(무염)		아몬드프레이크	
 제품용량: 1,500ml * 1개, 총 1.5l		 제품용량: 100g, 총 100g		 제품용량: 200g * 1개, 총 200g		 제품용량: 620g * 1개, 총 620g	
1병, ₩2,400	▼개수	100g, ₩2,000	▼g	1개, ₩4,600	▼개수	1개, ₩4,900	▼개수
오렌지주스		플레인요거트		일반 흰우유		밀크초코렛	
 제품용량: 1,800ml * 1개, 총 1.8l		 제품용량: 85g * 4개, 총 340g		 제품용량: 1,000ml * 1개 W, 총 1l		 제품용량: 70g * 1개, 총 70g	
1병, ₩4,600	▼개수	4개, ₩2,600	▼묶음	1팩, ₩2,500	▼개수	1개, ₩1,600	▼개수
초코우유		초코칩쿠키		캔햄		일반콜라	
 제품용량: 225ml * 4개, 총 900ml		 제품용량: 200g(10개입), 총 200g		 제품용량: 340g * 1개, 총 340g		 제품용량: 1,500ml * 1개, 총 1.5l	
4개, ₩3,600	▼개수	1상자, ₩2,700	▼개수	1캔, ₩5,500	▼개수	1병, ₩2,300	▼개수

# Appendix C. Stimuli of study two: nutrition information—provided

감자칩		귤		라면		만두	
 <p>제품용량: 137g * 1개, 총 137g 영양성분 (100g당) 열량(Kcal) 505 수분(g) 2.1 단백질(g) 5.5 탄수화물(g) 52.5 지방(g) 37 칼슘(mg) 17 나트륨(mg) 259 비타민 C(mg) 21 식이섬유(g) 4.2</p>		 <p>제품용량: 100g * 20개, 총 2kg 영양성분 (100g당) 열량(Kcal) 39 수분(g) 89 단백질(g) 0.7 탄수화물(g) 9.9 지방(g) 1.1 칼슘(mg) 13 나트륨(mg) 11 비타민 C(mg) 44 식이섬유(g) 0.7</p>		 <p>제품용량: 120g * 5개, 총 600g 영양성분 (100g당) 열량(Kcal) 443 수분(g) 5.4 단백질(g) 7.5 탄수화물(g) 71.2 지방(g) 13.9 칼슘(mg) 191 나트륨(mg) 506 비타민 C(mg) 0 식이섬유(g) 3.1</p>		 <p>제품용량: 490g * 2개, 총 980g 영양성분 (100g당) 열량(Kcal) 216 수분(g) 57.8 단백질(g) 9.6 탄수화물(g) 20.9 지방(g) 10.4 칼슘(mg) 31 나트륨(mg) 272 비타민 C(mg) 1 식이섬유(g) 0</p>	
1개, ₩2,400	▼개수	2kg, ₩6,000	▼개수	5개, ₩3,100	▼묶음	2봉, ₩8,000	▼묶음
머핀		방울토마토		플레인베이글		사과	
 <p>제품용량: 140g * 4개, 총 560g 영양성분 (100g당) 열량(Kcal) 296 수분(g) 27 단백질(g) 6.9 탄수화물(g) 41.4 지방(g) 11.4 칼슘(mg) 200 나트륨(mg) 467 비타민 C(mg) 0 식이섬유(g) 2.7</p>		 <p>제품용량: 750g * 1팩, 총 750g 영양성분 (100g당) 열량(Kcal) 17 수분(g) 84.6 단백질(g) 0.9 탄수화물(g) 3.9 지방(g) 0.1 칼슘(mg) 14 나트륨(mg) 6 비타민 C(mg) 21 식이섬유(g) 0.9</p>		 <p>제품용량: 100g * 3개, 총 300g 영양성분 (100g당) 열량(Kcal) 278 수분(g) 32.7 단백질(g) 10.6 탄수화물(g) 53 지방(g) 2.1 칼슘(mg) 13 나트륨(mg) 505 비타민 C(mg) 0 식이섬유(g) 2.3</p>		 <p>제품용량: 250g * 6개, 총 1.5kg 영양성분 (100g당) 열량(Kcal) 49 수분(g) 86.3 단백질(g) 0.2 탄수화물(g) 13.1 지방(g) 0.3 칼슘(mg) 6 나트륨(mg) 16 비타민 C(mg) 48 식이섬유(g) 1.4</p>	
4개, ₩5,700	▼묶음	750g, ₩4,900	▼개수	3개입, ₩3,100	▼묶음	6과, ₩5,800	▼묶음
사이다		삼겹살		아몬드(무염)		아몬드프레이크	
 <p>제품용량: 1,500ml * 1개, 총 1.5l 영양성분 (100g당) 열량(Kcal) 39 수분(g) 89.9 단백질(g) 0 탄수화물(g) 10.1 지방(g) 0 칼슘(mg) 0 나트륨(mg) 5 비타민 C(mg) 0 식이섬유(g) 0</p>		 <p>제품용량: 100g, 총 100g 영양성분 (100g당) 열량(Kcal) 348 수분(g) 48.9 단백질(g) 15.8 탄수화물(g) 8.0 지방(g) 26.4 칼슘(mg) 10 나트륨(mg) 1 비타민 C(mg) 0 식이섬유(g) 0</p>		 <p>제품용량: 200g * 1개, 총 200g 영양성분 (100g당) 열량(Kcal) 598 수분(g) 4.6 단백질(g) 16.6 탄수화물(g) 19.7 지방(g) 54.2 칼슘(mg) 230 나트륨(mg) 4 비타민 C(mg) 0 식이섬유(g) 10.4</p>		 <p>제품용량: 620g * 1개, 총 620g 영양성분 (100g당) 열량(Kcal) 414 수분(g) 3 단백질(g) 66.3 탄수화물(g) 79.6 지방(g) 7.4 칼슘(mg) 90 나트륨(mg) 597 비타민 C(mg) 46 식이섬유(g) 3.1</p>	
1병, ₩2,400	▼개수	100g, ₩2,000	▼g	1개, ₩4,600	▼개수	1개, ₩4,900	▼개수
오렌지주스		플레인요거트		일반 흰우유		밀크초코렛	
 <p>제품용량: 1,800ml * 1개, 총 1.8l 영양성분 (100g당) 열량(Kcal) 42 수분(g) 88.3 단백질(g) 0.7 탄수화물(g) 10.5 지방(g) 0.2 칼슘(mg) 11 나트륨(mg) 2 비타민 C(mg) 40 식이섬유(g) 0.1</p>		 <p>제품용량: 85g * 4개, 총 340g 영양성분 (100g당) 열량(Kcal) 96 수분(g) 78.6 단백질(g) 3.2 탄수화물(g) 15.5 지방(g) 2.5 칼슘(mg) 107 나트륨(mg) 55 비타민 C(mg) 0 식이섬유(g) 0.2</p>		 <p>제품용량: 1,000ml * 1개, 총 1l 영양성분 (100g당) 열량(Kcal) 61 수분(g) 88.4 단백질(g) 2.6 탄수화물(g) 3.3 지방(g) 3.3 칼슘(mg) 91 나트륨(mg) 40 비타민 C(mg) 0 식이섬유(g) 1.4</p>		 <p>제품용량: 70g * 1개, 총 70g 영양성분 (100g당) 열량(Kcal) 572 수분(g) 1.5 단백질(g) 8.1 탄수화물(g) 51.8 지방(g) 36.9 칼슘(mg) 198 나트륨(mg) 90 비타민 C(mg) 0 식이섬유(g) 1.6</p>	
1병, ₩4,600	▼개수	4개, ₩2,600	▼묶음	1팩, ₩2,500	▼개수	1개, ₩1,600	▼개수
초코우유		초코칩쿠키		캔햄		일반콜라	
 <p>제품용량: 225ml * 4개, 총 900ml 영양성분 (100g당) 열량(Kcal) 63 수분(g) 85.4 단백질(g) 2.4 탄수화물(g) 10.1 지방(g) 1.5 칼슘(mg) 135 나트륨(mg) 50 비타민 C(mg) 0 식이섬유(g) 0</p>		 <p>제품용량: 200g(10개입), 총 200g 영양성분 (100g당) 열량(Kcal) 526 수분(g) 1.8 단백질(g) 5 탄수화물(g) 64.7 지방(g) 27.5 칼슘(mg) 28 나트륨(mg) 207 비타민 C(mg) 0 식이섬유(g) 0</p>		 <p>제품용량: 340g * 1개, 총 340g 영양성분 (100g당) 열량(Kcal) 251 수분(g) 57.9 단백질(g) 15 탄수화물(g) 5.8 지방(g) 18.6 칼슘(mg) 3 나트륨(mg) 825 비타민 C(mg) 0 식이섬유(g) 0</p>		 <p>제품용량: 1,500ml * 1개, 총 1.5l 영양성분 (100g당) 열량(Kcal) 47 수분(g) 88.2 단백질(g) 0 탄수화물(g) 11.7 지방(g) 0 칼슘(mg) 2 나트륨(mg) 3 비타민 C(mg) 0 식이섬유(g) 0</p>	
4개, ₩3,600	▼개수	1상자, ₩2,700	▼개수	1캔, ₩5,500	▼개수	1병, ₩2,300	▼개수

# Appendix D. Survey of Study one: Loaf Bread

1-2018.09. 1-

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행태 특성을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다. 바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2018년 9월

서울대학교 영양계사회학부 지역영양전문 루드비크니스팀

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 구매 후 바로 섭취할 빵을 구매하기 위하여 베이커리에 있습니다.



베이커리에 진열되어있는 여러 가지 빵 중 귀하는 일반 식빵을 선택하였습니다.



### 영양성분

1회 제공량: 2쪽(90g), 100g당 열량: 293kcal

수분(g)	30.4
단백질(g)	9
탄수화물(g)	54.4
칼슘(mg)	119
나트륨(mg)	592
지질(g)	4
비타민 C(mg)	0
식이섬유(g)	2.5

\*식빵이란 밀가루에 물과 효모(이스트)를 넣고 반죽하여 구워낸 빵으로 여기에서는 물에 넣어 구운 빵을 말합니다.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행태 속장을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 9월

서울대학교 농경제사회학부 지역장보전금 푸드비즈니스랩

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **이들 귀인 브레드** 섭취할 빵을 구매하기 위하여 베이커리에 있습니다.



베이커리에 진열되어있는 여러 가지 빵 중 귀하는 **일반 식빵**을 선택하였습니다.



영양성분	
1회 제공량: 2쪽(90g), 100g당 열량: 293kcal	
수분(g)	30.4
단백질(g)	9
탄수화물(g)	54.4
칼슘(mg)	119
나트륨(mg)	592
지질(g)	4
비타민 C(mg)	0
식이섬유(g)	2.5

\*식빵이란 밀가루에 물과 효모(이스트)를 넣고 반죽하여 구워낸 빵으로 여기에서는 물에 넣어 구운 흰 빵을 일컫습니다.

1. 귀하는 언제 섭취하기 위하여 식품을 구매하는 상황이 있었습니까?

시점	선택
① 구매 후 바로	
② 내일	
③ 꼬리	

2. 귀하는 일반 식품의 칼로리가 얼마나 높다고 생각하십니까?

	매우 높지 않다	높지 않다	약간 높지 않다	보통	약간 높다	높다	매우 높다
① 귀하는 일반 식품의 칼로리가 얼마나 높다고 생각하십니까?	①	②	③	④	⑤	⑥	⑦

3. 귀하께서 구매하고자 하는 일반 식품 1회분(2포장, 90g)은 몇 kcal정도 된다고 생각하십니까? 주관식으로 답하여 주십시오

\_\_\_\_\_ kcal

4. 귀하는 몇 개의 일반 식품(1회분:2포장, 90g)을 구매하실 의향이 있으십니까?

구매 수량	선택
① 1회분(2 포장)	
② 2회분(4 포장)	
③ 3회분(6 포장)	
④ 4회분(8 포장)	
⑤ 6회분(10 포장)	
⑥ 6회분(12 포장)	
⑦ 7회분(14 포장)	
⑧ 8회분(16 포장)	
⑨ 8회분(18 포장)	
⑩ 10회분(20 포장)	
⑪ 11회분(22 포장)	
⑫ 12회분(24 포장)	

6. 다음 문항에 응답하여 주십시오.

	전혀 그렇지 않다	그렇지 않다	약간 그렇지 않다	보통 이다	약간 그렇다	그렇다	전혀 그렇다
① 귀하는 지름 얼마나 배가 고프십니까?	①	②	③	④	⑤	⑥	⑦
② 귀하는 식탐이 약함(나쁜) 음식이라 생각 하십니까?	①	②	③	④	⑤	⑥	⑦

6. 귀하는 식탐을 드러보신적이 있습니까? 예, 아니오

7. 귀하는 일주일에 평균적으로 얼마나 자주 빵을 사서 드십니까? 주 ( )회

8. 귀하는 일주일에 평균적으로 얼마나 자주 식빵을 사서 드십니까? 주 ( )회

9. 귀하는 다이어트 중이십니까?

예	아니오
①	②

10. 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통 이다	약간 신경쓰 고 있다	신경쓰 고 있다	전혀 신경쓰 고 있다
① 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?	①	②	③	④	⑤	⑥	⑦

11. 다음은 귀하의 건강관심도를 묻기 위한 질문입니다.

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통 이다	약간 신경쓰 고 있다	신경쓰 고 있다	전혀 신경쓰 고 있다
나는 건강을 위해 내 자신을 잘 통제할 수 있다.	①	②	③	④	⑤	⑥	⑦
나는 건강관리를 위해 끊임없이 노력을 한다.	①	②	③	④	⑤	⑥	⑦
나는 건강을 위해 일상생활에서의 불편함을 기꺼이 감수할 수 있다.	①	②	③	④	⑤	⑥	⑦
나는 최대한 건강해지기를 마음먹었다.	①	②	③	④	⑤	⑥	⑦
나는 나의 원칙에 따라 건강을 관리한다.	①	②	③	④	⑤	⑥	⑦
만일 건강상에 문제가 생기면 문제의 원인을 파악하기 위해 최선을 다 한다.	①	②	③	④	⑤	⑥	⑦

12. 다음은 귀하의 영양지식수준을 묻기 위한 질문입니다.

	그렇다	아니다
비러한 손가락의 칼로리가 동일한 양의 복합 불포화 마가린 한 손가락의 칼로리 보다 높다		
물을 마시면 살이 쪼인다		
오렌지에 함유되어있는 비타민c와 동일한 양의 과일음료에 포함되어있는 합성 비타민 c의 체내 작용은 같다		
고기나 가금류, 생선을 먹지 않아도 사람들은 건강하게 살 수 있다		
하루에 계란을 2개를 먹으면, 혈중 콜레스테롤 수치가 2배 높아진다		
모유는 알소의 함인 우유보다 더 많은 단백질과 칼로리를 함유하고 있다.		
영양적 측면에서 보았을 때 꿀이 설탕보다 상당히 더 낫다.		



# Appendix E. Survey of Study one: Ramen

1-2018.09. 27

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행동 촉진을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.

바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2018년 8월

서울대학교 농경제사회학부 지역발전전문 쿠퍼비즈니스랩

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

+

귀하는 현재 **구매 후 바드** 섭취한 라면은 구매하기 위하여 **쥬스힐** 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 **인스턴트 라면**을 선택하였습니다.

영양성분	
1회 제공량 120g, 100g당 열량: 445kcal	
수분(g)	5.4
단백질(g)	7.5
탄수화물(g)	71.2
지방(g)	193
나트륨(mg)	506
지질(g)	13.9
비타민 C(mg)	0
식이섬유(g)	3.1

\*인스턴트 라면이랑 기름에 미리 튀긴 국수랑 스프와 함께 끓는 물에 넣어서 요리하는 국수 식품으로 브로 스프와 면을 끓는 물에 2~4분정도 끓이면 조리되는 식품입니다.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행동 특성을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 9월

서울대학교 농경제사회학부 지역정보전공 푸드비즈니스팀

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 이름 뒤인 모레에 섭취할 라면을 구매하기 위하여 줄스립 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 인스턴트 라면을 선택하였습니다.

영양성분	
1회 제공량 120g, 100g당 열량: 445kcal	
수분(g)	5.4
단백질(g)	7.5
탄수화물(g)	71.2
지방(g)	19.3
나트륨(mg)	506
지질(g)	13.9
비타민 C(mg)	0
식이섬유(g)	3.1

\*인스턴트 라면이란 기름에 미리 튀긴 국수를 스프와 함께 끓는 물에 넣어서 요리하는 국수 식품으로 보통 스프와 면을 끓는 물에 2~4분정도 끓이면 조리되는 식품입니다.

1. 귀하는 언제 섭취하기 위하여 인스턴트 라면을 구매하는 상황이었습니까?

시점	선택
① 구매 후 바로	
② 내일	
③ 후에	

2. 귀하는 인스턴트 라면의 칼로리가 얼마나 높다고 생각하십니까?

	전혀 높지 않다	높지 않다	약간 높다	보통	약간 높다	높다	전혀 높다
① 귀하는 인스턴트 라면의 칼로리가 얼마나 높다고 생각하십니까?	①	②	③	④	⑤	⑥	⑦

3. 귀하께서 구매하고자 하는 인스턴트 라면 1개(120g)는 몇 kcal정도 된다고 생각하십니까? 주관식으로 답하여 주십시오

.....kcal

4. 귀하는 몇 개의 인스턴트 라면(1개: 120g)을 구매하실 의향이 있으십니까?

구매 수량	선택
① 1개	
② 2개	
③ 3개	
④ 4개	
⑤ 5개	
⑥ 6개	
⑦ 7개	
⑧ 8개	
⑨ 9개	
⑩ 10개	
⑪ 11개	
⑫ 12개	

6. 다음 문항에 응답하여 주십시오.

	전혀 고르지 않다	고르지 않다	약간 고르지 않다	보통	약간 고르다	고르다	전혀 고르다
① 귀하는 지금 얼마나 배가 고프십니까?	①	②	③	④	⑤	⑥	⑦
② 귀하는 라면이 약한(나쁜) 음식이라 생각하십니까?	①	②	③	④	⑤	⑥	⑦

6. 귀하는 라면을 프ச்ச보신적이 있습니까? 예, 아니오

7. 귀하는 일주일에 평균적으로 얼마나 자주 라면을 사서 드십니까? 주 ( )회

8. 귀하는 다이어트 중이십니까?

예	아니오
①	②

9. 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통미 다	약간 신경쓰 고 있다	신경쓰 고 있다	전혀 신경쓰 고 있다
① 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?	①	②	③	④	⑤	⑥	⑦

10. 다음은 귀하의 건강관심도를 묻기 위한 질문입니다.

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통미 다	약간 신경쓰 고 있다	신경쓰 고 있다	전혀 신경쓰 고 있다
나는 건강을 위해 내 자신을 잘 통제할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 건강관심을 위해 끊임없이 노력을 한다	①	②	③	④	⑤	⑥	⑦
나는 건강을 위해 일상생활에서의 불편함을 기꺼이 감수할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 최대한 건강해지기란 마음먹었다	①	②	③	④	⑤	⑥	⑦
나는 나의 힘력에 따라 건강을 관리한다	①	②	③	④	⑤	⑥	⑦
만일 건강상에 문제가 생기면 문제의 원인을 파악하기 위해 최선을 다 한다	①	②	③	④	⑤	⑥	⑦

11. 다음은 귀하의 영양지식수준을 높기 위한 질문입니다.

	그렇다	아니다
버터한 숟가락의 칼로리가 동일한 양의 녹말 불포화 마가린 한 숟가락의 칼로리 보다 높다		
술을 마시면 살이 쪼인다		
오렌지에 함유되어있는 비타민c와 동일한 양의 과일즙에 포함되어있는 합성 비타민 c의 체내 작용은 같다		
고기나 가공류 생선을 먹지 않아도 사람들은 건강하게 살 수 있다		
하루에 계란을 2개를 먹으면, 혈중 콜레스테롤 수치가 2배 높아진다		
모유는 알소의 젖인 우유보다 더 많은 단백질과 칼로리를 함유하고 있다.		
영양적 측면에서 보았을 때 꿀이 설탕보다 상당히 더 낫다.		

다음은 응답자 특성에 관한 내용입니다.

12. 귀하의 성별은 무엇입니까?

- ① 남성      ② 여성

13. 귀하께서 태어난 연도는 몇 년입니까?(예:1991년)

탄 (                      )세

14. 귀하의 혼인 여부는 어떻게 되십니까?

- ① 미혼                      ② 기혼

15. 귀하의 최종 학력은 어떻게 되십니까?

- ① 중졸 이하      ② 고졸                      ③ 대학 재학/졸업(학사)      ④ 대학원 재학/졸업 (석·박사)

16. 귀하의 직업은 무엇입니까?

- ① 회사원      ② 공무원(공사 포함)      ③ 자영업  
④ 학생                      ⑤ 주부                      ⑥ 기타 : (                      )

17. 심하지만, 귀하의 가정의 월평균 가구소득은 얼마나 되십니까?

- ① 200만원 미만  
② 200만원~299만원  
③ 300만원~399만원  
④ 400만원~499만원  
⑤ 500만원~599만원  
⑥ 600만원~699만원  
⑦ 700만원~799만원  
⑧ 800만원 이상

18. 귀하의 가정에 본인을 포함하여 현재 같이 거주하고 있는 가족 구성원 수는 어떻게 되십니까?

- ① 1명      ② 2명      ③ 3명      ④ 4명      ⑤ 5명      ⑥ 6명

19. 마지막 질문입니다. 귀하가 참여하신 이번 설문지의 목적은 무엇이라 생각하십니까?

\_\_\_\_\_

설문에 응답해주셔서 감사합니다.

# Appendix F. Survey of Study one: Milk

2016.09.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행동 특성을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다. 바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 8월

서울대학교 농경제사회학부 지역정보전공 푸드비즈니스팀

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **구매 후 바트** 섭취할 음료를 구매하기 위하여 **쥬스릴** 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 **일반 흰 우유**를 선택하였습니다.



영양성분  
1회 제공량 200ml, 100g당 열량: 61kcal

수분(g)	88.4
단백질(g)	2.8
탄수화물(g)	5
지방(g)	91
나트륨(mg)	40
지질(g)	3.3
비타민 C(mg)	0
식이섬유(g)	1.4

\***흰 우유**란 알스의 유방 내 유선세포에서 생산된 되어 우유를 통해 분비되는 특유한 풍미가 있는 백색 액체를 일컫습니다.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식음료구매에 대한 소비자 행태 측정을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 9월

서울대학교 농림경제사회학부 지역장보전급 푸드비즈니스팀

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **이름 뒤인 모래에** 섭취할 음료를 구매하기 위하여 중소형 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 **일반 흰 우유**를 선택하였습니다.



영양성분  
1회 제공량 200ml, 100g당 열량: 61kcal

수분(g)	88.4
단백질(g)	2.8
탄수화물(g)	5
칼슘(mg)	91
나트륨(mg)	40
지질(g)	3.3
비타민 C(mg)	0
식이섬유(g)	1.4

\*흰 우유란 압축의 일반 내 무설탕에서 생환성 되어 우유를 통해 분비되는 특유한 풍미가 있는 백색 액체를 일컫습니다.

1. 귀하는 언제 섭취하기 위하여 일반 흰 우유를 구매하는 상황이었습니까?

시점	선택
① 구매 후 바로	
② 내일	
③ 트리	

2. 귀하는 일반 흰 우유의 칼로리가 얼마나 높다고 생각하십니까?

	일부 높지 않다	높지 않다	약간 높지 않다	보통	약간 높다	높다	일부 높다
① 귀하는 일반 흰 우유의 칼로리가 얼마나 높다고 생각하십니까?	①	②	③	④	⑤	⑥	⑦

3. 귀하께서 구매하고자 하는 일반 흰 우유 1개(200ml)는 몇 kcal정도 된다고 생각하십니까? 주관식으로 답하여 주십시오

..... kcal

4. 귀하는 몇 개의 일반 흰 우유(1개: 200ml)를 구매하실 의향이 있으십니까?

구매 수량	선택
① 1개	
② 2개	
③ 3개	
④ 4개	
⑤ 5개	
⑥ 6개	
⑦ 7개	
⑧ 8개	
⑨ 9개	
⑩ 10개	
⑪ 11개	
⑫ 12개	

6. 다음 문항에 응답하여 주십시오.

	전혀 그렇지 않다	그렇지 않다	약간 그렇지 않다	보통	약간 그렇다	그렇다	전혀 그렇다
① 귀하는 지금 얼마나 바가 꼬프십니까?	①	②	③	④	⑤	⑥	⑦
② 귀하는 흰 우유가 약한(니쁜) 음식이라 생각하십니까?	①	②	③	④	⑤	⑥	⑦

6. 귀하는 일반 흰 우유를 드셔보신적이 있습니까? 예, 아니오

7. 귀하는 일주일에 평균적으로 얼마나 자주 일반 흰 우유를 사서 드십니까? 주 ( )회

8. 귀하는 다이어트 끊으십니까?

예	아니오
①	②

9. 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?

	전혀 신경쓰고 있지 않다	신경쓰고 있지 않다	약간 신경쓰고 있지 않다	보통이다	약간 신경쓰고 있다	신경쓰고 있다	전혀 신경쓰고 있다
① 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?	①	②	③	④	⑤	⑥	⑦

10. 다음은 귀하의 건강관심도를 높기 위한 질문입니다.

	전혀 신경쓰고 있지 않다	신경쓰고 있지 않다	약간 신경쓰고 있지 않다	보통이다	약간 신경쓰고 있다	신경쓰고 있다	전혀 신경쓰고 있다
나는 건강을 위해 내 자신들을 통제할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 건강관심을 위해 끊임없이 노력을 한다	①	②	③	④	⑤	⑥	⑦
나는 건강을 위해 일상생활에서의 불편함을 기꺼이 감수할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 최대한 건강해지기로 마음먹었다	①	②	③	④	⑤	⑥	⑦
나는 나의 원칙에 따라 건강을 관리한다	①	②	③	④	⑤	⑥	⑦
만일 건강상에 문제가 생기면 문제의 원인을 파악하기 위해 최선을 다 한다	①	②	③	④	⑤	⑥	⑦

11. 다음은 귀하의 영양지식수준을 묻기 위한 질문입니다.

	그렇다	아니다
버려진 손가락의 칼로리가 동일한 양의 육합 불포화 마가린 한 손가락의 칼로리 보다 높다		
술을 마시면 살이 쪼들		
오렌지에 함유되어있는 비타민c와 동일한 양의 과일즙에 포함되어있는 합성 비타민 c의 체내 작용은 같다		
고기나 가금류, 생선을 먹지 않아도 사람들은 건강하게 살 수 있다		
하루에 계란을 2개를 먹으면, 혈중 콜레스테롤 수치가 2배 높아진다		
보류는 밤소의 젓민 친 우유보다 더 많은 단백질과 칼로리를 함유하고 있다.		
영양적 측면에서 보았을 때 꿀이 설탕보다 상당히 더 낫다.		



# Appendix G. Survey of Study one: Coke

1-2016.09. .-

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행동 촉진을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 9월

서울대학교 농경제사회학부 지역정보전공 푸드비즈니스랩

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **구매 후 바트** 섭취할 음료를 구매하기 위하여 줄스릴 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 **일반 콜라**를 선택하였습니다.



영양성분  
1회 제공량 200mL, 100g당 열량: 47kcal

수분(g)	88.2
단백질(g)	0
탄수화물(g)	11.7
지방(g)	2
나트륨(mg)	3
지질(g)	0
비타민 C(mg)	0
식이섬유(g)	0

\*콜라란 카머틸브 색을 내고 카페인이 들어간 달콤한 탄산 음료로, 독특한 향과 맛을 가진 짙은 갈색의 알칼리음료를 일컫습니다.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식음료구매에 대한 소비자 행태 측정용 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 9월

서울대학교 농경제사회학부 지역경제정책과 루드비히스랩

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **이름 뒤인 브레에** 섭취할 음료를 구매하기 위하여 줄스립 슈퍼마켓에 있습니다.



슈퍼마켓에 진열되어있는 여러 가지 제품 중 귀하는 **일반 콜라**를 선택하였습니다.



영양성분  
1회 제공량 200mL, 100g당 열량: 47kcal

수분(g)	88.2
단백질(g)	0
탄수화물(g)	11.7
지방(g)	2
나트륨(mg)	3
지질(g)	0
비타민 C(mg)	0
식이섬유(g)	0

\*콜라란 캐러멜 색을 내고 카페인이 들어간 달콤한 탄산 음료로, 독특한 향과 맛을 가진 짙은 갈색의 음료입니다.

1. 귀하는 언제 섭취하기 위하여 일반 콜라를 구매하는 상황이었습니까?

시점	선택
① 구매 후 바로	
② 내일	
③ 모름	

2. 귀하는 일반 콜라의 칼로리가 얼마나 높다고 생각하십니까?

	상당히 높지 않다	높지 않다	약간 높지 않다	보통	약간 높다	높다	상당히 높다
① 귀하는 일반 콜라의 칼로리가 얼마나 높다고 생각하십니까?	①	②	③	④	⑤	⑥	⑦

3. 귀하께서 구매하고자 하는 일반 콜라 1개(200ml)는 몇 kcal정도 된다고 생각하십니까? 주권식으로 답하여 주십시오

..... kcal

4. 귀하는 몇 개의 일반 콜라(1개: 200ml)를 구매하실 의향이 있으십니까?

구매 수량	선택
① 1개	
② 2개	
③ 3개	
④ 4개	
⑤ 6개	
⑥ 8개	
⑦ 7개	
⑧ 8개	
⑨ 9개	
⑩ 10개	
⑪ 11개	
⑫ 12개	

6. 다음 문항에 응답하여 주십시오.

	매우 그렇지 않다	그렇지 않다	약간 그렇지 않다	보통	약간 그렇다	그렇다	매우 그렇다
① 귀하는 지금 얼마나 배가 고프십니까?	①	②	③	④	⑤	⑥	⑦
② 귀하는 콜라가 약한(나쁜) 음식이라 생각하십니까?	①	②	③	④	⑤	⑥	⑦

6. 귀하는 콜라를 드셔보신적이 있습니까? 예, 아니오

7. 귀하는 일주일에 평균적으로 얼마나 자주 콜라를 사서 드십니까? 주 ( )회

8. 귀하는 다이어트 중이십니까?

예	아니오
①	②

9. 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통미 다	약간 신경쓰 고 있다	신경쓰 고 있다	매우 신경쓰 고 있다
① 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?	①	②	③	④	⑤	⑥	⑦

10. 다음은 귀하의 건강관심도를 높기 위한 질문입니다.

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통미 다	약간 신경쓰 고 있다	신경쓰 고 있다	매우 신경쓰 고 있다
나는 건강을 위해 내 자신을 잘 통제할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 건강관심을 위해 끊임없이 노력을 한다	①	②	③	④	⑤	⑥	⑦
나는 건강을 위해 일상생활에서의 불편함을 기꺼이 감수할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 최대한 건강해지기란 마음먹었다	①	②	③	④	⑤	⑥	⑦
나는 나의 행위에 따라 건강을 관리한다	①	②	③	④	⑤	⑥	⑦
만일 건강상에 문제가 생기면 문제의 원인을 파악하기 위해 최선을 다 한다	①	②	③	④	⑤	⑥	⑦

11. 다음은 귀하의 영양지식수준을 보기 위한 질문입니다.

	그렇다	아니다
비록 한 손가락의 칼로리가 동일한 양의 복합 불포화 마가린 한 손가락의 칼로리 보다 높다		
술을 마시면 살이 쪼인다		
오렌지에 함유되어있는 비타민c와 동일한 양의 과일음료에 포함되어있는 합성 비타민 c의 체내 작용은 같다		
고기나 기름류, 생선을 먹지 않아도 사람들은 건강하게 살 수 있다		
하루에 계란을 2개를 먹으면, 혈중 콜레스테롤 수치가 2배 높아진다		
모유는 알소의 젓인 우유보다 더 많은 단백질과 칼로리를 함유하고 있다.		
영양적 측면에서 보았을 때 꿀이 설탕보다 상당히 더 낫다.		



# Appendix H. Survey of Study Two

1-2018.11. . .

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행태 특성을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다. 바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2018년 11월

서울대학교 농경제사회학부 지역경제발전과 푸드비즈니스팀

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **구매 후 바드** 먹으로 배송시킴 식품을 구매 하기 위해 온라인 마트에 접속해 있습니다 (단일 배송)



귀하께서 원상시 자주 방문하는 온라인 마트에서는 식품별 특별 판매전이 진행되고 있었으며, 식품별 특별 판매전 제품 2만원 이상 구매 시 1,000원 할인쿠폰을 제공한다고 합니다.

이외 귀하께서 해당 식품별 특별 판매전 제품을 2만원 이상, 2만 6천원 미만으로 구매하기를 하였습니다.

## 제품 섭취관련 설문조사

안녕하십니까?

본 설문지는 식품구매에 대한 소비자 행태 측정을 목적으로 작성된 것입니다.

본 설문지를 통하여 조사된 내용은 연구 이외의 어떠한 목적으로도 사용하지 않을 것임을 약속드립니다.  
 바쁘신 가운데 본 연구에 응해주셔서 진심으로 감사드립니다.

2016년 11월

서울대학교 농경제사회학부, 지역응답전문, 류영희씨네스랩

다음 페이지의 상황에 직면해 있다 생각해 주십시오.

귀하는 현재 **이틀 뒤인 모레에** 덕분에 백송시킴 식품을 구매하기 위해  
**온라인 마트에 접속해 있습니다** (이틀 뒤 모레 출고, 출고 당일 배송)



귀하께서 일상시 자주 방문하는 온라인 마트에서는 식료품 특별 판매전이 진행되고 있었으며, 식료품 특별 판매전 제품을 2만 2천원 이상 구매 시 1,000원 할인쿠폰을 제공한다고 합니다.

이에 귀하께서는 해당 식료품 특별 판매전 제품을 2만원 이상, 2만 6천원 미만으로 구매하기로 하였습니다.

1. 귀하는 구매하신 식료품을 언제 담으로 배송시키든 상황이었습니다가?

시점	선택
① 구매 후 바로	
② 내일	
③ 브리	

2. 귀하는 일주일에 얼마나 자주 식료품을 구매하십니까?

주 ( )회

3. 귀하가 식 식료품 특별 판매전 제품을 2만원 이상, 2만 6천원 미만 구매하고자합니다. 귀하께서 구매하고자 하는 제품들을 구매하여 주십시오.

<b>감자칩</b>  1개, ₩2,400 ▼개수	<b>귤</b>  2kg, ₩6,000 ▼박스	<b>라면</b>  5개, ₩3,100 ▼유음	<b>만두</b>  2봉, ₩8,000 ▼유음
<b>머핀</b>  4개, ₩5,700 ▼유음	<b>방울토마토</b>  750g, ₩4,900 ▼박스	<b>플레인레이슬</b>  3개입, ₩3,100 ▼유음	<b>사과</b>  6과, ₩5,800 ▼유음
<b>사이다</b>  1병, ₩2,400 ▼개수	<b>삼겹살</b>  100g, ₩2,000 ▼g	<b>아몬드(무염)</b>  1개, ₩4,600 ▼개수	<b>아몬드플레이크</b>  1개, ₩4,900 ▼개수
<b>오렌지주스</b>  1병, ₩4,600 ▼개수	<b>플레인요거트</b>  4개, ₩2,600 ▼유음	<b>일반 흰우유</b>  1팩, ₩2,500 ▼개수	<b>밍크초코데</b>  1개, ₩1,600 ▼개수
<b>초코우유</b>  4개, ₩3,600 ▼개수	<b>초코칩쿠키</b>  1상자, ₩2,700 ▼개수	<b>채행</b>  1캔, ₩5,500 ▼개수	<b>일반콜라</b>  1병, ₩2,300 ▼개수

1. 귀하는 구매하신 스프링클을 언제 받으셨는지 배송시기는 상충이었습니까?

시점	선택
① 구매 후 바로	
② 내일	
③ 보류	

2. 귀하는 일주일에 얼마나 자주 스프링클을 구매하십니까?

주 ( )회

3. 귀하께서 스프링클 특별 판매전 제품을 2만원 이상, 2만 6천원 미만 구매하고자합니다.

귀하께서 구매하고자 하는 제품들을 구매하여 주십시오.

감자칩		글		라면		만두	
	제품명 10g / 15.0 10g		제품명 10g / 20.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g
1개, ₩2,400	▼개수	2개, ₩6,000	▼개수	5개, ₩3,100	▼유음	2봉, ₩8,000	▼유음
마편		방울토마토		플레인베이글		사과	
	제품명 10g / 15.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g
4개, ₩5,700	▼유음	750g, ₩4,900	▼개수	3개입, ₩3,100	▼유음	6과, ₩5,800	▼유음
사이다		삼겹살		아몬드(무염)		아몬드프레이크	
	제품명 100ml / 15.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g
1병, ₩2,400	▼개수	100g, ₩2,000	▼g	1개, ₩4,600	▼개수	1개, ₩4,900	▼개수
오렌지주스		플레인요거트		일반 흰우유		맛크초코데	
	제품명 100ml / 15.0 10g		제품명 10g / 15.0 10g		제품명 100ml / 15.0 10g		제품명 10g / 15.0 10g
1병, ₩4,600	▼개수	4개, ₩2,600	▼유음	1팩, ₩2,500	▼개수	1개, ₩1,600	▼개수
초코우유		초콜릿쿠키		채행		일반콜라	
	제품명 100ml / 15.0 10g		제품명 10g / 15.0 10g		제품명 10g / 15.0 10g		제품명 100ml / 15.0 10g
4개, ₩3,600	▼개수	1상자, ₩2,700	▼개수	1캔, ₩5,500	▼개수	1병, ₩2,300	▼개수

4. 귀하는 식료를 구매 시 다음의 식물의 특성이 얼마나 중요하다 생각하십니까?

	전혀 필요하지 않다	필요하지 않다	약간 필요하지 않다	보통 이다	약간 필요하 다	필요하 다	전혀 필요하 다
섭취 시 편리함	①	②	③	④	⑤	⑥	⑦
식물의 브랜드	①	②	③	④	⑤	⑥	⑦
식물의 가격	①	②	③	④	⑤	⑥	⑦
식물의 영양정보	①	②	③	④	⑤	⑥	⑦
식물의 맛	①	②	③	④	⑤	⑥	⑦
식물의 질	①	②	③	④	⑤	⑥	⑦

6. 귀하는 지금 얼마나 배가 고프십니까?

	전혀 고프지 않다	고프지 않다	약간 고프지 않다	보통 이다	약간 고프다	고프다	전혀 고프다
① 귀하는 지금 얼마나 배가 고프십니까?	①	②	③	④	⑤	⑥	⑦

6. 귀하는 다이어트 중이십니까?

예	아니요
①	②

7. 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?

	전혀 신경쓰고있 지 않다	신경쓰고있 지 않다	약간 신경쓰고있 지 않다	보통 이다	약간 신경쓰 고 있다	신경쓰 고 있다	전혀 신경쓰 고 있다
① 귀하는 체중관리에 얼마나 신경을 쓰고 계십니까?	①	②	③	④	⑤	⑥	⑦

8. 다음은 귀하의 건강관심도를 높기 위한 질문입니다.

	전혀 고급지 않다	고급지 않다	약간 고급지 않다	보통 이다	약간 고급다	고급다	전혀 고급다
나는 건강을 위해 내 자신을 잘 통제할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 건강관리를 위해 끊임없이 노력한다	①	②	③	④	⑤	⑥	⑦
나는 건강을 위해 일상생활에서의 불편함을 기꺼이 감수할 수 있다	①	②	③	④	⑤	⑥	⑦
나는 최대한 건강해지기 보 마음먹었다	①	②	③	④	⑤	⑥	⑦
나는 나의 원칙에 따라 건강을 관리한다	①	②	③	④	⑤	⑥	⑦
만일 건강상에 문제가 생기면 문제의 원인을 파악하기 위해 최선을 다 한다	①	②	③	④	⑤	⑥	⑦

9. 다음은 귀하의 **영양지식수준을** 보기 위한 질문입니다.

	그렇다	아니다
비슷한 손가락의 칼로리가 동일한 양의 복합 불포화 마가린 한 손가락의 칼로리 보다 높다		
물을 마시면 살이 찐다		
오렌지에 함유되어있는 비타민c와 동일한 양의 과일즙에 포함되어있는 합성 비타민 c의 체내 작용은 같다		
고기나 가공육 생선을 먹지 않아도 사람들은 건강하게 살 수 있다		
하루에 계란을 2개를 먹으면, 혈중 콜레스테롤 수치가 2배 높아진다		
모유는 알소의 함량 우유보다 더 많은 단백질과 칼로리를 함유하고 있다.		
영양적 측면에서 보았을 때 꿀이 설탕보다 상당히 더 낫다.		

다음은 응답자 특성에 관한 내용입니다.

10. 귀하의 성별은 무엇입니까?

- ① 남성      ② 여성

11. 귀하께서 태어난 연도는 몇 년입니까?(예:1991년)

만 (                      )세

12. 귀하의 혼인 여부는 어떻게 되십니까?

- ① 미혼      ② 기혼

13. 귀하의 최종 학력은 어떻게 되십니까?

- ① 중졸 이하    ② 고졸      ③ 대학 재학/졸업(학사)    ④ 대학원 재학/졸업(석·박사)

14. 귀하의 직업은 무엇입니까?

- ① 회사원      ② 공무원(공사 포함)    ③ 자영업  
④ 학생      ⑤ 주부                                      ⑥ 기타 : (                      )

15. 실례지만, 귀하의 가정의 월평균 가구소득은 얼마나 되십니까?

- ① 200만원 미만  
② 200만원~299만원  
③ 300만원~399만원  
④ 400만원~499만원  
⑤ 500만원~599만원  
⑥ 600만원~699만원  
⑦ 700만원~799만원  
⑧ 800만원 이상

16. 귀하의 가정에 본인을 포함하여 현재 같이 거주하고 있는 가족 구성원 수는 어떻게 되십니까?

- ① 1명 ② 2명 ③ 3명 ④ 4명 ⑤ 5명 ⑥ 6명 이상(      )

17. 귀하의 신장은 어떻게 되십니까?  
(                    )cm

18. 귀하의 체중은 어떻게 되십니까?  
(                    )Kg

19. 귀하가 참여하신 이번 설문지의 특징은 무엇이라 생각하십니까?

\_\_\_\_\_

20. 마지막 질문입니다. 귀하는 언제 덤으로 구매하신 식보판을 배송시키는 상황이었습니까?

시점	선택
① 구매 후 바로	
② 내달	
③ 프리	

설문에 응답해주셔서 감사합니다.

## 요약(국문초록)

# The Effect of Temporal Distance between Purchase and Consumption over Food Purchasing Behavior

### 식품 섭취 시점의 시간적 거리에 따른 소비자 구매 행동

세계의 여러 국가와 연구자들은 비만 문제를 야기하는 식품 대량 구매를 방지하기 위해 많은 노력을 하고 있다. 그럼에도 불구하고, 전 세계적으로 비만인구가 증가하고 있는 추세다. 따라서 비만을 야기하는 주 요인인 식품 대량구매의 원인에 초점을 맞추어 연구를 진행할 필요가 있다. 본 연구에서는 선행연구를 기반으로, 개인의 내생적 요인이인 개인이 설정한 목적인 구매와 섭취간의 시간적 거리가 가까운가 혹은 먼가에 따라 소비자들의 식품 구매행동에 영향을 미칠 것으로 판단, 연구를 진행하였다. 이를 위해 본 연구에서는 두 개의 실험적 연구를 진행하였다. Study 1 에서는 단일 식품 (식빵, 라면, 우유, 콜라 중 하나) 을 구매하는 상황에서 구매와 섭취간의 거리가 가까운가 (구매 후 바로) 혹은 먼가 (구매 후 이틀 뒤)에 따라 식품 구매량이 달라지는가를 확인하였다. Study 2 에서는 온라인 마트에서 여러 식품을 하는 상황에서 구매와 섭취간의 시간적 거리가 가까운가 (구매 후 바로 당일

배송) 혹은 먼가 (구매 후 이틀 뒤 배송시작, 배송 당일 도착)에 따라 더불어 식품별 영양정보 제공 유무에 따라 소비자들의 장바구니 구매액과 장바구니 칼로리가 달라지는가를 확인하였다. Study 1 와 Study 2 의 연구 결과 구매와 섭취간의 시간적 거리가 멀수록 소비자들은 구매를 늘리는 경향을 보임을 확인하였다. 뿐만 아니라, Study 2 의 통해 소비자들은 영양정보를 제공받을 시 제공받지 않을 때 보다 장바구니 칼로리를 낮추는 경향을 보임을 확인하였다. 해당 연구의 결과는 소비자들의 식품 구매 행동은 구매와 섭취간의 시간적 거리에 따라 영향을 받으며, 뿐만 아니라 영양정보의 제공 유무에 따라 달라지는 경향을 보임을 시사한다.