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Food-Related Lifestyle Segments and Mature Consumers’ Attitudes to Home Meal Replacement

Yoon Jung Jang  
*Florida State University*, yoonjj923@hanmail.net

Woody G. Kim  
*Florida State University*, wkim@cob.fsu.edu

Il Sun Yang  
*Yonsei University*, isyang@yonsei.ac.kr
ABSTRACT

The objectives of this study are to explore food-related lifestyle segments of the mature market, identify their socio-demographic characteristics and investigate differences in attitude to HMR. A survey was conducted with adults 55 years of age and older living in Seoul, South Korea. Out of 600 questionnaires distributed, 401 were retained for final analysis: a response rate of 67%. Cluster analysis identified five consumer segments. Significant differences were found among the five segments in terms of socio-demographic characteristics and attitudes to HMR. This study shows operators of HMR the patronage motives and attributes that each segment values when considering HMR.

Key Words: Mature consumer, Home meal replacement (HMR), Food-related lifestyle (FRL), Cluster analysis, Consumer segments.

INTRODUCTION

Demographic and lifestyle changes are driving the growth of new meal solutions in the food service industry. Socio-demographic changes around the world have contributed to the rise of dual-income families. As a result, working women have more purchasing power but less time to prepare, cook, eat and clean up. The percentage of the restaurant food out of all spending on food in South Korea was reported to be 39% in 2000 and 9% in 1986 (Ham et al., 2004), thus the restaurant industry’s share of total food expenditure increased more than fourfold between 1986 and 2000. In recent years, consumers don’t have enough time to go to a sit-down restaurant and dine and they just call in their orders or go online for takeout or delivery from restaurant. However, in the pursuit of convenience, today’s consumers do not appear to have given up the pleasure of tasty and nutritious meals that can replace home-made meals. To satisfy consumers who want to enjoy high-quality dishes at home but who do not have the time to cook, Home Meal Replacement (HMR) emerged as a new meal solution. The Restaurants & Institutions defines HMR as prepared food that is fully cooked and ready to eat, or a ready-to-heat product that would form the major part of a meal. These are freshly cooked home-style meals that are different from traditional fast food (Casper, 1997).

The HMR in Korea started in 2000, and is likely to expand with the increasing number of working parents, and busy single-person households, and the elderly population. However, the HMR in Korea leans heavily toward western foods rather than to traditional Korean meals. The HMR is more likely to be a snack than a full meal. In this trend, some companies have been trying to deliver home-style meals through their Internet sites. As the Internet becomes part of the family lifestyle, consumers use it to make their lives more convenient. Online ordering of take-out and carry-out foods is expected to grow in popularity (Panitz, 2000). The aging population, which is educated and health conscious, has a greater need for nutritious food but have difficulty with meal preparation. This group would benefit from home delivery of prepared meals. Consumers 55 and older represent a key demographic in Korea and constitute an attractive group for foodservice operators, since they have more disposable income. For this study, mature consumers were defined as adults 55 and over. Moshis et al. (2003) found that mature consumers were very heterogeneous and responded differently to marketing. He showed that these adults have different characteristics from the younger population and indicated they were more concerned with ease of purchasing and...
using a product or service. Therefore, considering the heterogeneous purchasing behavior of mature consumers, market segmentation is critical in identifying the categories of mature consumers’ food-related lifestyle. Researchers have distinguished the mature market on the basis of demographic characteristics such as age, income, lifestyle and activities, interests, and opinions (AIO) (Day et al., 1987). However, there has been a dearth of research on food related lifestyle (FRL) scale that would help to understand mature consumers’ attitude to HMR. The findings of this study will help foodservice operators to understand HMR purchase behavior of mature consumers.

In this study, HMR refers to delivery or take-out meal from foodservice outlets through Internet or telephone ordering for home consumption. This does not include prepared meals delivered to home for elderly people who rely on the home-delivered program funded by government. Few studies (Kim et al., 2005; Geeroms et al., 2008; Jung et al., 2007) have investigated the service attributes that affect consumers’ purchase behavior. From a marketing point of view, it is important to identify and meet consumer needs within the resource constraints of companies. Considering mature consumers’ characteristics such as growing health consciousness and lack of mobility, demand for HMR service can be expected to increase as the population ages. Thus, the findings of this study will offer useful recommendations to foodservice operators. The purposes of this study are to: (1) explore the food-related lifestyle (FRL) segments of the mature consumers; (2) identify characteristics of FRL segments; and (3) examine the differences among FRL segments in patronage motive, important choice attributes, and future purchase intention.

**Home Meal Replacement (HMR)**

Home Meal Replacements (HMR) are meals that have been produced away from home for home consumption (Costa et al., 2001). An article on the Food Channel, a food- industry Web site, defines HMR as “home-style comfort foods, primarily intended for off-premise/at-home consumption, that are easy and convenient to obtain, provided through some kind of quick-service format, composed of complete meals and meal components, but which must be preparation-free” (Casper, 1997:65). Costa et al. (2001:231) defined HMR as “main courses or pre-assembled main course components of a meal – a protein (animal or plant), a carbohydrate (starch) and a vegetable source-, in single or multiple portion containers, designed to fully and speedily replace, at home, the main course of a home-made main meal.”

**Food-Related Lifestyle (FRL) Segments and Consumers’ Attitudes**

Food-Related Lifestyle (FRL) model was coined by Brunsø and Grunert (1995) and has been applied and proven valid in several countries (Ryan et al., 2004; Scholderer et al., 2004). According to FRL model, a food-related lifestyle can predict consumers’ attitude or behavior. In Brunsø and Grunert’s (1995) model, the FRL scale originally consisted of 69 items and five dimensions: usage and purchase situation, perceptions of the consequences of purchase, other concrete attributes of the products, the shopping and cooking skill of the consumers, and their conception of quality. There has been limited research on consumers’ attitudes and food-related lifestyle segments. Kim et al. (2007) identified the food-related lifestyle of undergraduates in Korea and examines the relationship between each type of food-related lifestyle and of the selection of a restaurant. Canonical correlation analysis showed that the food-related lifestyles of taste-seeking and safety-seeking types have significant positive relationships with food quality, taste and service in restaurant selection attributes. Buckley et al. (2007) reported on the attitudes towards ready and take-away meals of consumers in Great Britain based on their convenience-related food lifestyles. Results indicated that among four consumer segments, the “kitchen evaders” and the “convenience-seeking grazers” are convenience-oriented groups. Boer et al. (2004) investigated four convenience food categories: ready meals, take-away meals, restaurant meals, and pub meals in the Irish market. They found that the convenience food-related lifestyle dimensions were more important in the consumption of ready meals and take-away meals than in restaurant and pub meals.

**METHODOLOGY**

The data were collected via surveys administered to adults 55 and older living in Seoul, Korea in March and April, 2007. The sample was randomly chosen at the place where the elderly usually gather, such as church or day health centers. Two graduate students majoring in foodservice and restaurant management were trained in data collection. They explained the purpose of the study and the meaning of the HMR and they read questionnaires to the respondents who had difficulty reading. They were instructed to include both consumers who have used HMR and those who have not. Respondents were instructed to fill out the questionnaires on site and to return them directly to the two students when completed. Respondents were offered a $5 gift card for completing the survey. Out of the 600
survey distributed, after deleting incomplete responses, 401 questionnaires were used for final analysis with an overall response rate of 67%.

For this study, the questionnaire consisted of three parts. The first part elicited the respondents’ socio-demographic characteristics and past experience of HMR. The variables to measure socio-demographic characteristics were gender, age, education level, occupation, family type and annual household income. The second part was intended to identify the segments of mature consumers based on food-related lifestyles. The 23 food-related lifestyle items were based on the literature review, the results of a previous focus group interview and a pre-test with sample groups. Fifteen items were modified from the scale proposed by Brunsø and Grunert (1995). Six items were selected directly from FRL scale items of Brunsø and Grunert (1995). Two items were chosen from the food or eating behavior questionnaires in the studies of Schlundt, Hargreaves and Buchowski (2003) to include questions regarding nutrition or health related behavior. Next, a focus group interview with ten adults and a pre-test with fifty adults aged 55 and over were conducted to verify the wording of food-related lifestyle questions. Finally, through panel discussion, 23 items of FRL scale were confirmed to measure the Food-related lifestyle for mature consumers. These questions were measured on a five-point Likert scale, with answers ranging from “strongly disagree” (1) to “strongly agree” (5). The third part investigates consumers’ attitude to HMR. The way in which they think of using HMR was measured by items adapted from Costa et al. (2001), Kim et al. (2005), Kim and Ryu (2003), and Kwen (2005). Reasons for using HMR at present as well as in the future were measured on a 6-item scale and reasons against doing so were ranked on a 7-item scale. For these items, a 5-point Likert scale was used, with answers ranging from “very unlikely” (1) to “very likely” (5). Next, the consumers’ importance of the attributes when thinking of HMR was measured by a 13-item scale chosen from the studies of Geeroms et al. (2008), Kim and Ryu (2003), Jung et al. (2007), and Lee et al. (2006). Each attribute was rated using a 5-point Likert scale, with answers ranging from “least important” (1) to “most important” (5).

Statistical data analyses were conducted using SPSS for descriptive statistics, factor analysis, reliability analysis, cluster analysis, and ANOVA. Descriptive statistics such as simple frequencies were computed on the socio-demographic characteristics. Factor analysis was performed on statements regarding food-related lifestyle. Reliability analysis was used to test the internal consistency of each of the FRL factors and the attributes of HMR. A cluster analysis was subsequently conducted using five identified FRL factors to segment consumers. Finally, one-way analysis of variance (ANOVA) was used to test the mean differences of variables among FRL segments and Duncan’s multiple comparison test—a post-hoc analysis—was employed to identify the differences among segments.

RESULTS

Profiles of Respondents

Respondents were 41.1% male and 58.9% female. About 40% of the respondents were between 55 and 64 years of age; 35% and 25% were 65-74 and 75 and over, respectively. Almost 50% of respondents were 4-year university graduate and over and 40% had at most a high school education. Approximately 35% of respondents were housewives, about 22% were professionals, 12% were office workers and 11% were self-employed. Forty percent of respondents were living with other family members or couples, and about 15% were single. Almost 40% of respondents had an annual household income of $36,000 and over and about 17% earned $24,000-$35,999 (1 US dollar = 940 Korea won). Considering that average annual household income in South Korea is $24,120, respondents of survey appeared to belong to the upper middle class. Respondents also answered the question on their previous experience of HMR and those who had used it comprised about 31% and those who had not comprised about 64%.

Validity and Reliability Test

As a result of reliability and factor analysis of food-related lifestyle items, the 22 variables were reduced to five factors, which explained 54.31% of the total variance. The five lifestyle factors were “health-seeking”, “convenience-seeking”, “taste-seeking”, “meal-managing” and “safety-seeking”. Cronbach’s alpha coefficients of five FRL factors ranged from 0.60 to 0.80, which was the satisfactory level proposed by Malhotra (1993). Similar analyses were conducted on the attributes of HMR. As a result of reliability test, coefficients of Cronbach’s alpha of four factors were from 0.69 to 0.85 and surpassed the criteria for reliability acceptability and then all the items were used. Next, factor analysis demonstrated that four factors had been identified and thus labeled as “quality of food”, “menu and price”, “reliability of company” and “quality of delivery service”.

Cluster Analysis for Market Segmentation of Mature Consumers
A cluster analysis of five food-related lifestyle factor scores identified five consumer segments: Cluster 1 “health-managing group” (17.7% of consumers), Cluster 2 “diet unconcerned group” (16.0%), Cluster 3 “convenience-oriented group” (12.7%), Cluster 4 “taste-oriented group” (20.2%), and Cluster 5 “unpracticed group” (23.4%). For the 5-cluster solution, significant differences (p<0.001) were identified across four factors using a one-way ANOVA. Furthermore, based on Duncan’s multiple comparison test—a post-hoc analysis—the significant differences were tested among clusters. Characteristics of these groups are shown in Table 1 and the cluster was labeled based on the differences of mean score with respect to lifestyle factors.

Cluster 1 was the “health-managing group.” This cluster accounts for 17.7% of the sample. It was distinguished by the high mean score on health-seeking (mean= 3.57), meal-managing (mean= 4.19) and safety-seeking (mean= 4.10) lifestyle factors. In comparison to other segments, this segment seems to be most concerned with nutrition, regular meals and food safety. However, the “health-managing group” showed the second highest score on convenience-seeking lifestyle factor. Cluster 2 was the “diet unconcerned group.” This cluster, 16.0% of the sample, has the lowest mean scores on all of the lifestyle factors. Members of this cluster do not seem concerned about health, regular meals, or about the taste and safety of food. People in this cluster are least likely to purchase convenience food. Cluster 3 is the “convenience-oriented group.” This cluster, representing 16.0% of the sample, is the most convenience-oriented in food lifestyles, showing the highest mean score (mean= 3.24) on convenience-seeking factor. They were likely to purchase frozen and takeout meals to eat at home and also they prefer eating out to cooking at home. However, they are not interested in taste and safety of food and meal management. Cluster 4 is the “taste-oriented group.” This cluster, 20.2% of the sample, had the highest mean score on taste-seeking (mean=3.86) and health-seeking (mean=3.66) factors and its members were likely to prepare and cook with attention to both taste and health. They are the least likely to seek convenience in the food lifestyles. Cluster 5 is the “unpracticed group.” This cluster, representing 23.4% of the sample, showed the relatively high mean score (mean=3.63) on health-seeking factor. However this cluster had the lowest mean score on taste-seeking (mean=2.81) and meal-managing (mean= 3.23) lifestyle factors. Therefore, they do not seem to consider taste and regular meals even though they are concerned about their health.

Table 1
Result of Cluster Analysis for Consumers’ Food-related Lifestyles

<table>
<thead>
<tr>
<th>Food-related lifestyles \ Cluster</th>
<th>1 (n = 71)</th>
<th>2 (n = 64)</th>
<th>3 (n = 51)</th>
<th>4 (n = 81)</th>
<th>5 (n = 94)</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster name</td>
<td>Health managing group</td>
<td>Diet unconcerned group</td>
<td>Convenience oriented group</td>
<td>Taste oriented group</td>
<td>Unpracticed group</td>
<td></td>
</tr>
<tr>
<td>Health-seeking lifestyle</td>
<td>3.57a (0.46)</td>
<td>2.40c (0.51)</td>
<td>2.92b (0.61)</td>
<td>3.66a (0.52)</td>
<td>3.63a (0.53)</td>
<td>78.09***</td>
</tr>
<tr>
<td>Convenience seeking lifestyle</td>
<td>2.54b (0.49)</td>
<td>1.81d (0.48)</td>
<td>3.24a (0.61)</td>
<td>1.90d (0.51)</td>
<td>2.10c (0.47)</td>
<td>77.69***</td>
</tr>
<tr>
<td>Taste-seeking lifestyle</td>
<td>3.27b (0.48)</td>
<td>2.75d (0.48)</td>
<td>3.07c (0.47)</td>
<td>3.86a (0.42)</td>
<td>2.81d (0.47)</td>
<td>75.55***</td>
</tr>
<tr>
<td>Meal-managing lifestyle</td>
<td>4.19a (0.41)</td>
<td>3.29c (0.60)</td>
<td>3.18c (0.60)</td>
<td>3.62b (0.60)</td>
<td>3.23c (0.66)</td>
<td>34.64***</td>
</tr>
<tr>
<td>Safety-seeking lifestyle</td>
<td>4.10a (0.46)</td>
<td>3.42c (0.76)</td>
<td>3.27c (0.80)</td>
<td>3.88b (0.63)</td>
<td>3.75b (0.66)</td>
<td>16.26***</td>
</tr>
</tbody>
</table>

Note: The numbers in the table indicate means, with standard error in parentheses. The letters indicate significantly different means where the alphabetical order of the letters represents the ascending order of the means. Duncan’s multiple range test has been applied to assess significance between the segments.

* For the items measuring food-related lifestyle, 5-point Likert-type scale was used from 1 (Strongly disagree) to 5 (Strongly agree).

*** Significant at p < 0.001.

Cluster Differences toward HMR

To characterize and develop a strategy for market segments based on their food-related lifestyles, cross-tabulations were performed with regard to socio-demographic variables, future intention and attitudes towards HMR among five segments. Tables 2 and 3 show the results of χ² and ANOVA analyses which revealed significant differences among the five clusters with respect to socio-demographic variables, “future intention,” “reasons for...
patronizing and hesitating HMR,” and “important factors considered when choosing HMR.” The socio-demographic characteristics were significantly different among clusters in gender, educational level and family type. The “health-managing group” consists primarily of men 75 years and over, with a high level of education (about 35% of this segment had attended graduate school), professional occupation, lived in a two-person household, and earned a relatively high annual household income (about 30% of this segment earned at least $48,000). The “diet unconcerned group” comprises people with a low level of education (about 30% of this segment had at most completed high school), were self-employed and had the lowest income (about 25% of segment had annual household income of $12,000 and below. The “convenience group” were relatively well-educated, mostly single (50% of this segment were single). The “taste-oriented group” was characterized by the female of the youngest age (55 – 64 years), housewife, two and more members of the family and the highest annual household income (33.3% of this segments had annual income of $48,000 and over). The members of the “unpracticed group” were mostly 65-74 years of age (30.6% of this segment), held a professional occupation or were housewives, were mostly single, and had annual income of $36,000-$47,999. Forty-eight percent of “convenience-oriented group” expressed an intention to patronize HMR in the future, however, about 50% each of “diet-unconcerned group” and “taste-oriented group” claimed that they had no intention of doing so. Meanwhile, we can assume that about 38% each of “health-managing group” and “unpracticed group” were considering HMR and that 35% of “taste-oriented group” were considering HMR.

Table 2
Cluster Differences by Socio-demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Cluster 1 (n=71)</th>
<th>Cluster 2 (n=64)</th>
<th>Cluster 3 (n=51)</th>
<th>Cluster 3 (n=81)</th>
<th>Cluster 4 (n=94)</th>
<th>χ²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Health managing group</td>
<td>Diet unconcerned group</td>
<td>Convenience oriented group</td>
<td>Taste oriented group</td>
<td>Unpracticed group</td>
<td>χ²</td>
</tr>
<tr>
<td>Gender (n=361)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>38 (25.0)</td>
<td>31 (20.4)</td>
<td>23 (15.1)</td>
<td>24 (15.8)</td>
<td>36 (23.7)</td>
<td>10.77*</td>
</tr>
<tr>
<td>Female</td>
<td>33 (15.8)</td>
<td>33 (15.8)</td>
<td>28 (13.4)</td>
<td>57 (27.3)</td>
<td>58 (27.8)</td>
<td></td>
</tr>
<tr>
<td>Age (n=361)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-64 years</td>
<td>25 (16.4)</td>
<td>24 (15.8)</td>
<td>24 (15.8)</td>
<td>41 (27.0)</td>
<td>38 (25.0)</td>
<td>9.02</td>
</tr>
<tr>
<td>65-74 years</td>
<td>23 (19.0)</td>
<td>23 (19.0)</td>
<td>13 (10.7)</td>
<td>25 (20.7)</td>
<td>37 (30.6)</td>
<td></td>
</tr>
<tr>
<td>75 years and above</td>
<td>23 (26.4)</td>
<td>16 (18.4)</td>
<td>14 (16.1)</td>
<td>15 (17.2)</td>
<td>19 (21.8)</td>
<td></td>
</tr>
<tr>
<td>Education level (n=361)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school and below</td>
<td>14 (9.9)</td>
<td>39 (27.7)</td>
<td>23 (16.3)</td>
<td>34 (24.1)</td>
<td>31 (22.0)</td>
<td>38.16***</td>
</tr>
<tr>
<td>Less than 4-year university</td>
<td>10 (20.8)</td>
<td>9 (18.8)</td>
<td>3 (6.3)</td>
<td>11 (22.9)</td>
<td>15 (31.3)</td>
<td></td>
</tr>
<tr>
<td>4-year university graduate</td>
<td>25 (23.4)</td>
<td>10 (9.3)</td>
<td>12 (11.2)</td>
<td>28 (26.2)</td>
<td>32 (29.9)</td>
<td></td>
</tr>
<tr>
<td>Graduate school</td>
<td>21 (33.9)</td>
<td>6 (9.7)</td>
<td>12 (19.4)</td>
<td>8 (12.9)</td>
<td>15 (24.2)</td>
<td></td>
</tr>
<tr>
<td>Occupation (n=361)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional</td>
<td>22 (26.5)</td>
<td>12 (14.5)</td>
<td>13 (15.7)</td>
<td>14 (16.9)</td>
<td>22 (26.5)</td>
<td></td>
</tr>
<tr>
<td>Office worker</td>
<td>11 (23.9)</td>
<td>10 (21.7)</td>
<td>7 (15.2)</td>
<td>8 (17.4)</td>
<td>10 (21.7)</td>
<td>12.31</td>
</tr>
<tr>
<td>Self-employed</td>
<td>9 (20.9)</td>
<td>10 (23.3)</td>
<td>7 (16.3)</td>
<td>8 (18.6)</td>
<td>9 (20.9)</td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>15 (12.9)</td>
<td>19 (16.4)</td>
<td>16 (13.8)</td>
<td>34 (29.3)</td>
<td>32 (27.6)</td>
<td></td>
</tr>
<tr>
<td>Family size (n=361)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 members and more</td>
<td>23 (15.0)</td>
<td>27 (17.6)</td>
<td>23 (15.0)</td>
<td>38 (24.8)</td>
<td>42 (27.5)</td>
<td></td>
</tr>
<tr>
<td>2 members (couple)</td>
<td>41 (27.5)</td>
<td>26 (17.4)</td>
<td>15 (10.1)</td>
<td>34 (22.8)</td>
<td>33 (22.1)</td>
<td>16.90*</td>
</tr>
<tr>
<td>Single</td>
<td>7 (13.2)</td>
<td>10 (18.9)</td>
<td>13 (24.5)</td>
<td>7 (13.2)</td>
<td>16 (30.2)</td>
<td></td>
</tr>
<tr>
<td>Annual household income (US $)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;12,000</td>
<td>9 (14.5)</td>
<td>15 (24.2)</td>
<td>8 (12.9)</td>
<td>15 (24.2)</td>
<td>15 (24.2)</td>
<td></td>
</tr>
<tr>
<td>12,000-23,999</td>
<td>16 (20.3)</td>
<td>15 (19.0)</td>
<td>12 (15.2)</td>
<td>21 (26.6)</td>
<td>15 (19.0)</td>
<td>18.78</td>
</tr>
<tr>
<td>24,000-35,999</td>
<td>12 (18.6)</td>
<td>12 (18.8)</td>
<td>11 (17.2)</td>
<td>12 (18.8)</td>
<td>17 (26.6)</td>
<td></td>
</tr>
<tr>
<td>36,000-47,999</td>
<td>22 (21.4)</td>
<td>13 (12.6)</td>
<td>15 (14.6)</td>
<td>17 (16.5)</td>
<td>36 (35.0)</td>
<td></td>
</tr>
<tr>
<td>&gt;48,000</td>
<td>11 (28.2)</td>
<td>3 (7.7)</td>
<td>5 (12.8)</td>
<td>13 (33.3)</td>
<td>7 (17.9)</td>
<td></td>
</tr>
<tr>
<td>Intention to patronize HMR service in the future</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No intention</td>
<td>24 (34.3)</td>
<td>31 (50.0)</td>
<td>18 (36.0)</td>
<td>39 (48.8)</td>
<td>30 (32.6)</td>
<td></td>
</tr>
<tr>
<td>Medium intention</td>
<td>27 (38.6)</td>
<td>18 (29.0)</td>
<td>8 (16.0)</td>
<td>28 (35.0)</td>
<td>35 (38.0)</td>
<td>23.83**</td>
</tr>
<tr>
<td>High intention</td>
<td>19 (27.1)</td>
<td>13 (21.0)</td>
<td>24 (48.0)</td>
<td>13 (16.3)</td>
<td>27 (29.3)</td>
<td></td>
</tr>
</tbody>
</table>

* Significant at p < 0.05 ; ** Significant at p < 0.01 ; *** Significant at p < 0.001.

There were differences in the three patronage motives among clusters: “tired of cooking,” “to enjoy tasty meal” and “more economical.” Across five clusters, the “convenience-oriented group” had the highest mean score on “tired of cooking” (mean=3.53), “to enjoy good meal” (mean=3.36), and “more economical” (mean=3.04). Most of the groups with the exception of the “diet unconcerned group” indicated that they were likely to patronize HMR.
because it was “more economical.” This is consistent with Kwen (2005) who found significant differences among lifestyle segments in “taste” and “price” factors out of five patronage motives. Therefore, to increase market size, managers need to emphasize the advantage of relatively low price by purchasing a meal compared to preparing a meal at home. There were two reasons for reluctance to use HMR: “meals should be prepared in the household” and “no information about HMR.” In comparison to the other clusters, “convenience-oriented group” showed the lowest mean score (mean=3.06) in “meals have to be prepared at home,” but the highest mean score (mean=2.82) in “no information about HMR.” As a result, “convenience-oriented group,” which is the marketers’ main target, has high intention of purchasing HMR but believe that they do not have enough information about HMR. In relation to the “important factors considered when choosing HMR,” significant differences were shown in all factors (Table 5). In the “taste-oriented group,” the highest mean scores were indicated in all four factors which means they are concerned with all factors when considering HMR. In the “health-oriented group” the highest mean scores were “quality of food” and “price and menu.” However, all segments considered “quality of food” as the most important attribute.

Table 3
Results of ANOVA – Cluster Differences by Consumers’ Attitudes

<table>
<thead>
<tr>
<th>Reasons for patronizing HMR service* (n=361)</th>
<th>Cluster 1 (n=71)</th>
<th>Cluster 2 (n=64)</th>
<th>Cluster 3 (n=51)</th>
<th>Cluster 4 (n=81)</th>
<th>Cluster 5 (n=94)</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tired of cooking</td>
<td>3.04b</td>
<td>3.00b</td>
<td>3.53a</td>
<td>2.90b</td>
<td>2.99b</td>
<td>2.937*</td>
</tr>
<tr>
<td></td>
<td>(1.17)</td>
<td>(1.16)</td>
<td>(0.86)</td>
<td>(1.22)</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td>No time to cook</td>
<td>2.97</td>
<td>2.56</td>
<td>2.96</td>
<td>2.82</td>
<td>2.75</td>
<td>1.585</td>
</tr>
<tr>
<td></td>
<td>(1.12)</td>
<td>(0.96)</td>
<td>(1.01)</td>
<td>(1.19)</td>
<td>(1.03)</td>
<td></td>
</tr>
<tr>
<td>To eat tasty meal</td>
<td>3.04abc</td>
<td>2.78c</td>
<td>3.36a</td>
<td>3.17b</td>
<td>2.96abc</td>
<td>2.775*</td>
</tr>
<tr>
<td></td>
<td>(1.07)</td>
<td>(1.04)</td>
<td>(0.94)</td>
<td>(1.05)</td>
<td>(0.95)</td>
<td></td>
</tr>
<tr>
<td>To eat nutritional meal</td>
<td>2.99</td>
<td>2.60</td>
<td>3.14</td>
<td>2.85</td>
<td>2.97</td>
<td>2.150</td>
</tr>
<tr>
<td></td>
<td>(1.04)</td>
<td>(1.12)</td>
<td>(0.95)</td>
<td>(1.14)</td>
<td>(1.03)</td>
<td></td>
</tr>
<tr>
<td>More economical compared to homemade meal</td>
<td>2.81a</td>
<td>2.40b</td>
<td>3.04a</td>
<td>2.81a</td>
<td>2.72ab</td>
<td>2.944*</td>
</tr>
<tr>
<td></td>
<td>(1.06)</td>
<td>(1.06)</td>
<td>(0.98)</td>
<td>(1.11)</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td>Health reasons (e.g., no mobility)</td>
<td>2.90</td>
<td>2.66</td>
<td>2.76</td>
<td>2.90</td>
<td>2.73</td>
<td>0.558</td>
</tr>
<tr>
<td></td>
<td>(1.30)</td>
<td>(1.12)</td>
<td>(1.09)</td>
<td>(13.1)</td>
<td>(1.14)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reasons for hesitating to patronize HMR service* (n=361)</th>
<th>Cluster 1 (n=71)</th>
<th>Cluster 2 (n=64)</th>
<th>Cluster 3 (n=51)</th>
<th>Cluster 4 (n=81)</th>
<th>Cluster 5 (n=94)</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meals should be prepared at home</td>
<td>3.65 a</td>
<td>3.70 a</td>
<td>3.06 b</td>
<td>3.86 a</td>
<td>3.53 a</td>
<td>5.782***</td>
</tr>
<tr>
<td></td>
<td>(0.91)</td>
<td>(0.97)</td>
<td>(1.07)</td>
<td>(0.91)</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td>No good taste</td>
<td>2.72</td>
<td>2.75</td>
<td>2.88</td>
<td>2.90</td>
<td>2.84</td>
<td>0.426</td>
</tr>
<tr>
<td></td>
<td>(0.98)</td>
<td>(1.08)</td>
<td>(1.00)</td>
<td>(1.01)</td>
<td>(0.94)</td>
<td></td>
</tr>
<tr>
<td>Bad condition of hygiene</td>
<td>3.40</td>
<td>3.06</td>
<td>3.40</td>
<td>3.45</td>
<td>3.48</td>
<td>1.747</td>
</tr>
<tr>
<td></td>
<td>(1.07)</td>
<td>(1.17)</td>
<td>(1.01)</td>
<td>(1.07)</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td>Not fresh</td>
<td>3.47</td>
<td>3.19</td>
<td>3.43</td>
<td>3.44</td>
<td>3.62</td>
<td>1.571</td>
</tr>
<tr>
<td></td>
<td>(1.00)</td>
<td>(1.15)</td>
<td>(0.98)</td>
<td>(1.12)</td>
<td>(0.94)</td>
<td></td>
</tr>
<tr>
<td>Many artificial ingredients</td>
<td>3.81</td>
<td>3.78</td>
<td>3.86</td>
<td>3.81</td>
<td>3.91</td>
<td>0.206</td>
</tr>
<tr>
<td></td>
<td>(0.96)</td>
<td>(1.05)</td>
<td>(0.83)</td>
<td>(1.17)</td>
<td>(0.90)</td>
<td></td>
</tr>
<tr>
<td>High price</td>
<td>3.06</td>
<td>3.03</td>
<td>3.00</td>
<td>3.23</td>
<td>3.08</td>
<td>0.552</td>
</tr>
<tr>
<td></td>
<td>(0.87)</td>
<td>(1.23)</td>
<td>(1.09)</td>
<td>(1.06)</td>
<td>(0.98)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Importance on HMR service attributes* (n=361)</th>
<th>Cluster 1 (n=71)</th>
<th>Cluster 2 (n=64)</th>
<th>Cluster 3 (n=51)</th>
<th>Cluster 4 (n=81)</th>
<th>Cluster 5 (n=94)</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of food</td>
<td>4.31ab</td>
<td>4.06c</td>
<td>4.04c</td>
<td>4.44a</td>
<td>4.13bc</td>
<td>5.06**</td>
</tr>
<tr>
<td></td>
<td>(0.75)</td>
<td>(0.72)</td>
<td>(0.64)</td>
<td>(0.53)</td>
<td>(0.56)</td>
<td></td>
</tr>
<tr>
<td>Utility</td>
<td>3.86ab</td>
<td>3.68bc</td>
<td>3.56c</td>
<td>3.94a</td>
<td>3.66bc</td>
<td>3.40**</td>
</tr>
<tr>
<td></td>
<td>(0.63)</td>
<td>(0.72)</td>
<td>(0.85)</td>
<td>(0.59)</td>
<td>(0.69)</td>
<td></td>
</tr>
<tr>
<td>Reliability of company</td>
<td>4.14b</td>
<td>3.86c</td>
<td>3.84c</td>
<td>4.41a</td>
<td>4.08bc</td>
<td>7.27***</td>
</tr>
<tr>
<td></td>
<td>(0.68)</td>
<td>(0.83)</td>
<td>(0.79)</td>
<td>(0.57)</td>
<td>(0.71)</td>
<td></td>
</tr>
<tr>
<td>Quality of delivery service</td>
<td>3.84b</td>
<td>3.94b</td>
<td>3.79b</td>
<td>4.31a</td>
<td>3.98b</td>
<td>5.52***</td>
</tr>
<tr>
<td></td>
<td>(0.73)</td>
<td>(0.83)</td>
<td>(0.72)</td>
<td>(0.67)</td>
<td>(0.69)</td>
<td></td>
</tr>
</tbody>
</table>

Note: The numbers in the table indicate means, with standard error in parentheses. The letters indicate significantly different means where the alphabetical order of the letters represents the ascending order of the means. Duncan’s multiple range test has been applied to assess significance between the segments.

* For the items measuring reasons regarding HMR, 5-point Likert-type scale was used from 1 (Strongly disagree) to 5 (Strongly agree).

** For the items measuring importance on HMR attributes, 5-point Likert-type scale was used from 1 (Least important) to 5 (Most important).

*** Significant at p < 0.001; ** Significant at p < 0.01; * Significant at p < 0.05.

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CONCLUSIONS AND IMPLICATIONS

This study segmented mature consumers based on their food-related lifestyle and subsequently identified their attitudes toward HMR. The findings of the study would enable operators of HMR to identify their target market and develop effective marketing strategies. The “health-managing group” is quite concerned about nutrition in their food-related lifestyle and so its members apply nutritional knowledge to their daily life. They were likely to think that meals should be prepared at home, but about 65% of this segment expressed an intention to try HMR in the future. They are likely to use HMR if it offers value for money. Therefore when targeting this group, operators should offer “the quality of food” and “price and menu,” attributes that this segment considers important. The members of these segments are the oldest (75 years and over), professional, well-educated and upper income, so individualized service can maximize the potential of these segments. Personal service may include suggesting evening menus and offering cooking tips, nutritional information, or advice by dietitians, and answering questions about food preparation by trained employees. The members of the “diet unconcerned group” were indifferent to food and diet and so they were not worried about health, nutrition, taste and safety of food. Thus, they were least likely to use HMR in the future. The “convenience-oriented group,” mostly of whom were single, put more value on convenience than nutrition, taste and safety factors in food-related lifestyle. The group of people was least likely to think that meals should be prepared at home and were comfortable purchasing take-away or ready meals. They had the highest intention to use HMR and thus this segment should be regarded as the main target of the HMR market. To attract this segment, operators should match the right communication channel to provide more information about company and marketing strategies by emphasizing “the quality of food.” These groups who value convenience prefer ordering by phone or Internet, thus, to attract them, speed of delivery could be a key point of difference. These groups do not want a wide variety of meal options, so focusing on limited menus with great quality could be one way to meet their needs. Since the members of this group can be heavy users, operators should create loyalty programs where accumulated points can be redeemed for free meals. Moreover, firms should build an e-mail database and distribute their menus each day or each week to attract customers (Larson, 2002). To members of the “taste-oriented group,” which was the youngest (55-64 years), predominantly female, had two or more family members, and the highest annual household income, taste is of the utmost importance in their food-related lifestyle even though this group was also concerned about health and nutrition. The group enjoys cooking, shopping for food and trying new recipes and meals. The group was not disposed to takeaway meals, ready meals, and eating-out. They were most likely to think that a meal should be prepared at home and about half of this segment had no interest in HMR. However, another half of this group still showed an interest in trying HMR and thus this segment should be regarded as the main target of the HMR market. To attract this segment, operators have to highlight the attributes that are important to this group. Managers have to let this group know that major benefit of HMR is the relatively low price, as this group tends to like HMR for economic reasons. To promote a low price image, marketers need to compare the price of HMR items to that of home-cooked meals. Members of these groups are also interested in cooking and shopping, so managers may offer custom-made special recipes for customers and information about preparation and presentation. In addition to nutritious or healthy image, their products must be positioned as natural, organic, gourmet or higher quality, fresh and safer so that customers will not associate these products with fast foods. Moreover, firms may offer a varied and high-quality menu such as ethnic theme menu and may also invite customers to try new and gourmet dishes and give out recipe cards to build and maintain relationships with these segments. The “unpracticed group” had a high health-seeking and safety-seeking lifestyle, but its members were not likely to put importance on taste, convenience, and they are not likely to follow meal managing lifestyle relating to regular meal or balanced diet. The group showed intention to patronage HMR but they were not likely to think that it is easy to find information about HMR. To target this group, more efficient communication strategies should be developed. A group of people in this segment think that HMR products should have more economical than homemade foods so these concerns should be addressed in HMR advertising. Because most members of these segments may not think of HMR as a substitute for home-cooked meals, timely advertising such as radio ads during rush hour and incentives such as discount coupons may encourage trial (Larson, 1998).

The findings of the study revealed that mature market was segmented based on food-related lifestyle. Their attitudes to HMR were identified. Marketing managers should take into account these differences when communicating with the consumer segments. In the future, more meals will be eaten at home and thus the HMR category may grow. Many supermarkets, restaurants, and foodservice operations are providing HMR. To improve the quality and safety of HMR products, foodservice operators may improve the quality and safety of HMR products through strict temperature control and a cold chain system from the manufacturing and distribution process (Larson, 2002). They may also use packages that assure shelf life and safety, increase customer convenience and design menus that have items that customers want. HMR marketers have to develop strategies for
market segments that do have different values, needs, and lifestyles and they have to emphasize target segments instead of trying to appeal to the entire market. Home delivery or take-out service can be the most promising opportunity for the foodservice operators who want sales growth from mature customers.

REFERENCES


