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Original Research

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Comparison of college students' behavior toward nutrition information communication between Korea and the US

Chang-Sik Kim [1,2], Robert Bosselman [3], Hyung-Min Choi [4], Keum Sil Lee [5], Eojina Kim [6], Hyeyoung Moon [7], Yoon Jung Jang [7], and Sunny Ham [7§]

[1]Department of Hospitality and Tourism Management, Sejong University, Seoul 05006, Korea
[2]Department of Global Tourism, Baewha Women's University, Seoul 03039, Korea
[3]Department of Apparel, Events & Hospitality Management, College of Human Sciences, Iowa State University, Ames, IA 50011, USA
[4]International Center for Hospitality Research & Development, Dedman School of Hospitality, Florida State University, Tallahassee, FL 32306, USA
[5]Department of Tourism Management, Jangan University, Hwaseong 18331, Korea
[6]Department of Hospitality & Tourism Management, Pamplin College of Business, Virginia Tech, Blacksburg, VA 24061, USA
[7]Department of Food & Nutrition, Institute of Symbiotic Life-TECH, College of Human Ecology, Yonsei University, Seoul 03722, Korea

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[§]Corresponding Author:
Sunny Ham
Department of Food & Nutrition, Institute of Symbiotic Life-TECH, College of Human Ecology, Yonsei University, 50 Yonsei-ro, Seodaemun-gu, Seoul 03722, Korea.
Tel. +82-2-2123-3121
E-mail. sham2@yonsei.ac.kr

ORCID iDs
Chang-Sik Kim
https://orcid.org/0000-0003-4304-9974
Robert Bosselman
https://orcid.org/0000-0002-4748-7739
Hyung-Min Choi
https://orcid.org/0000-0001-5775-9139
Keum Sil Lee
https://orcid.org/0000-0002-2405-8683
Eojina Kim
https://orcid.org/0000-0001-6405-6933
Hyeyoung Moon
https://orcid.org/0000-0002-8589-540X
Yoon Jung Jang
https://orcid.org/0000-0002-1722-7303
Sunny Ham
https://orcid.org/0000-0001-8666-5027

ABSTRACT

BACKGROUND/OBJECTIVES: The expansion of menu labeling to restaurants has created a need to study customers' behavior toward nutrition information. Therefore, the purpose of this research was to compare college students' behavior toward nutrition information communication between Korea and the US. This study consisted of three objectives: 1) to compare the frequency of usage as well as degree of trust regarding smartphone-based communication channels in the acquisition of nutrition information among college students between Korea and the US, 2) to compare knowledge-sharing behavior related to nutrition information among college students between Korea and the US, and 3) to identify the role of country in the process of knowledge-sharing behavior.
SUBJECTS/METHODS: A survey was distributed via the web to college students in Korea and the US. Data were collected in the 2nd week of March 2017. Completed responses were collected from 423 Koreans and 280 Americans. Differences between Koreans and Americans were evaluated for statistical significance using a t-test. In order to verify the effects of knowledge self-efficacy and transactive memory capability on knowledge-sharing behavior related to nutrition information, a regression analysis was performed.
RESULTS: Significant differences were found in the frequency of usage as well as degree of trust in communication channels related to nutrition information between Korean and American college students. While knowledge self-efficacy and tractive memory capability had positive effects on knowledge-sharing behavior related to nutrition information, country had a significant effect on the process.
CONCLUSIONS: This study is the first to compare customer behavior toward nutrition information acquisition and sharing between Korea and the US. Comparative research on nutrition information revealed differences among the different countries. Therefore, this study contributes to the body of knowledge on the nutrition information research, in particular, by providing a comparison study between countries.

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Conflict of Interest
The authors declare no potential conflicts of interests.

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Keywords: Menu labeling; nutrition information; communication; knowledge sharing; country

INTRODUCTION

Recently, menu labeling for restaurants has received considerable attention from the public, industry, legislation, and media worldwide. This increased attention to restaurant menu labeling can be attributed to a significant increase in diseases related to food consumption, such as obesity, coronary heart disease, and diabetes, which has been accelerated by the substantial growth in the consumption of foods-away-from-home and dollars spent at restaurants [1-4].

Menu labeling policies have become a focus of legislation worldwide. Many countries have enacted regulations on menu labeling through national laws, such as the Health Care and Education Reconciliation Act of 2010 in the US [4], Special Act on Children's Food Safety and Nutrition in Korea, and Nutrition Labeling in the EU Commission. Singapore and Japan have also enacted menu labeling policies.

The benefits of menu labeling to customers have been studied. Menu labeling at restaurants helps customers make lower-calorie choices [5-10]. Menu labeling also helps customers choose healthier food items [5,11]. Menu labeling is known to result in positive outcomes, including decreased morbidity and mortality rates by improving dietary quality [12].

The goal of menu labeling policies is to minimize the incidence of diseases resulting from unhealthy food behavior as well as reduce medical costs associated with these diseases [13]. In order to achieve the stated goal of menu labeling policies, the public must actually use the nutritional information on menu boards at restaurants. To do this, people must first have interest in nutrition information.

To achieve the stated goal of menu labeling policies, this study intended to identify consumer behavior related to nutrition information communication, including nutrition information acquisition and sharing based on smartphones. We chose college students as the sample for this study. Upon experiencing lifestyle transitions, college students or young adults become more responsible with regard to their personal food choices and dietary behaviors as well as develop greater interest in healthy diet practices for reducing the risk of chronic diseases, such as diabetes, in their later life [14]. Studies have shown that college students who place more importance on a healthy diet consider nutrition information to be very beneficial for their food choices, as it helps them choose lower-calorie or healthier foods [15-17].

Social influence has been found to be a critical factor affecting young adults' dietary behavior [18]. Robinson *et al.* [18] noted that young adults' perceptions or beliefs about the dietary behavior of their social group influence their eating behavior. For example, when they perceive that others within a social group have healthy dietary practices, such as habitually consuming the recommended daily amounts of fruits and vegetables, students are more likely to increase their fruit and vegetable intake [19].

Communication through credible channels is critical for obtaining nutritional information among college students. Furthermore, knowledge-sharing behavior is important in

promoting communication of information among peers. Thus, it is necessary to increase knowledge-sharing behavior. Previous studies have indicated that knowledge self-efficacy and transactive memory capabilities influence knowledge-sharing behavior [20,21]. In detail, knowledge-sharing behavior refers to "the extent to which knowledge is provided or shared with others" [20]. Knowledge self-efficacy is defined as "the extent to which a person is confident that he or she possesses the capability to provide useful knowledge to others" [21]. Transactive memory capability is defined as "the extent to which one expands and uses the transactive memories obtained during the formation of relationships with other people" [20]. On this note, it would be interesting to test the mechanism of knowledge-sharing behavior related to nutrition information as well as examine the role of country in this process.

The smartphone was chosen as the medium of nutrition information communication. Upon accessing mobile devices, young adults show significant behavioral changes toward information-seeking [22]. Smartphones are used in a variety of knowledge-seeking activities through social media, internet searches, and text messaging [23]. An astounding 94% of adults aged 18- to 29-years-old in the US use smartphones [24]. About 72% of Internet users in America look up information regarding health via online [25]. A prior survey study found that 32% of people in the US have used SNS to communicate about health activities. The current study chose college students, as young people become leaders in searching for health-related activities using mobile devices [26,27].

The purpose of this research was to compare behavior related to nutrition information communication among college students between Korea and the US. This study consisted of three objectives: 1) to compare the frequency of usage as well as degree of trust regarding smartphone-based communication channels in the acquisition of nutrition information among college students between Korea and the US, 2) to compare knowledge-sharing behavior related to nutrition information among college students between Korea and the US, and 3) to identify the role of country in the process of knowledge-sharing behavior.

This study uniquely compares nutrition information communication behavior among college students between Korea and the US. The US was chosen as a benchmark of menu labeling implementation. In the US, mandating menu labeling as federal law was proposed in 2010 as part of the Patient Protection and Affordable Care Act (PPACA, also known as Obamacare) and went through a trial and error process among different interest groups. The final impetus for this law was provided by the US National Restaurant Association (NRA) [28]. The final proposal became effective as of May 2018. The federal law states that foodservice establishments that have 20 or more outlets across America are required to provide menu labeling. According to the U.S. Food and Drug Administration [29], about 231,200 establishments under 1,070 chains implement menu labeling in their operations. US consumers have led the trend in menu labeling despite the reluctance of the foodservice industry. While the foodservice industry initially opposed menu labeling implementation, the menu labeling law has been established through cooperation between government and industry experts.

In Korea, to provide a healthy eating environment to children, the Ministry of Food and Drug Safety (MFDS) administration has mandated via the Special Act on Children's Food Safety and Nutrition that menu labeling be provided by restaurants that have 100 or more outlets in Korea. This regulation is applied to all types of restaurants, including confectionary and ice cream chains. As of 2019, 10,630 chain restaurants have implemented some form of menu labeling in Korea [30].

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This study investigated nutrition information communication behavior among college students in order to provide a basis to develop strategies to promote nutrition information among young people.

SUBJECTS AND METHODS

Research instrument

A self-administered survey was used for this study. The survey queried participants about their nutrition information communication behavior based on smartphones. The participants were eligible to respond to the survey as long as they were studying at university and using a smartphone. The survey was comprised of three parts. Part 1 featured questions measuring the respondent's nutrition information communication behavior using smartphones, in terms of frequency of usage and degree of trust. To measure the usage frequency of each communication channel for the acquisition of nutrition information, six items were used, which were derived from previous studies [31,32]. The communication channels included SNS, messengers, internet posts (blogs), news, YouTube, and applications. Customer trust toward the communication channels was also measured using the six items [31,32]. Part 2 included questions assessing respondents' knowledge self-efficacy, transactive memory capability, and knowledge-sharing behavior. The 5 question items for knowledge self-efficacy were adapted from the literature [20,33,34]. The 7 question items for transactive memory capability were adapted from previous studies [21,34]. The 7 items for knowledge-sharing behavior were adapted from the literature [20,35]. Lastly, Part 3 presented questions for obtaining demographic information, such as gender and university grade.

All items, except demographics, were rated on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). To ensure content validity, experts in the area, 5 faculty members and seven researchers in foodservice management programs, reviewed the draft of the survey. Then, a pilot test was conducted with 40 college students at a university in Seoul, Korea and another university in the US. The results from the pilot test confirmed the adequate comprehensibility and clarity of the survey. The finalized survey was reviewed and approved by the Institutional Review Board (IRB) (7001988-201710-HR-209-05) at a university, Seoul, Korea and a Mid-Western university, US. The measurement items are depicted in **Table 1**.

Sample and data collection

The data collection was performed in Korea and the US. The questionnaire was distributed through a web-based survey system. In Korea, the survey was distributed through college student communities. For the US, the survey was distributed to students at a Mid-Western university. The data were collected in the 2nd week of March 2017. After excluding incomplete responses, 423 complete responses for Korea and 280 responses for the US were used in the data analysis.

Statistical analysis

Completed responses from 423 Koreans and 280 Americans were analyzed using Statistical Package for the Social Science (SPSS) for Windows 20.0. Mean and standard deviation were calculated for usage of communication channels in acquiring nutrition information, trust in the communication channels, and attribution of personal perception (knowledge-sharing behavior, knowledge self-efficacy, and transactive memory capability). In order to test the reliability of the constructs of knowledge-sharing behavior, knowledge self-efficacy, and transactive memory capability, Cronbach's α was used. The differences between Koreans

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Table 1. Description of measures

Constructs	Questionnaire items
Usage of communication channels for nutrition information	Please indicate how often you use each communication channel in acquiring nutritional information (SNS, messenger, posting [blogs], news, YouTube, and application).
Trust in communication channels for nutrition information	Please indicate the degree to which you trust each communication channel (SNS, messenger, posting [blogs], news, YouTube, and application).
Knowledge self-efficacy	I am able to provide knowledge about health and nutrition that my friends consider valuable.
	I have the expertise and experiences required to provide valuable knowledge about health and nutrition for my friends.
	I am able to offer comments or responses to what friends provided.
	Whether I share my knowledge about health and nutrition with others affects the usefulness of knowledge-sharing among friends.
	I am able to provide more valuable knowledge about health and nutrition than most other friends.
Transactive memory capability	I think friends who communicate with me have special knowledge about health and nutrition.
	I am aware who has some knowledge about health and nutrition.
	I tend to trust the knowledge that others have.
	I think I can solve the problem smoothly through friends who communicate with me.
	I think I can get a lot of knowledge through friends around me.
	I tend to communicate smoothly with my friends.
	I usually accept opinions and information about health and nutrition from friends who communicate with me.
Knowledge sharing behavior	I frequently participate in knowledge-sharing activities about health and nutrition.
	I usually spend a lot of time for knowledge-sharing activities about health and nutrition.
	I actively share my knowledge about health and nutrition with friends.
	When discussing a complicated or difficult issue about health and nutrition, I tend to interact with more friends than usual.
	I usually involve myself in discussions of various health and nutrition topics rather than specific topics.

and Americans were evaluated for statistical significance using a t-test. In order to verify the effects of knowledge self-efficacy and transactive memory capability on knowledge-sharing behavior related to nutrition information, a hierarchical regression analysis was performed.

RESULTS

Description of the respondents

The demographic profiles of the respondents from Korea and the US are presented in **Table 2**. In total, 423 Korean and 280 American responses were entered in the analysis. As for gender, in Korea, 253 (59.8%) responses of the sample were female, and 170 (40.2%) responses were male. In the US, 178 (63.6%) of the respondents were female, and 102 (36.4%) of the respondents were male. As to university grade, in Korea, 9.7% (n = 41) of respondents were freshmen, 20.1% (n = 85) were sophomores, 29.8% (n = 126) were juniors, and 40.4% (n = 171) were seniors. Of the respondents in America, 4.3% (n = 12) were freshmen, 33.2% (n = 93) were sophomores, 20.7% (n = 58) were juniors, and 41.8% (n = 117) were seniors.

Table 2. Demographic information of respondents

Characteristic	Country	
	Korea (n = 423)	America (n = 280)
Sex		
Male	170 (40.2)	102 (36.4)
Female	253 (59.8)	178 (63.6)
Grade		
Freshman	41 (9.7)	12 (4.3)
Sophomore	85 (20.1)	93 (33.2)
Junior	126 (29.8)	58 (20.7)
Senior	171 (40.4)	117 (41.8)

Values are presented as number (%).

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Comparison of usage of communication channels related to nutrition information among college students

Regarding the use of smartphones as communication channels to acquire nutrition information among college students, the usage frequency of each communication channel was measured. When college students acquire nutrition information using smartphones, they use 6 channels, including social media (Facebook, Instagram, Twitter), messengers (Snapchat, Line), internet posts (blogs), online magazines/news, YouTube, and applications.

The usage frequency of each channel among college students for acquiring nutrition information was queried, and the results are presented in **Table 3**. For Korean college students, they used internet posts (4.21) the most, followed by online magazines/news (4.01), social media (3.69), messengers (3.60), YouTube (3.41), and applications (3.12).

For American college students, they used social media (4.49) the most, followed by YouTube (4.04), online magazines/news (4.00), internet posts (3.94), messengers (3.90), and applications (3.14).

A comparison between Korean and American students regarding the usage frequency of each communication channel in acquiring nutrition information was carried out using a t-test, as presented in **Table 3**. American students used social media and YouTube significantly more often than Korean students (social media: 4.49 vs. 3.69, YouTube: 4.04 vs. 3.41, $P < 0.01$). On the other hand, Korean students used Internet posts significantly more often than American students (4.21 vs. 3.94, $P < 0.05$).

Comparison of the degree of trust toward the communication channels among college students between Korea and the US was made using a t-test, shown in **Table 4**.

Table 3. Comparison of usage of communication channels for nutrition information

Communication channels	Country[1]		Difference[2]	*P*-value
	Korea (n = 423)	America (n = 280)		
Social media (Facebook, Instagram, Twitter)	3.69 ± 1.74	4.49 ± 2.01	−0.80 (−0.27)	0.000**
Messenger (Snapchat, Line)	3.60 ± 1.67	3.90 ± 2.21	−0.30 (−0.54)	0.054
Internet posting (blogs)	4.21 ± 1.65	3.94 ± 1.72	0.27 (−0.07)	0.035*
Online magazine, news	4.01 ± 1.63	4.00 ± 1.67	0.02 (−0.04)	0.889
YouTube	3.41 ± 1.74	4.04 ± 1.97	−0.63 (−0.23)	0.000**
Application	3.12 ± 1.96	3.14 ± 2.23	−0.02 (−0.27)	0.892

[1]Mean ± SD, scored by a 7-point Likert scale (1 = Never, 4 = Neutral, 7 = Always).
[2]Korea Mean − America Mean (Korea SD − America SD).
*$P < 0.05$, **$P < 0.01$.

Table 4. Comparison of channel trust in nutrition information

Communication channels	Country[1]		Difference[2]	*P*-value
	Korea (n = 423)	America (n = 280)		
Social media (Facebook, Instagram, Twitter)	3.48 ± 1.46	3.64 ± 1.39	−0.16 (0.07)	0.164
Messenger (Snapchat, Line)	3.65 ± 1.50	3.28 ± 1.49	0.37 (0.01)	0.001**
Internet posts (blogs)	4.18 ± 1.41	4.36 ± 1.33	−0.18 (0.08)	0.085
Online magazine, news	4.61 ± 1.79	4.83 ± 1.37	−0.22 (0.42)	0.066
YouTube	3.80 ± 1.51	4.20 ± 1.45	−0.40 (0.06)	0.001**
Application	3.85 ± 1.75	3.95 ± 1.99	−0.10 (−0.24)	0.482

[1]Mean ± SD, scored by a 7-point Likert scale (1 = Never, 4 = Neutral, 7 = Always).
[2]Korea Mean − America Mean (Korea SD − America SD).
**$P < 0.01$.

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For Korean students, they trusted online magazines/news the most (4.61), followed by internet posts (4.18), applications (3.85), YouTube (3.80), messengers (3.65), and SNS (3.48). For American students, they trusted online magazines/news the most (4.83), followed by internet posts (4.36), YouTube (4.20), applications (3.95), SNS (3.64), and messengers (3.28).

Significant differences in the degree of trust in the communication channels related to nutrition information were observed between Korean and American college students. For messengers, Korean students trusted them more than American students (3.65 vs. 3.28, $P < 0.01$). On the contrary, for YouTube, American students showed a higher degree of trust than Korean students (4.20 vs. 3.80, $P < 0.01$).

Comparison of knowledge-sharing behavior related to nutrition information among college students between Korea and the US

To examine knowledge-sharing behavior related to nutrition information, knowledge self-efficacy, transactive memory capability, and knowledge-sharing behavior were measured. Cronbach's α for the constructs were 0.886 for knowledge self-efficacy, 0.857 for transactive memory capability, and 0.880 for knowledge-sharing behavior. Thus, reliability for each construct was ensured [36].

Comparison between Korea and the US regarding knowledge self-efficacy, transactive memory capability, and knowledge-sharing behavior among college students was made using a t-test, and the results are presented in **Table 5**. American students showed higher knowledge self-efficacy than Korean students (4.79 vs. 4.23, $P < 0.01$). College students' perceived transactive memory capability was also higher among American students than Korean students (4.89 vs. 4.20, $P < 0.01$). However, there was no significant difference in knowledge-sharing behavior between Korean and American students (3.85 vs. 3.65, $P < 0.05$).

Hierarchical regression analysis of knowledge-sharing behavior related to nutrition information among college students is shown in **Table 6**. As shown in step 1 of the regression model 1, knowledge self-efficacy (β = 0.506, $P < 0.01$) and transactive memory capability (β = 0.233, $P < 0.01$) were found to be significant predictors of knowledge-sharing behavior, and the model explains 44.8% of the variance. As shown in step 2 of the regression model 2, knowledge self-efficacy (β = 0.520, $P < 0.01$), transactive memory capability (β = 0.314, $P < 0.01$), and country (β = −0.281, $P < 0.01$) were found to be significant factors affecting knowledge-sharing behavior, and the model explains 51.9% of the variance.

As shown in step 3 of the regression model 3, knowledge self-efficacy (β = 0.454, $P < 0.01$), transactive memory capability (β = 0.322, $P < 0.01$), and country (β = −0.509, $P < 0.01$) were determined as significant factors influencing knowledge-sharing behavior. In addition, the

Table 5. Comparison of knowledge self-efficacy, transactive memory capability, and knowledge-sharing behavior among college students

Constructs	Country[1)]		Difference[2)]	*P*-value
	Korea (n = 423)	America (n = 280)		
Knowledge self-efficacy	4.23 ± 1.17[1)]	4.79 ± 1.34	−0.56 (−0.17)	0.000**
Transactive memory capability	4.20 ± 1.02	4.89 ± 1.04	−0.69 (−0.02)	0.000**
Knowledge sharing behavior	3.85 ± 1.20	3.65 ± 1.54	0.20 (−0.34)	0.079

[1)]Mean ± SD, scored by a 7-point Likert scale (1 = Strongly disagree, 4=Neutral, 7=Strongly agree).
[2)]Korea Mean − America Mean (Korea SD − America SD).
**$P < 0.01$.

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Table 6. Hierarchical regression analysis of knowledge-sharing behavior for nutrition information (n = 713)

Predictor variables	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5
Knowledge self-efficacy	0.506**	0.520**	0.454**	0.519**	0.405**
Transactive memory capability	0.233**	0.314**	0.322**	0.334**	0.402**
Country		−0.281**	−0.509**	−0.182	−0.307*
Knowledge self-efficacy × country			0.255*		0.439**
Transactive memory capability × country				−0.109	−0.404**
R^2	0.450	0.521	0.525	0.521	0.529
R^2 change	0.448	0.519	0.522	0.518	0.526
F	285.898**	253.075**	192.561**	189.907**	156.738**
F change		103.612**	5.803*	0.712	6.384**

*P < 0.05, **P < 0.01.

interaction term (knowledge self-efficacy × country) had a significant influence on knowledge-sharing behavior (β = 0.255, P < 0.05), and the model explains 52.2% of the variance.

As shown in the step 4 of the regression model 4, knowledge self-efficacy (β = 0.519, P < 0.01) and transactive memory capability (β = 0.334, P < 0.01) were found to be significant factors affecting knowledge-sharing behavior. Moreover, country (β = −0.182, P > 0.05) and the interaction term (transactive memory capability × country, β = −0.109, P > 0.05) had significant effects on knowledge-sharing behavior, which subtracted 0.1% from the explained variance.

As shown in the step 5 of the regression model 5, knowledge self-efficacy (β = 0.405, P < 0.01), transactive memory capability (β = 0.402, P < 0.01), and country (β = −0.307, P < 0.05) were found to be significant antecedents of knowledge-sharing behavior. In addition, the interaction terms (knowledge self-efficacy × country [β = 0.439, P < 0.01] and transactive memory capability × country [β = −0.404, P < 0.01]) had significant effects on knowledge-sharing behavior, which added 0.9% to the explained variance.

DISCUSSION

The study investigated the usage of smartphone-based communication channels (SNS, messengers, internet posts, online magazines, YouTube, applications) in the acquisition of nutrition information among college students in terms of usage frequency and degree of trust. Further, as significant factors influencing knowledge-sharing behavior, knowledge self-efficacy and transactive memory capability were measured and their effects on knowledge-sharing behavior verified. Comparisons between Korea and the US were made.

The major findings of the study are as follows.

1. Significant differences were found in the usage frequency of communication channels in the acquisition of nutrition information among college students between Korea and the US. American students used social media (Facebook, Instagram, Twitter) and YouTube significantly more often than Korean students (social media: 4.49 vs. 3.69, YouTube: 4.04 vs. 3.41, P < 0.01), whereas Korean students used internet posts (blogs) significantly more often than American students (4.21 vs. 3.94, P < 0.05).
2. Significant differences were noted with regard to the degree of trust in the communication channels related to nutrition information between Korean and American college students. Korean students trusted messengers more than American students (3.65 vs. 3.28, P < 0.01). On the contrary, for YouTube, American students trusted it more than Korean students (4.20 vs. 3.80, P < 0.01).

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3. Significant differences were found in knowledge self-efficacy and transactive memory capability among college students. American students showed higher knowledge self-efficacy than Korean students (4.79 vs. 4.23, $P < 0.01$). American students showed higher transactive memory capability than Korean students (4.89 vs. 4.20, $P < 0.01$). However, there was no significant difference in knowledge-sharing behavior between Korean and American students (3.85 vs. 3.65).
4. Regression analyses verified the relationships among the knowledge-sharing variables and the role of country. Regarding the sharing of nutrition information knowledge among college students, knowledge self-efficacy and transactive memory capability had positive effects on knowledge-sharing behavior. Moreover, country had an effect on the process. That is, Korean and US college students may differ in terms of the relationships of knowledge self-efficacy and transactive memory capability with knowledge-sharing behavior.

The findings of this study have strong academic and practical implications. This study is the first to compare customer behavior toward nutrition information communication between Korea and the US. While the literature has investigated the effects of menu labeling [5-12], there is little knowledge on nutrition information communication behavior to promote menu labeling, in particular, between two countries. Further, this study is the only comparative study between two countries on the topic of menu labeling. While a comparative study is very valuable, data collection is very difficult. For example, in terms of recruiting samples, a comparative survey for 2 different countries requires double-translation, and the sample at each location should be handled in the exact same manner. Therefore, a comparative study requires very careful research design and a much longer time to be developed. Comparative research on nutrition information communication reveals differences among countries and cultures. Lastly, comparative studies, in particular, are needed to account for the unique characteristics of global populations, including perceptions and behaviors. Therefore, this study contributes to the body of knowledge on nutrition information research, in particular, by providing a comparison study between countries, nutrition information acquisition, and sharing behavior.

This study also has very important practical implications. First, as Korean college students showed lower knowledge self-efficacy and transactive memory capability with regard to nutrition information communication than American students, there should be tools developed to increase Korean students' knowledge of nutrition information as well as transactive memory capability. Second, country had a significant effect on the knowledge-sharing behavior process. That is, Korea and the US differ in terms of the relationship of knowledge-sharing behavior with self-efficacy and transactive memory capability. Our study indicates that each country has a unique nutrition information environment, which necessitates specific strategies and tactics to promote nutrition information knowledge.

Future research will be directed toward the investigation of customers in other countries in terms of nutrition information communication. This may include comparisons among European countries, Australia, and Singapore, where menu labeling is actively implemented. Research can be conducted between Western and Eastern cultures or different groups of customers.

The promotion of use of nutrition information in restaurants may require the combined effort of the government, industry, and academia. The government could develop programs to financially and administratively support restaurants' implementation of menu labeling. For

example, the cost restaurants invest in nutritional analysis for their menus could be financially supported by the government, as even partial support would be helpful to small restaurants in particular. Academic research should be conducted in real restaurant settings to examine customers' use of menu labeling and selection of healthy menus. Finally, the restaurant industry should strive to develop more user-friendly menu labeling formats for customers.

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