Macrothink Institute™

Journal of Food Studies
ISSN 2166-1073
2013, Vol. 2, No. 1

The Shift to Home Meal Replacement Consumption in Convenience Stores

Cheng-Hsi Fang (Corresponding author)

Dept. of Marketing and Distribution, Chien-Hsin University of Science and Technology

229, Chien-Hsin Rd., Jung-Li 320, Taiwan (R.O.C.)

Tel: 886-4-58-1196 ext7512 E-mail: budafang@gmail.com

Yueh-Chuen Huang

Dept. of Business Administration, National Taichung University of Science and Technology

129 Sec. 3, Sanmin Rd. Taichung 40401, Taiwan

Tel: 886-4-2219-5678 E-mail: ychuang@nutc.edu.tw

Yu-Yeh Chiu

Dept. of Marketing and Distribution, Chien-Hsin University of Science and Technology

Tel: 886-4-58-1196 ext7512 E-mail: yuyeh@cyu.edu.tw

Received: Dec 9, 2012 Accepted: January 14, 2013 Published: June 1, 2013

doi:10.5296/jfs.v2i1.2836 URL: http://dx.doi.org/10.5296/jfs.v2i1.2836

Abstract

The purpose of this study is to understand Home Meal Replacement (HMR) consumption in convenience stores using a reduced form of food-related lifestyle (FRL) instrument. A Taiwanese sample was collected at various convenience stores and consisted of 237 adult individuals. We performed cluster analysis and found two groups of consumers. They are "convenience/hedonic food consumers" and "convenience/conservative food consumers." The former comprises 148 people. On the whole, these consumers enjoy shopping, care about product information, and are very interested in trying different kinds of foods. They carefully read information on the product label before purchasing HMR. The latter comprises 73 individuals. They are less interested in any food-related activities, but they care more about taste, healthfulness, and freshness of food than other consumers. The HMR segments derived from this study show significant differences with respect to attitudes and buying behaviors

toward HMR, but did not differ in the demographic variables.

Keywords: Food consumption, Fresh food, Food-related lifestyle, Ready to cook meals

1. Introduction

Taiwan represents one of the most advanced markets for convenience stores. It has the world's highest density of convenience stores per person. Moreover, the business model of convenience stores in Taiwan is not only sophisticated but also continuingly evolving. Because convenience stores can be found almost everywhere in Taiwan, they have many opportunities to offer very diverse product and services. Therefore, the changes that happened in Taiwan's convenience stores may provide some insight to managers in other countries. And right now, Home Meal Replacement (HMR) is the new power for the sales growth of convenience stories in Taiwan.

HMR is "a meal taken directly or through a brief cooking process in convenience stores or at home by purchasing ready to eat or ready to end-cook type of food." (Jang, Kim, & Yang, 2011) Although HMR has been introduced in supermarkets for more than thirty years, it is recently getting more and more popular in convenience stores, and therefore draws attention from researchers and practitioners alike. This meal solution has been perceived as a major opportunity for sales growth in convenience stores. To cope with this trend, many convenience stores in Taiwan have redesigned the store layout to provide more space to sell more types of fresh foods. According to the 7-11 annual report, HMR accounted for about 16.5% of total sales in 2010.

Although convenience stores in Taiwan have served HMR for decades, it was not until recently that convenience stores begin to provide a wide range of fresh foods. Nowadays, consumers can freely choose rice, porridge, side dishes, salad, retort food (soup, broth, curry, spaghetti, etc.), and so on in a convenience store at any time just as if they were in a cafeteria. The evolution of HMR reflects a dramatic change in food consumption lifestyle. It is totally different from eat-out (food-away-from-home) or home-prepared meals, and was call as the "meddle meal," "fresh food" or "foods to go" in different countries. HMR is getting more and more important in many countries (Jang et al., 2011; Kamata, 2010) and is estimated by global industry analysts to reach 91 billion sales by 2015 in the global market. However, there has been relatively little research conducted on this issue from the consumer's point of view. The present study tries to contribute on this issue.

In order to better understand this phenomenon, this study attempts to examine HMR consumer lifestyles and consumption patterns by using a food-related lifestyle (FRL) instrument. The instrument was originally developed by the Market-Based Product and Process Development in Danish (MAPP) research group (Brunsø & Grunert, 1995), and was adjusted for the Chinese food culture (Fang & Lee, 2009). This instrument is wildly applied to empirical market analysis, especially in European nations (Brunsø, Scholderer, & Grunert, 2004b; Buckley, Cowan, McCarthy, & O'Sullivan, 2005). Its reliability and validity are also empirically proven (Brunsø, Scholderer, & Grunert, 2004a). FRL has been recognized as more precise in predicting consumers' food-related lifestyle and therefore is very suitable to serve as a basis for market segmentation. Moreover, since the instrument has been widely applied to many nations, it can provide a basis for cross-country comparisons.

2. Literature Review

The literature review consists of two sections. First, an overview of the food consumption in terms of consumers' lifestyles is presented. Second, the approach of food-related-lifestyles will be discussed.

2.1 An overview of Taiwanese food consumption lifestyles

The food consumption styles have changed dramatically during the past few decades in Taiwan. According to Lee and Fang (2008), Taiwanese food consumption behavior for staple foods have changed over time in response to not only the change of food prices and the increase in income but also consumers' preference structure for staple foods. The shifts, including intercept and price parameter in demand function, occurred gradually from 1985 to 1995. Before 1985, Taiwanese people consumed more rice; after 1995, they consumed more and more wheat-related products and root crops. The price elasticity and expenditure elasticity of root crops dramatically decreased into an inelastic product, which means that consumers' preference for root crops is less affected by price change of the product. The authors reviewed the historical data in Taiwan and found that McDonald's launched its first store in 1995. Moreover, Taiwan national income per capita is more than 3,000 US dollars at the same year. The structural change of consumption behavior reflected a basic revolution in food consumption style.

Fang and Lee (2009) utilized the FRL instrument to examine food consumption lifestyles in Taiwan. Their study identified four different segments: traditional consumers (23.54%), adventurous consumers (27.61%), uninvolved consumers (24.07%), and astute consumers (24.78%). Chen (2012) used the same instrument and found five distinct lifestyle groups: hedonic (16.1%), organic (27.2%), uninvolved (14.7%), concerned (21.7%) and impromptu (20.4%). According to these studies, consumers' food consumption behaviors have been relatively stable in recent years. However, some important trends have been identified. For example, more and more consumers are concerned about food safety; they read the label on the package, but they still demand food which is well-processed and can be conveniently consumed (Huang, 2012).

2.2 Food-related lifestyle instrument

The FRL instrument was developed to deal with the inefficiency of the AIO (Activity, interest and opinions) scale in measuring consumers' food consumption lifestyles. AIO was developed to measure almost all aspects of one's life; therefore, it contains too many items even decrease the power to predict some specific consumption behavior. To overcome these shortcomings, Brunsø and Grunert (1995, 1998) and Grunert, Brunsø, and Bisp (1997) have proposed a food-related lifestyle scale that totally differs with the AIO tradition.

In order to provide a theoretical background for lifestyle research, Grunert, Brunsø, and Bisp (1997) developed the FRL instrument in strict accordance with the means-end chain approach. The concept of lifestyle was viewed as "a mental construct which explains, but is not identical with, actual behavior" (Grunert, Brunsø, and Bisp, 1993: p.12). Narrowing down the discussion of lifestyle concept to a specific product domain can effectively increase the

predictive power of lifestyle construct. The structure of FRL instrument is tested by confirmatory factor analysis. Finally, the FRL model introduced by Brunsø et al. (2004) covers 23 dimensions in five interrelated domains – way of shopping, quality aspects, cooking methods, consumption situations, and purchasing motives.

The FRL has been empirically validated and widely used in different countries, including the United Kingdom, Germany, Croatia, Demark, France, Australia, Singapore, and Japan. These researches confirmed that FRL is a very useful tool to identify market segment. Some researchers further refined the FRL scale to examine a more detail segment of food industry. For example, Shim, Gehrt and Lotz (2001) adopted the concept of FRL and identifying three fruit-specific segments in Japan. Using the same approach, Bruwer, Li and Reid (2002) introduced Win-Related Lifestyle scale to examine segments of the Australian wine market. They found five wine-related lifestyle segments exist in the Australian domestic wine market.

The introduce of FRL in Taiwan market was done by Lee, Fang and Chueh (2007). They compared the power of FRL scale and demographic variables in explaining Taiwanese food consumption behavior. Their study found that FRL has higher explanatory power in predicting consumers' food consumption behavior than demographic variables; however, some items in FRL are not quite suitable in Chinese culture. For example, Taiwanese seldom make a shopping list while going grocery shopping; on the contrary, unplanned purchase behavior is very common in Taiwanese daily life. They suggested the original 23-dimension scale can be refined to a 17-dimension scale that will more adaptive to Taiwanese food consumption culture.

3. Method

3.1 Instrument development

The questionnaire includes three parts. First, HMR consumption behaviors in convenience stores were measured. Respondents were asked to answer how frequently and in what situation they consume HMR in convenience stores. What certain types of HMR do they usually buy? What are the motivations for them to purchase fresh food in convenience stores? The second part of the questionnaire is a refined FRL instrument. The original FRL instrument, which included five domains and covered 23 dimensions, is not quite fit in an HMR consumption context in convenience stores. Therefore, we modified the instrument by deleting some unnecessary dimensions or adjusting some statements to fit into an HMR context; for instance, involvement of the cooking, assistance from family, social events, planning and so on were discarded in the refined scale. Finally, a 26-item instrument was used in the official survey (show in table 2). Respondents were asked to rate on a five-point Likert type scale (1 = strongly disagree; 5 = strongly agree) the extent to which they agreed with each statement. The final part of the questionnaire is demographic variables. Items include gender, marriage status, age, family size, and education level.

3.2 Data collection

The data were collected using the "mall-intercept" method. The questionnaires were distributed at various convenience stores in the Taiwan metropolitan area in April and May

2010. Four college students majoring in marketing were in data collection. They first explained the purpose of the study and the meaning of the HMR to potential responders. Respondents then were asked to fill out the questionnaires on site and to return them directly to the students when completed. Out of the 250 questionnaires distributed, after deleting incomplete responses, 237 were used for the final analysis, which is an overall response rate of 94.8%.

3.3 Data analysis

The data was analyzed using SPSS 17. Consumers' preference for HMR and demographics are presented as proportions. We firstly check the reliability for FRL scale. The results of cronbach alpha coefficients revealed a high internal consistency. In order to identify the number of components in the data, exploratory factor analysis (principal component analysis, varimax rotation) was carried out to examine the structure of FRL scores. The factor scores were saved for later analysis. A two-step cluster analysis was used to identify segments for HMR. We first performed hierarchical cluster analysis in order to determine the number of clusters. In this step, two or three clusters can all match our data. According to this result, the k-means cluster analysis was carried out with number of clusters varying from two to three. We then judge the results by the size of segments, the difference between segments, and if the segments are the manageable and easier to communicate (Hair et al, 1998). After the number of HMR segments was confirmed, the chi-square procedure was used to identify the difference of demographic characteristics among segment.

4. Results

4.1 Profiles of the respondents and their HRM consumption behavior

The demographic characteristics of the respondents are described in table 1. The respondents are 53% male and 47% female; they are mostly unmarried (71.1%). The primary age group is 19–35 (70.4%). In terms of education, subjects with a college degree or above accounted for the largest group (76.5%).

Table 1. Profiles of the respondents (n=237)

Variables	Frequency (n)	Percentage (%)
Gender		
Male	125	53.0
Female	111	47.0
Marriage status		
Married	167	71.1
Unmarried	66	28.3
Age		
Under 18 years	18	7.6
19–24 years	116	49.2
25–35 years	50	21.2
36–45 years	22	12.7
46–64 years	30	12.7
Family size (people living together)	10	4.3
Single	13	5.5
2 members	22	9.4
3 members	83	35.3
4 members	107	45.5
5 members and above		
Education level		
High school and below	55	23.5
University graduate	169	72.2
Graduate school	10	4.3

Most of the respondents purchased HMR at least one time a week (87.8%); moreover, about 40% of the respondents consumed HMR three times a week. As described by the respondents, the main occasion they bought HMR products was because that they had missed the cafeterias' opening hours (36.9%). Buying breakfast (22.3%) was the second most common situation for HMR consumption. The most popular HMR product is cooked food; more than 60 percent of the respondents reported that they are more likely to buy foods such as steamed bun, hot dog, tea egg, and Kanto ni (Tokyo-style stew). Bread, microwaved food (e.g., lunch box), cool noodles, and rice and vegetable rolls are also welcome. Almost 40 percent of respondents were likely to buy such food, and 21 percent might buy sandwich, salad, and dessert.

4.2 HMR consumption lifestyle

The principal component factor analysis on a 26-item FRL instrument was performed. Eight factors explaining more than 65 percent of the variance were obtained (Table 2). Statements in Factor 1 concerned quality and safety issues (e.g., avoiding food with additives, prefer fresh foods and ecological friendly foods). Factor 2 is about external information. Statements such as read product label, influenced by advertisement and word-of-mouth are classified to this factor. Factor 3 concerned consumers being price sensitive in purchasing fresh food. Factor 4 consisted of statements regarding consumers' enjoyment in food shopping. Factor 5 is novelty seeking. Statements related to consumers who seek novelty and exotics belong to

this factor. Factor 6 represented an unplanned purchase propensity and was named as unscheduled buying. Factor 7 dealt with consumption situations. Finally, factor 8 related to statements such as dislike in changing eating habits and eating only familiar food, and was named as security factor.

A cluster analysis of eight HMR-related lifestyle factor scores were used to identified two consumer segments, namely: the "convenience/hedonic consumers" (66.97% of consumers), and the "convenience/conservative consumers" (33.03%). The names of the clusters were based on the segments' primary characteristics. Although convenience is still the most important reason for two of the groups to purchase HMR, their attitudes toward other food-related issues are very different. The first group of these consumers enjoys any food-related activities. They like shopping for food and they usually purchase foods that they didn't initially plan to buy. They are willing to try any foods that their friends recommended to them. Moreover, they are more confident buying food products with advertisement promotion. They eat whenever they feel a little hungry. The second group presented a more moderate or conservative shopping behavior toward food innovation. Taste and freshness are very important to them; however, they are less likely to buy food that is not familiar to them. Their daily food consumption behavior follows a relatively steady pattern. They typically purchase HMR on the go.

Table 2. Results of Factor analysis

Items	Factors							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
I try to avoid food products with additives.	**.737**	.103	.296	-.167	.037	.048	.073	.103
It is important to choose food products for their nutritional value rather than for their taste	**.673**	.214	.203	-.062	.202	-.111	.013	.02
I always buy organically grown food products if I have the opportunity.	**.629**	.138	.148	.225	.177	.056	-.018	-.102
I prefer fresh foods to canned or frozen products.	**.627**	.082	.013	.212	-.122	-.052	-.084	.337
To me, the naturalness of the food that I buy is an important quality.	**.609**	.022	-.082	.012	.202	.107	.142	.314
I don't mind paying a premium for ecological products.	**.564**	.031	.217	.269	.3	.218	.025	-.17
It is important to me that food products are fresh.	**.521**	.371	.083	.176	.052	-.323	.029	.142
I compare product information labels to decide which brand to buy.	.412	**.486**	.368	-.113	-.018	.187	-.093	-.056
To me, product information is of high importance. I need to know what the product contains.	.381	**.608**	.277	-.234	.038	.105	-.134	-.096
I have more confidence in food products that I have seen advertised than in unadvertised products.	.163	**.656**	-.181	.098	.059	.103	.222	.194
I am influenced by what people say about a food product.	.078	**.688**	.136	.112	-.029	.255	-.028	.152
I find taste in food products important.	.045	**.561**	.297	.188	.348	-.126	.03	.203
It is important for me to know that I get quality for my money.	.29	.333	**.516**	-.088	.304	.168	.056	.13
I compare prices between product variants in order to get the best value for money.	.242	.117	**.759**	-.03	.144	.065	.119	.115
I notice when products I buy regularly change in price.	.158	.061	**.727**	.293	.07	-.06	.073	.037
Convenience store promotion usually lures me into buying a bundle mix of fresh foods.	.112	.387	.227	**.431**	.083	.031	.174	-.218
I just love shopping for food.	.111	.089	.188	**.826**	.167	.055	.07	-.012
Shopping for food is like a game to me.	.025	-.033	-.119	**.727**	.054	.317	.099	.174
I love to try recipes from foreign countries.	.25	.056	.078	.117	**.816**	.086	.083	.021
I like to try new foods that I have never tasted before.	.117	.057	.157	.107	**.837**	.123	.04	-.094
I usually buy things that I did not plan to buy.	.078	.137	-.134	.245	.098	**.779**	.057	.012
Usually, I do not decide what to buy until I am in the shop.	-.034	.183	.236	.073	.129	**.703**	.071	-.044
I eat before I get hungry, which means that I am never hungry at meal time.	.127	-.104	.052	.076	.044	.216	**.844**	-.058
I eat whenever I feel the slightest bit hungry.	-.077	.191	.129	.119	.077	-.089	**.828**	.093
I dislike anything that might change my eating habits.	.093	.035	.14	.074	-.087	.083	-.062	**.816**
I only buy and eat foods that are familiar to me.	.163	.323	.041	-.049	.047	-.177	.143	**.647**

4.3 Profiles differences between segments

A chi-square analysis was performed to test group differences in key demographic variables (e.g., age, gender, marriage status, educational level, etc.). The results show no difference

among them. This means that we cannot identify different HMR buyer group just by observing their appearance. However, their consumption patterns are very different. As shown in Figure 1, the convenience/hedonic consumers purchase more HMR products and more often than the convenience/conservative consumers. Most of the HMR were consumed at odd hours for convenience purpose. The conservative group is less likely to choose HMR over a traditional meal in normal meal time. Breakfast and "not in meal time" are two most common situations for them to buy HMR.

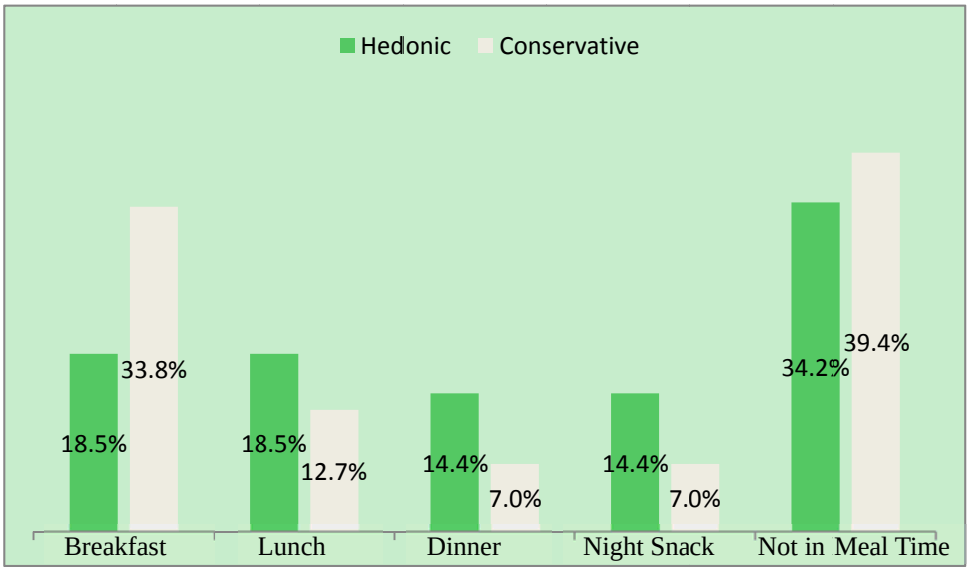

Figure 1. HMR Consumption Situation

5. Discussion and Conclusion

HMR nowadays is one of the most important factors that drives the sales growth of convenience stores. The popularity of HMR reflects a dramatic change in Taiwanese lifestyle. Convenience is certainly the main reason for people to buy HMR products; however, there are still other factors that encourage people to consume these products. The objective of this study was to examine this trend based on consumers' food-related lifestyle and to subsequently profile them based on attitudes and reported behavior. The findings of the study would assist managers of convenience stores to identify their target market and develop effective marketing strategies.

This study introduced a refined FRL instrument to segment HMR market. By using cluster analysis on the data that were gathered from 237 HMR buyers, we identified two different segments in food-related lifestyles. They are the "convenience/hedonic consumers" (66.97%), and the "convenience/conservative consumers" (33.03%). The two groups have strong demand for convenience, but they are very different in their opinions and attitudes toward other food-related issues. The conservative group consumes HMR because it is the most convenient way to finish a meal. Almost 70 percent of HMR consumption of this group is during breakfast (on their way to the office) or because they miss the normal meal time. They seldom change their consumption pattern, but they used to buy food from a convenience store. This means that they have accepted HMR as one of their daily meal solutions. It's also a

symbol of the success of HMR after choosing convenience stores for decades. The hedonic group of consumers think of HMR as interesting foods. They are more likely to buy HMR to serve as a formal meal solution. They bought more HMR than the conservative group. They read labels of the food and are easily affected by marketing promotion. Therefore, they are more susceptible to unplanned purchase of HMR. In fact, variety is an important factor driving this group to purchase HMR.

The convenience/hedonic and convenience/conservative consumers differ greatly in their attitudes toward HMR and consumption behavior, but are almost identical in their demographic characteristics. The results of this study make it possible for managers to identify differences between the two groups and to develop strategies to compete for this market. For example, trust is an important asset in convenience stores in Taiwan. Conservative consumers chose HMR as a meal solution mainly because they trust its quality. Therefore, when they need convenience in food consumption, they walk into convenience stores and choose HMR. To serve these consumers, efficiency is a key to win their loyalty. Marketers could promote HMR by emphasizing that "HMR is safest and most convenient choice" of food selection. For the hedonic segment, product variety is important. Therefore, the marketer may want to introduce more HMR categories to convenience stores, especially for lunch and dinner.

This study has a few limitations. First, this study need to be treated circumspectly, as the results may reflect in part the way in which the data were collected. Although we carefully collected our data in different period of a day (breakfast, lunch, and dinner time) and including holiday and working days, the sample is not consistent with the whole population in Taiwan. To collect data in different time can make sure that we can possibly avoid the interviewer-induced bias; therefore, this sample could reflect to some extent the socio-economic profile of the main consumers of convenience stores in Taiwan. The second limitation concerns the reduced form of FRL scale used in the current study. We believe to refined FRL scale is necessary while examining consumers' attitude toward HMR consumption; nonetheless, readers who want to compare FRL related studies should note this limitation. Finally, threats to generalizability are due to the fact that convenience stores in Taiwan change rapidly. Recently, 7-11 chain store announced a new service to provide fresh vegetables for consumers to cook on site. This make the convenience store more like a restaurant. Despite in such fast-changing environment, this trend is in complete agreement with our results that product variety is very important to promote HMR consumption. It must be noted that consumers' attitude toward HMR may change accordingly; therefore, readers need to exercise caution in its interpretation.

References

Brunsø, K., & Grunert, K. G. (1995). Development and Testing of a Cross-Culturally Valid Instrument: Food-Related Life Style. *Advances in Consumer Research, 22*(1), 475-480.

Brunsø, K., & Grunert, K. G. (1998). Cross-Cultural Similarities and Differences in Shopping for Food. *Journal of Business Research, 42*(2), 145-150. http://dx.doi.org/10.1016/S0148-2963(97)00114-8

Brunsø, K., Scholderer, J., & Grunert, K. G. (2004a). Closing the Gap Between Values and Behavior--a Means--End Theory of Lifestyle. *Journal of Business Research, 57*(6), 665. http://dx.doi.org/10.1016/S0148-2963(02)00310-7

Brunsø, K., Scholderer, J., & Grunert, K. G. (2004b). Testing relationships between values and food-related lifestyle: results from two European countries. *Appetite, 43*(2), 195-205. http://dx.doi.org/10.1016/j.appet.2004.05.001

Bruwer, J., Li E., & Reid, M. (2002). Segmentation of the Australian Wine Market Using a Wine-Related Lifestyle Approach. *Journal of Wine Research, 13*(3), 217-247. http://dx.doi.org/10.1080/0957126022000046510

Buckley, M., Cowan, C., McCarthy, M., & O'Sullivan, C. (2005). The Convenience Consumer and Food-Related Lifestyles in Great Britain. *Journal of Food Products Marketing, 11*(3), 3-25. http://dx.doi.org/10.1300/J038v11n03_02

Fang, C.-H., & Lee, H.-J. (2009). Food-Related Lifestyle Segments in Taiwan: Application of the Food-Related Lifestyle Instrument. *American Journal of Applied Sciences, 6*(12), 2036-2042. http://dx.doi.org/10.3844/ajassp.2009.2036.2042

Grunert, K., Brunsø, K., & Bisp, S. (1993). Food-related lifestyle: Development of a cross-culturally valid instrument for market surveillance. Working paper. [Online] Available: http://pure.au.dk/portal/files/88/wp12.pdf (January 9, 2013)

Grunert, K., Brunsø, K., & Bisp, S. (1997). Food-related lifestyle: Development of a cross-culturally valid instrument for market surveillance. In L. Kahle & C. Chiagouris (Eds.), *Values, lifestyles, and psychographics* (pp. 337-354). Mahwah: Erlbaum.

Hair, J., Anderson, R., Tatham, R. and Black, W. (1998) *Multivariate Data Analysis*, 5th edn, Englewood Cliffs, NJ: Prentice-Hall.

Huang, C.-S. (2012). Trends of Global Food Consumption. *Food Industries, 44*(2), 3-9.

Jang, Y. J., Kim, W. G., & Yang, I.-S. (2011). Mature consumers'patronage motives and the importance of attributes regarding HMR based on the food-related lifestyles of the upper middle class. *International Journal of Hospitality Management, 30*(1), 55-63. http://dx.doi.org/10.1016/j.ijhm.2010.06.001

Kamata, Y. (2010). The trend of the food service industry and the home-meal replacement service and the increase of rice demand. *Review of Agricultural Economics of Hokkaido University*(65), 55-60.

Lee, H.-J., & Fang, C.-H. (2008). Tests on Structural Change in the Consumers' Preference for Staple Food in Taiwan. *Agriculture and Economics, 40*, 45-70.

Shim, S., Gehrt, K. & Lotz, S. (2001) Export Implications for the Japanese Fruit Market: Fruit-specific Lifestyle Segments. *International Journal of Retail & Distribution Management*, 29 (6/7), 300-316.