

THE IMPACT OF U.S. QUICK SERVICE ON THE HEALTH AND PATRONAGE
OF CHINESE URBAN CONSUMERS

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Over the last decade there has been a rapid development of United States quick service restaurant companies such as KFC and McDonalds in China. Increasingly urban Chinese consumers patronize these restaurants as a way to experience American culture. For some it is becoming a part of their eating pattern. Recent health studies have demonstrated that nutritional diseases are increasing in China. This study accessed urban Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service food can provide. This study revealed that Chinese consumers' perceptions and knowledge about U.S. quick service impacts their patronage. Additionally, the study determined correlation between consumer patronage and reported health status as well as consumers' length of patronage negative influence on their health status. The results of this study will help U.S. quick service restaurants in educating consumers on nutrition and improving the menus.

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*When I consider everything that grows
Holds in perfection but a little moments,
That this huge stage presenteth nought but shows
Whereon the stars in secret influence comment.*

-----William Shakespeare

This study is eventually completed. I think there are many “stars”, through their hidden influence, determined the success of the study. At this time, I want to take this opportunity to recognize these “stars”.

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CHAPTER I

INTRODUCTION

Problem Statement

China, the largest developing country in the world, is experiencing an increase in chronic diseases (Chen et al., 1990). In many developing countries, there has been a rapid growth in the incidences of such nutritional diseases as cardiovascular disease, obesity, and diabetes (Pellett, 1989). Chen's (1990) study demonstrated that in the People's Republic of China, there is an increase in such chronic diseases. According to a health survey (Ge, Chen, & Shen, 1991) in the early 1990s in Beijing, 50% of women aged from 45 to 60 were overweight (Body Mass Index (BMI) > 25). The population, aged 15 years or older, showed prevalence of hypertension (13.5%), coronary heart disease (4%), stroke (1.2%) and diabetes (1.2%).

During the last decade, however, China witnessed a great increase in nutritional-related diseases. The increase of chronic disease indicates the disease pattern in China has changed from infectious or communicable disease to non-communicable disease. Based on the statistics from Ministry of Health in China, cancer, cerebrovascular disease and heart disease account for more than 70% of the total mortality in China. Cancer increased from 36.9 cases out of 100,000 in 1957 to 125 in 1992. Coronary heart disease (CHD) has increased from no cases in 1952 to 51.29 in 1992 (Annual Report of National Health Statistics, 1992). In less than 10 years, the prevalence of diabetes in the 20-40 age group in mainland Chinese has increased by 10 fold. Studies show that a two to three fold increase in diabetes prevalence will translate to 500 fold increase in incidence of diabetic complications such as heart disease and stroke in 10-20 years (Chronic endocrine disorders, 2000).

According to the American Heart Association's 2001 China Statistics, the mortality rate attributed to cardiovascular disease increased from 12.1% of total death in 1957 to 35.8 percent of total deaths in 1990 in urban areas. Coronary heart disease is the leading cause of death in urban areas. There are 50-60 million high blood pressure patients in China. Chinese men (35.2%) and women (39.5%) are now considered overweight compared to a larger number of Chinese people who struggled with diseases caused by poverty prior to 1980's. Currently, strokes are the leading cause of death, resulting in 1 to 1.5 million deaths a year. In a recent American Heart Association epidemiology meeting held in Hawaii in April 2002, researchers stated that about 30% of adult Chinese have high blood pressure and 33% of these has above normal to high cholesterol levels. Nearly six percent of Chinese have diabetes and another seven percent have the high risk of developing the disease.

A lot of studies have been conducted on factors influencing the increase of nutritional diseases such as obesity and heart disease. Although the cause still remains unclear, there is sufficient epidemical evidence that high intakes of fat are associated with these chronic diseases (Ge, Chen & Shen, 1991). Change of diet and lifestyle are two significant factors which have been determined to cause health problems in China. The Chinese people's change of lifestyle has caused changes in disease patterns from communicable disease such as tuberculosis to chronic disease such as cancer, heart disease, diabetes and obesity (Zhao & Chen, 2001). Their study also revealed that diet and nutrition play an important role in the incidence of developing cardiovascular diseases (CVD) and hypertension in the Chinese population. Publication of the Chinese Dietary Guidelines and Food Guide Pagoda is based on the fact that the nation's diet and lifestyle have been changing, which caused the increase of chronic disease, according to Ge and McNutt (2000).

Rationale

As the world entered the 21st century, health has become an important issue in people's life. China, with a population of 1.2 billion, is the most populous country in the world. Its population accounts for 20% of the world's total. Chinese people's health status plays a critical role in the global health.

Since 1949, when the People's Republic of China was established, China fed more than one-fifth of the world's population using only one-seventh of the world's arable land. China successfully reduced the illnesses related to poverty. The number of people suffering from hunger and malnutrition in China has been reduced from 250 million in 1978 to about 30 million at present (China Daily, 2002). Currently, with the development of economic and socioeconomic changes, the diseases associated with affluence are soaring in China, especially in urban areas. Thus, the health status among Chinese people is still a concern. China is at crossroads for improvement regarding health from a nutrition perspective (Ge, Chen, & Shen, 1991). It is significant to find out the causal factors for the increase of the nutritional diseases so that the food and nutrition policy makers and experts can scientifically provide the public with dietary guidelines.

Many U.S. fast food restaurants are now focusing on expanding into the Chinese market. China is one of the most attractive markets for global expansion (Yu & Titz, 2000). Plus, the trend for Chinese food service consumers is toward a fast food diet, convenience, quality food and value, which will give U.S. fast food restaurants enormous opportunities to meet consumers' needs (Yu & Titz, 2000). However, the fast food diet is now challenged by Chinese nutritionists for lacking nutritious value in food. They suggest that Chinese people who are already consuming fast food change back to the traditional Chinese plant-based diet. This study is

expected to add to body of knowledge of Chinese consumers' perceptions of U.S. fast food restaurants and assess the cause and effect of diet and health.

Purpose of Study

This study is designed to assess urban Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service can provide. Additionally, the study determined correlation between consumer patronage and reported health status.

Limitations

The scope of the study is limited by the following factors:

1. The sample is limited to individuals in two metropolitan cities: Beijing and Chongqing in People's Republic of China.
2. The questionnaire was translated into Chinese and translated back into English for the purpose of surveying Chinese citizens. Translation measurement errors may occur when the survey is conducted.
3. The survey covered people's health status and their history of nutritional disease which are considered personal matters. Inaccurate answers may be provided from the respondents due to this reason.
4. Path analysis was limited to the correlation between consumers' self-reported health status and their exposure to U.S. fast food restaurants and their demographic characteristics instead of exploring other factors which may also cause the health issues.
5. This study uses convenience sampling procedure, so the measure sampling error may occur because of the subjective and biased selection of the respondents.

Operational Definitions

Nutritional disease: “Numerous geographical, social and economic factors contribute to malnutrition in both developed and less developed countries of the world” (Hensley, 1980). Both inadequate and excess intake of nutrients results in malnutrition and improper function of the body. Nutritional disease in this study refers to the diseases related to nutrition. In this study, those disease include obesity, heart disease, hypertension and diabetes II.

Fast food restaurant: Also called quick service restaurant. The fast food concept was brought into China when KFC opened its first outlet in 1987. Those fast food restaurants provide limited menu items which are characterized by French fries, chicken, beef products, pizza and taco. In this study, fast food restaurant are limited to fast food restaurant chains, such as KFC, McDonald, Pizza Hut, etc.

Junk Food: Junk food is a slang word for foods with limited nutritional value. Every person has their own list of foods that they call junk foods. In this study, junk foods include foods that are high in percentage of salt, sugar, fat or calories.

Western Culture: Participation in cultural events and consumption of cultural products are behaviors that can be used to determine the extent to which an individual has taken on the identity of a culture (Moschis, 1987). In this study, Chinese urban consumers’ western fast food consumption, U.S. fast food in particular, is considered the reflection of their western culture adoption.

CHAPTER II

REVIEW OF LITERATURE

This study is designed to assess urban Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service can provide. Additionally, the study determined correlation between consumer patronage and reported health status.

Theoretical Framework

The theoretical framework used in this study is the research findings that diet and lifestyle have significant impact on people's health and incidence of developing diseases such as obesity, cancer, atherosclerosis, heart disease, stroke, Type II diabetes, and hypertension. Most of the studies are based on the research conducted in the United States regarding the relationships between dietary and lifestyle factors and nutritional diseases.

In the United States, 33% of average food diet is made up with "junk" food (Kant, 2000). "Junk" food in the American diet is characterized by high intake of saturated animal fat, hydrogenated oil, and processed food. The diet also contains low intake of fiber, complex carbohydrates and plant-based food. Large portion sizes and convenience products are other two parts of the American diet culture. Junk food is packaged and sold in big portion sizes and available conveniently at more than 170,000 fast-food restaurants and there are three million soft-drink vending machines across the United States.

Poor diets and/or sedentary lifestyles cause 14% of all deaths in the United States each year (McGinnis & Foege, 1993). Heart disease, certain types of cancer, and stroke are three leading causes of death in the United States and they contributed to half of all deaths in 1994.

Heart disease caused 32.1% of deaths, cancer accounted for 23.4% and stroke for 6.7% (USDA/ERS, 1996). The American Heart Association (1996) estimates that 1.1 million Americans will have a new or recurrent heart attack each year. Over 13.9 million people currently have a history of coronary heart disease (CHD) and among these people who suffered heart attacks, 40 percent of them are in the age group of 40-64 (American Heart Association, 1996). The American Cancer Society (1997) estimates that each year more than 1 million people are diagnosed with cancer, and about 560,000 people will die. In the past decades, it was found that cancers such as breast and colon cancers, which are highly related to a high-fat diet, sharply increased. More than 500,000 people each year suffer strokes (cerebrovascular disease) and over 150,000 people in 1994 died from strokes (USDA/ERS, 1996). The American Diabetes Association (1998) estimates that diabetes are responsible for at least an additional 100,000 deaths per year and diabetes now affects more than 15 million people in the United States. Research shows that people with diabetes are two or four times more likely to suffer heart diseases and strokes (American Diabetes Association, 1998) and twice as likely to have hypertension as people who do not have diabetes (American Diabetes Association, 1993; Herman, Teutsch, & Geiss, 1987).

Increasing research demonstrates that diet is associated with nutritional diseases. In a report on diet, physical activity and health from the 55th World Health Assembly (2002), evidence shows that an unhealthy diet and physical inactivity are among the major causal risk factors in coronary heart disease, cerebrovascular strokes, several forms of cancer, type II diabetes, hypertension and obesity. Americans poor diet attributes to serious nutritional diseases. Although genetic factors play an important role in the risk of developing CHD and cancer, these

diseases may be exacerbated or delayed by diet (Branca, Hanley, Poor-Zobel & Verhagen, 2001). There is a high positive correlation between dietary fat consumption and the individuals who have the high possibility of developing obesity (Guo et al., 1999). Researchers suggest that an increased intake of antioxidants and folic acid may reduce the risk of CHD (Boushey et al., 1995; Willett, 1994; Plotnick, Corretti, & Vogel, 1997). Studies show increased consumption of fruits and vegetables which contain a large amount of fiber can reduce the risk of cancer, colon cancer in particular, and lower high blood pressure (World Cancer Research Fund and American Institute for Cancer Research, 1997; Appel et al., 1997).

The National Heart Foundation of Australia (1999) stated that there is a link between fat consumption and cardiovascular health and disease. Noakes and Clifton (1999) demonstrated growing evidence that complex dietary patterns including a variety of food choices such as cereals, fruits, and vegetables can improve cardiovascular health. The consumption of various foods is what the American Heart Association (AHA) presents to the public for guidelines. “Consume a variety of fruits and vegetables and grain products, including whole grains.”(American Heart Association, 2000). AHA’s dietary guidelines are based on three principles. One of them is that dietary and other life styles practices provide a foundation for maintaining cardiovascular and overall health.

Dietary Transition and Change of Food Consumption Patterns in China

The traditional Chinese diet has been well known for being low in fat and high in carbohydrates. During the last decade, shifts occurred in diets to include higher fat, lower complex carbohydrates, and higher protein, from animal sources in particular. Today, only a small proportion of the Chinese population continues to consume the traditional low-fat diet

(Zhao & Chen, 2001). According to the national food consumption data, there is an increasing trend of consuming animal fat and saturated oil. Three national nutritional surveys conducted in the 1950s, 1982 and 1992 respectively found that the fat intake has increased to 58.3g per capita per day, compared to 49.3 in 1982 and almost none in 1950s (Ge, et .al, 1996) . Longitudinal studies concluded in 1992 and 1982 also demonstrated that the dietary transition is characterized by constant consumption of legumes and vegetables, but with a significant increase of animal fat and saturated oil intake. Based on one average individual, the fish and shrimp intake increased from 12g per day in 1982 to 28g in 1992. The oil and fat intake increased from 18g per day to 29g per day (Ge, et. al, 1996b). High-fat consumption is more common in the urban and high-income population than the rural and lower-income ones (Guo, et al., 1999). In several metropolitan cities such as Beijing and Shanghai, the average fat intake was 30% over the recommended guideline for total dietary energy intake (Zhao & Chen, 2001). The Chinese diet, in urban areas in particular, is following the westernized dietary pattern where dietary fat provides most of energy (Zhao & Chen, 2001).

Eating out has become fashionable in urban cities (Gu, 1994). Chinese people living in the urban areas showed growing interest in eating out. According to a report from a Chinese consumer magazine, nearly 50% of Beijing residents who are employed full time no longer ate breakfast at home. They had their breakfast either at street food vendors or at restaurants that provide breakfast. Dining out has gradually become a social activity and entertainment among almost all social groups regardless of income level (Gu, 1994). Dining out is more popular in China for working couples and single professionals. Besides a restaurant's social function, convenience and value are the main reasons for consumers to eat out due to the fast pace life (Yu

& Titz, 2000). According to a survey conducted by Beijing Statistics Bureau in early 1993, nutritional value and convenience are considered the top concerns for most Beijing residents when selecting a restaurant (Yan, 1997).

The increase of the Chinese individuals' eating out behavior can be reflected from Chinese restaurant's rapid growth. According to the National Bureau of Statistics (NBS)'s report, as of July 2002, China's restaurant and catering sector has increased by 15.9% from last year with the national sales in this sector increasing to 232.7 billion RMB (US \$28 billion) during the first half of 2002 (China Daily, 2002). The report also indicated that the restaurant sector played a critical role in boosting domestic consumption demand and employment.

Development of National Economy and Change of Culture and Lifestyle

China has witnessed extremely rapid economic growth over the past two decades. Since 1978, when China opened trade relations with the world, China's gross national product and gross domestic product (GDP) increased significantly by over 8.2% annually (Atinc, 1997). From 1979 to 1997, China's GDP grew at an average annual rate of 9.9%, which ranked as one of the world's highest growth rate (Morrison, 1998). China's rapid economic growth results in rising income levels and standards of living, which eventually brings up increasing purchasing power, especially in urban areas (Li, 1996; Lu, 1997). The average income of Chinese is 867 RMB (US \$104) per month in 1997 which represent a 43% increase compared to 1994. The average urban income in 1997, however, was 1,167 RMB (US \$141). In cities like Shanghai, the average was 2,290 RMB (US \$235) was more than double the nationwide average (Marr & Reynolds, 1998). The increased income caused increased spending on food. In 1997, Chinese families spent an average of 368 RMB (US \$44.30) per month on food, twice as much as 1995's

average spending--192 RMB (US \$22.10) (Marr & Reynolds, 1998). The rising income level and standard of living led China to step into a market-oriented economy. Chinese consumers, middle class in particular, experienced a large change in food purchasing and consumption patterns. Increased variety of processed, packaged, canned and frozen foods that are easy to store and prepare can be seen everywhere in all kinds of supermarkets and grocery stores.

The socioeconomic change can be also reflected from the surge of American fast food restaurants which currently include Dairy Queen, Domino's Pizza, KFC, Pizza Hut, and Subway. Many big fast food chains have done very well in China by appealing to Chinese people (Kurlantzick, 2002). The most prominent fast food companies in China are KFC and McDonalds. KFC, a member of Yum! opened its first outlet in Beijing in 1987 and became the first western fast food company in China (FoodService News & Editorial, 2001). It took KFC nine years to open up its 100th restaurant, however, in 11 months, they grew from 400 to 500 outlets. In 1993, KFC opened up the first franchised restaurant. As of September 2001, KFC has more than 20 KFC franchised outlets in China. As of August 2002, KFC has 700 restaurants in almost all major Chinese cities (Nation's Restaurant News, 2002) and became number one in China's fast food industry. Recently, KFC opened the first drive-through restaurant in China, which brings another new concept into China. This new concept may increase quick service patronage since it is another unique way to purchase foods (Nation's Restaurant News, 2002). McDonald's first entered the Chinese market in 1990. Between 1995 and 2000, the number of McDonald's in China increased from 62 to 326—a 429 % increase, eight times more than the 57% world average growth rate of new McDonald's restaurants (Globalization's Daily, 2001). McDonald's announced in 2001 that it plans to add 100 stores a year in China in 2003 by

introducing its franchising model (China Daily, 2001). Now McDonald's has 430 restaurants in China.

The growth and expansion of the fast food restaurants reflects the acceptability of the fast food diet among Chinese consumers. According to a survey conducted by China Market and Media Study (2002), in 20 major cities, 62.1% and 63% of citizens visited fast food restaurant in 1999 and 2000 respectively. Among them, 27.8% of citizens patronized KFC frequently and McDonald's 18.2%. Based on another public survey (Wu & Deng, 2002), 80% of the respondents (15-45 age range) like fast food. Ninety percent of them eat fast food on a regular basis. This survey also revealed that people need fast food to accommodate their travel and shopping schedules during weekends and holidays. White-collar workers frequent chicken, hamburger, pizza and other fast food restaurants. Parents give more money to children who would be most likely to eat at fast food restaurants. Eating out has become a common behavior for Shanghai citizens. They do not perceive that fast food is a luxury, but instead they enjoy experiencing the western culture of fast food restaurants with their families (Wu & Deng, 2002).

Chinese people's acceptability for fast food restaurants can be also reflected in their annual revenues. According to the National Bureau of Statistics (NBS) of China (2001), the sale of fast food, worth 20 million RMB (US\$2.4 Million), accounted for over 40% of the total food and beverage income in 2000. One survey shows that urban people, in the well-off areas of eastern and southern China in particular, are frequent consumers of fast food restaurants. Children and younger generations accounted for highest percentage of frequent consumers. Most of the people interviewed claimed that they are attracted by the soft music, clean environment, good service and seasonal promotions in those western fast food restaurants.

There were approximately 500,000 businesses in fast food industry throughout China in 2000 according to the State Internal Trade Bureau (SITB, 2001). Fast food is the fastest growing sector of the market. Chinese-style fast food restaurants appeared after western ones first came into China in early 1987. According to a survey (People's Daily, 2001), the top three fast food chains are American and two-third of middle school students prefer American fast food restaurants to Chinese ones.

The reason why American fast food restaurants became popular and grew rapidly is in its cultural background. According to Jones (2000), dramatic economic and social changes have occurred in China. The increased contact with Western countries and Western ideas may be accountable for some of the change. A newspaper article described China's increasing Western contact, today the streets of Beijing and some other urban cities and towns filled with expensive cars, minivans and sport-utility vehicles of Chinese capitalists and their foreign partners. An increasing urban city population travel abroad, join foreign-run private clubs, carry Motorola cell phones, wears Nike sneakers, sip Starbucks coffee, and eat McDonald's burgers (Jones, 2000, p.4B). Western ideas influence Chinese people also. These western ideas include norms, values and attitudes, which may affect Chinese consumers' attitude toward cultural products from Western countries, the United States in particular. Food from U.S. fast food restaurants are perceived cultural products (Yan, 1997). Dining at restaurants such as KFC and McDonald is considered a modernization. Yan (1997)'s study reveals that most adult customers are attracted to American fast food restaurants for American styles rather than food. According to Yan's study, frequent customers of fast food restaurants are yuppies, young couples and children. People did not realize the health problems related to U.S. fast food restaurant until recently.

Chinese media and public once held the idea that fast food restaurants can provide them with nutritional and healthy food. This idea now is challenged by Chinese nutrition experts who claim that western fast food lacks healthy nutritional value and the western fast food diet is considered the cause of the increased number of overweight children and teenagers (Wu & Deng, 2002). It is only in recent years that the public begin to be aware of the negative effects of fast food on people's health.

Besides the preference to fast food, statistics show that the number of smokers is growing. Several studies on average daily cigarette consumption were done during the years from 1952 to 1996. On daily bases, per man in China consumed one cigarette in 1952, four in 1972, and 10 in 1992 and then by 1996 at about 11 (Yang, et al, 1997). The trend of smoking at young age is becoming more and more obvious. Two third of men become smokers before the age of 25; only a few quit smoking, and about half of those who persist will be killed by tobacco in middle or old age (Liu, et al., 1998).

Physical activity pattern have changed dramatically in China with shifts in occupation, transportation and labor saving devices in home and leisure activities (Paeratakul, et al.,1998; Popkin, et al., 1995). One of the reasons studied is the shift toward lower activity occupations in the service and manufacturing (Guo et al., 1999). China is becoming a country with sedentary lifestyle, among Chinese young people in particular. People become reluctant to pursue physical activities. Another factor is due to the change of transportation. At the epidemiology meeting in Hawaii (Wall Street Journal, 2002), researchers demonstrated that China is transferring from a country utilizing bicycles to motorized scooters. The rapid technological change toward a more advanced level provides people with more labor saving and activity saving devices (Guo et al.,

1999). Physical inactivity is also influenced by TV-oriented pop culture, increased school curriculum and lack of sports facilities in China (Xinhua News Agency,2002). In Asia between 1984 and 1989, the ownership of television sets increased from 62 to 211 million, with a large percentage occurring in China.

Preference of fast food, increasing number of people smoking and sedentary life style changed people's life. All of these cultural changes have influenced the life style and in turn health status of Chinese urban Chinese.

U. S. Fast Food Restaurant Menu in China

U.S. fast food restaurants in China offer the same basic menu as they do in the United States. Some menu items are adjusted to accommodate Chinese consumers' taste. KFC menu items in China include Original Recipe Chicken; Zinger Burger (chicken sandwich); Hot Wings; Popcorn Chicken and side dishes such as corn, French fries, and Chinese-flavored soup. Desert items include ice cream cone and sundaes (Foodservice News & Editorial, 2001).

Pizza Hut, China offers both pizza and pastas. The pizza menu has both pan and edge crust selections available with toppings such as Italian sausage, beef, pork, ham, bacon onion, green pepper, mushroom and pineapple. The pasta menu has spaghetti bolognaise, beef spaghetti with black pepper sausage and beef lasagna. Appetizers and soup include western zesty waffle crispers, deep fried onion rings, samosa, kebab, New Orleans wings, minestrone, cream of mushroom with chicken and pastry of clam chowder. Deserts include chocolate Bavarian, peach and mango cheesecake, Tiramisu and ice cream (Pizza Hut, China, 2002).

There is very little difference between McDonald's American and international menu. The menu is almost the same except for fried pork and grilled chicken sandwiches which are only offered in China.

Different portion sizes are available for Chinese consumers. For both foods which mainly includes burgers, sandwiches and French Fries as well as drink, varieties of portion sizes are offered for consumers' selection-- small, medium, large and supersize. The portion size served by fast food chains are far larger than the recommended portion size for most foods. When people eat out more and more frequently, they become accustomed to those oversized portion and think that such portions are normal (Murphy, 2000).

CHAPTER III

METHODOLOGY

This study was designed to assess urban Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service can provide. Additionally, the study determined correlation between consumer patronage and reported health status.

This chapter describes the procedures used to complete this study. Included are research questions and hypotheses, research design, instrument development, population and sample, data collection and data analysis.

Research Questions and Hypotheses

Research Questions

There are four research questions that the study answered throughout the investigation.

They are:

1. What are the perceptions of Chinese urban consumers toward U.S. quick service restaurants?
2. What is the knowledge of Chinese urban consumers about U.S. quick service nutritional values?
3. Do consumers' perceptions of U.S. quick service restaurants and knowledge about nutritional value of U.S. quick service impact their patronage?
4. Does the health significantly correlate with consumers' U.S. fast food patronage?

Research Hypotheses

The study was divided into two parts. In part I of this study, Chinese urban consumers' patronage of U.S. quick service restaurants was tested to determine if it was influenced by consumers' perception of U.S. quick restaurants and their knowledge regarding quick service nutritional values. In part II of this study, Chinese urban consumers' health status was assessed to find out if it was related to their patronage of U.S. quick service restaurants. Therefore, the following hypotheses were established to test the relationships.

H1: Chinese urban consumers' perception of U.S. quick service restaurants will have no effect on their patronage.

H2: Chinese urban consumers' knowledge regarding quick service nutritional values will have no effect on their patronage.

H3: Chinese urban consumers' patronage of U.S. quick service restaurants has no significant influence on their health.

The three hypotheses are developed by using null hypotheses. The reason that null hypotheses are used is that previous studies did not provide sufficient alternatives for this study to develop alternative hypotheses.

Research Design

Variables Studied

This study was divided into two parts. In part I of this study, Chinese urban consumers' patronage of U.S. quick service restaurants was tested to determine if patronage was influenced by consumers' perception of U.S. quick restaurants and their knowledge regarding quick service

nutritional values. In part II of this study, Chinese urban consumers' health status was assessed to find out if it was related to their patronage of U.S. quick service restaurants.

In part I of this study, the dependent variable of consumers' patronage was correlated to the independent variable of consumers' perception and nutritional knowledge of U.S. quick service. In the consumers' perception dimension, the following items were tested to see the interrelationship with each other. These items include food taste, cleanliness of establishment, food safety, atmosphere, experience of Western culture, price, promotion, location, prompt service, nutritious food value and portion size. In the nutritional knowledge dimension, consumers' knowledge about selected nutrients was tested to see the interrelationship with each other. Chinese urban consumers' knowledge includes understanding of U.S. quick service's provision of calories, fiber, sodium, protein, calcium and fat.

In part II of this study, the dependent variable of reported health status was correlated to the independent variable of consumers' U.S. quick service restaurant patronage. Patronage was tested through frequency of U. S. quick service restaurants' patronage, portion size and length of time since first visit. The reported health status was assessed through height, weight, weight change since first visit, nutrition-related diseases history and physical activities.

Instrument Development

A questionnaire was developed to measure Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service can provide (See Appendix A). Additionally, the questionnaire is designed to assess Chinese urban consumers' health status and their demographic characteristics such as age, education,

household income, occupation and children in the family. The questionnaire was developed in English, translated into Chinese by a linguistic professor in English-Chinese translation field.

There are two parts of the study. Part I is related to consumers' perception and knowledge with U.S. fast food patronage. Part II is related to U.S. fast food patronage to the reported health status.

Part I Measures

In part I of this study, the independent variables, consumers' perception of U.S. quick service restaurants and knowledge of U.S. quick service nutrients provision were measured separately. The dependent variable, consumers' patronage of U.S. quick service was measured. Variables, instrument items and type of data are shown in Table 1.

Consumers' Perceptions of U.S. Quick Service Restaurant

Consumers' perceptions of U.S. quick service restaurant were rated on 5-point likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument includes eleven items to measure eleven factors. They are food taste, cleanliness of establishment, food safety, atmosphere, experience of American culture, price, promotion, location, prompt service, and nutritious food value.

Consumers' Knowledge of U.S. Quick Service Nutrients Provision

Consumers' knowledge of U.S. quick service nutrients provision was measured on 5-point likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument includes six items to measure six nutrients. They are provision of calories, fiber, sodium, protein, calcium and fat.

Consumers' Patronage of U.S. Quick Service Restaurants

Consumers' patronage of U.S. quick service restaurant was measured by frequency of U.S. fast food restaurant coded from 1 to 7 ranging from never to every day. The portion size was measured coded from 1 to 4 ranging from small size to super size. The length of U.S. fast food restaurant patronage was measured coded from 1 to 6 ranging from six month less to ten or more years.

Part II measures

In part II of this study, the independent variable is consumers' patronage of U.S. quick service restaurant which is discussed in the previous section. The dependent variable, reported health status was measured by weight and height to obtain the BMI, weight change, the nutritional-related diseases history and physical activity. Variables, instrument items and type of data are shown in Table 1.

Demographic Characteristics

The instrument contained the information to measure consumers' demographic characteristics. The following demographic characteristics were obtained: a) gender, b) occupation, c) age, d) education, e) children in household and f) annual household income. Variables, instrument items and type of data are shown in Table 1.

Pretest

Two pretests were conducted with respect to the questionnaire. Pretest I is conducted to determine the extent to which the cover letter, instruction and content of the questionnaire itself is clear, understandable, complete and neutral. Additionally, this survey critique allowed professional experts to provide their own suggestions for improvement. The English version of

the questionnaire was used for Pretest I. Nine faculty members of School of Merchandising and Hospitality Management at University of North Texas were asked to participate.

Pretest II was conducted to assess the reliability of the Chinese version of the questionnaire. Pretest II determined if the Chinese version was understandable and reliable. Thirty eight Chinese people from the University of North Texas and North Texas Chinese Church who have been in the United States for less than two years were selected to complete the Chinese version questionnaire. After the 38 surveys were collected and statistical analyzed, the instrument was found reliable except the multicollinearity.

Multicollinearity was detected by computing variance inflation factors (VIFs). After the regression was run, it was found that question regarding the reasons why consumers patronize restaurants was highly correlated with all the questions in the perception dimensions expect food safety because their VIF value is greater than 10. Due to multicollinearity, decision was made to remove these variables including food safety from the questionnaire.

Table 1

Summary of Instrument by Variables and Type of Data

| Variables | Instrument Item | Type of Data |
|------------------------------|-----------------|--------------|
| Perception | | |
| Food taste | 1 | Interval |
| Cleanliness of establishment | 2 | Interval |
| Food safety | 3 | Interval |
| Atmosphere | 4 | Interval |

Table 1 (Continued)

Summary of Instrument by Variables and Type of Data

| Variable | Instrument Item | Type of Data |
|--------------------------------|-----------------|--------------|
| Experience of American culture | 5 | Interval |
| Price | 6 | Interval |
| Promotion | 7 | Interval |
| Location | 8 | Interval |
| Prompt service | 9 | Interval |
| Food nutritious value | 10 | Interval |
| Knowledge | | |
| Calories | 11 | Interval |
| Fiber | 12 | Interval |
| Sodium | 13 | Interval |
| Protein | 14 | Interval |
| Calcium | 15 | Interval |
| Fat | 16 | Interval |
| Vitamins | 17 | Interval |
| Sugar | 18 | Interval |
| Patronage | | |
| Frequency | 19 | Ordinal |
| Portion size | 20 | Ordinal |
| Length | 21 | Ordinal |

Table1 (Continued)

Summary of Instrument by Variables and Type of Data

| Variable | Instrument Item | Type of Data |
|-------------------|-----------------|--------------|
| Health Status | | |
| Weight | 22 | Ratio |
| Height | 23 | Ratio |
| Weight gain | 24 | Ordinal |
| Disease | 25 | Nominal |
| Physical activity | 26 | Ordinal |
| Smoking | 27 | Nominal |
| Demographics | | |
| Gender | 28 | Nominal |
| Occupation | 29 | Nominal |
| Age | 30 | Ratio |
| Education | 31 | Nominal |
| Children | 32 | Ratio |
| Income | 33 | Ordinal |

Population and Sample

Population

The population of this study is composed of Chinese urban consumers of U.S. quick service restaurants within two major cities of People's Republic of China. The two cities are Beijing and Chongqing. The latest statistics from the fifth Beijing census reveals that the population of Beijing has exceeded 12.8 million (People's Daily, December, 2001). Chongqing is the largest city in China in terms of population. However, the population is not exclusively urban. The urban area itself has a population not far below 18 million (Chinaonline, December, 2001).

Sample

A convenience sample was randomly chosen from the cities of Beijing and Chongqing. Attempts were made to draw equal samples from each of the cities and distribute evenly to each of the districts which is the municipal separation of the urban area. The sample size was proposed to be a minimum of 250 usable surveys and a total of 500 surveys were distributed.

Data Collection

This study uses the convenience sampling process. Two hundred and fifty surveys were distributed in each individual city. Surveys were sent to three individuals in Beijing and four in Chongqing. These individuals called research cohorts were instructed on survey distribution and collection procedures. In both cities, surveys were distributed among three groups of people. The first group is the Chinese citizens working in joint venture companies. The second group includes school students and their parents. The third group includes randomly selected people in front of the U.S. fast food restaurant outlets. The respondents responded to the surveys in the

presence of research cohort. Surveys were distributed and collected by the research cohort in China. The surveys contained a cover letter and questionnaire. Participation was voluntary and respondents could refuse to participate.

Data Analyses

Once the data were collected, they were coded for data analyses. Data were analyzed using Statistical Product and Service Solutions (SPSS). Descriptive statistics was run to describe sample characteristics and demographic profile. A factor analysis was used to obtain a factor score for part I variables in the overall regression model. The purpose of factor analysis is to discover simple patterns in the pattern of relationships among the variables. In particular, it seeks to discover if the observed variables can be explained largely or entirely in terms of a much small number of factors (Gorsuch, 1983). What makes factor analysis different from other statistic methods is that factor analysis is used to study the patterns of relationship among many dependent variables, with the goal of discovering something about the nature of the independent variables that affect them, even though those independent variables were not measured directly. The answers obtained by factor analysis are more hypothetical than is true when independent variables are observed directly.

Path Analysis was used to evaluate impact of knowledge and consumers' perception on quick service restaurant patronage, which was correlated with the health of Chinese consumers. Path analysis provides a plausible explanation of observed correlations by showing the cause-and-effect relations between variables (Johnson and Wichern, 1988). By bringing together postulated relationships gained from knowledge of subject matter, such as review of literature and common sense with constructed diagrams from statistical inference, path analysis is a very

convincing argument for causality. Path analysis modeling is able to measure the direct and indirect effects that variables have on each other.

CHAPTER IV

RESULTS AND ANALYSIS

This study was designed to assess urban Chinese consumers' perceptions about U.S. quick service restaurants and their perceptions about the nutritional value that U.S. quick service can provide. Additionally, the study determined correlations between consumer patronage and reported health status. A survey was developed to assess Chinese urban consumers' perceptions to achieve the purpose of the study. The survey data were analyzed using the Statistical Package for the Social Sciences (SPSS).

This chapter is divided into two parts. Part one is the preliminary analysis which contains the demographic characteristics of respondents and data reduction using factor analysis. After preliminary analysis, further analysis was conducted regarding the grouping of the variables based on the two proposed dimensions. The analysis found out that it is more significant to keep the original preliminary analysis in terms of data reduction. The second part includes data analysis, results and discussions which describe the process of regression, results and the data interpretation.

Preliminary Analysis

Demographic Characteristics of Respondents

Of all the 500 surveys that were distributed, a total of 405 were completed and returned for a response rate of 81%. Of the 405 respondents, 198 (49%) were Beijing residents and the rest of 207(51%) were from Chongqing. Two hundred and ten of the respondents (51.9%) were females and 195 (48.1%) were males (see Table 2). The average age was 26 years old. Almost half of the respondents (43%) were students, followed by professionals of IT, engineering industry (18%), business-related jobs (14%) and public officials (12%). Over half of the

respondents (53.8%) use public transportation such as bus or subway as their major transportation mode. Walking ranked second (32.6%). Respondents (53%) had a bachelor's degree, and 43.2% of them had high school degree or less. The majority of respondents had no children in their families, which accounted for 80.2%. Over half the respondents reported their household annual income was less than 10,000RMB (\$1,250) (53.8%), and 18.8% of them with between 10,000RMB and 20,000RMB (\$2,500).

Table 2

Demographic Characteristics of Respondents

| Characteristics | Frequency | Percentage |
|------------------------|-----------|------------|
| Gender | | |
| Male | 195 | 48.1 |
| Female | 210 | 51.9 |
| Occupation | | |
| Student | 169 | 41.7 |
| IT and engineering | 74 | 18.3 |
| Business | 56 | 13.8 |
| Public official | 48 | 11.9 |
| Self-employed | 30 | 7.4 |
| Manufacturing | 14 | 3.5 |
| Education | 8 | 2.0 |
| Retail and hospitality | 5 | 1.2 |
| Health-related | 1 | 0.2 |
| Mode of Transportation | | |

Table 2 (Continued)

Demographic Characteristics of Respondents

| Characteristics | Frequency | Percentage |
|-----------------------|-----------|------------|
| Public transportation | 218 | 53.8 |
| Walking | 132 | 32.6 |
| Car | 41 | 10.1 |
| Bicycle | 11 | 2.7 |
| Scooter | 3 | 0.7 |
| Age | | |
| Younger than 20 | 118 | 29.1 |
| 20—30 years old | 169 | 41.7 |
| 31—40 years old | 76 | 18.8 |
| Older than 40 | 42 | 10.4 |
| Education Level | | |
| High school or less | 175 | 43.2 |
| Bachelor's degree | 212 | 52.3 |
| Graduate degree | 14 | 3.5 |
| Other level | 4 | 1.0 |
| Children | | |
| No children | 325 | 80.2 |
| 0-6 years old | 22 | 5.4 |
| 7-13 years old | 39 | 9.6 |

Table 2 (Continued)

Demographic Characteristics of Respondents

| Characteristics | Frequency | Percentage |
|---------------------|-----------|------------|
| 14-18 years old | 19 | 4.7 |
| Income level | | |
| Less than 10,000RMB | 218 | 53.8 |
| 10,000-19,999RMB | 76 | 18.8 |
| 20,000-29,999RMB | 33 | 8.1 |
| 30,000-39,999RMB | 31 | 7.7 |
| 40,000-50,000RMB | 22 | 5.4 |
| More than 50,000RMB | 25 | 6.2 |

Data Reduction

Data reduction was conducted by using factor analysis. The instrument was designed to include four dimensions as independent and dependent variables. They were consumers' perception of U.S. quick service restaurants, consumers' perception of nutritional values that U.S. quick service could provide, patronage (independent variable dimensions) and their reported health status (dependent variable dimension). However, the preliminary study found out that using factor analysis to regroup each individual variable is more explainable and significant in terms of their common underlying dimensions. Hair et al. (1992) described this statistical approach that is used to analyze the interrelationship among a large number of variables and find a way of condensing the information contained in a number of original variables into a smaller set of dimensions (factors) with a minimum loss of information.

Principle component analysis using varimax rotation was used for the study to explore the dimensions in the data set. Items with eigenvalues greater than one were retained in the factor. A six-factor structure has been captured from the instrument. The total variance explained is shown in Table 3.

Table 3

Total Variance of Factors on Perception, Knowledge and Patronage

| Factor | Initial Eigenvalues | | |
|----------------|---------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % |
| 1 Food Benefit | 4.952 | 23.579 | 23.579 |
| 2 Environment | 1.866 | 8.887 | 32.466 |
| 3 Food Risk | 1.626 | 7.742 | 40.209 |
| 4 Marketing | 1.345 | 6.406 | 46.614 |
| 5 Frequency | 1.238 | 5.895 | 52.509 |
| 6 Patronage | 1.025 | 4.882 | 57.391 |

Factor 1 contained 8 items. Food taste, food reflection of culture, food's nutritious value, food fiber content, food sodium content, food protein content, food calcium content, and food vitamin content were loaded on this factor. The percentage of variance explained by the first factor was 23.6. This factor was named Food Benefit.

Factor 2 contained 3 items. The U.S. quick service restaurants' cleanness, food safety and atmosphere were loaded on this factor. The percentage of variance explained by the second factor was 8.9. This factor was named Environment.

Factor 3 contained 3 items. The food provision of calories, food content of fat, food content of sugar were loaded on this factor. The percentage of variance explained by the third factor was 7.7. This factor was named Food Risk.

Factor 4 contained 4 items. Price, promotion, convenient location and quick service were loaded on this factor. The percentage of variance explained by the fourth factor was 6.4. This factor was named Marketing Features.

Factor 5 contained 2 items. Patronizing frequency and portion size were loaded on this factor. The percentage of variance explained by the fifth factor was 5.9. This factor was named Values of the Products and Frequency.

Factor 6 had length since first visit item loaded by itself. The percentage of variance explained by the sixth factor was 4.9. This factor was named Length of Patronage. The rotated component matrix is shown in Table 4.

Table 4

Rotated Component Matrix of Factor Loading

| Variable | Component | | | | | |
|-------------|-------------|-------------|------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Taste | .468 | .386 | .102 | -.035 | .360 | .036 |
| Cleanliness | .064 | .813 | .153 | .047 | .005 | .059 |
| Safety | .240 | .786 | .036 | .098 | .069 | .018 |
| Atmosphere | .129 | .633 | .081 | .227 | -.063 | -.147 |

| | | | | | | |
|--------------------------|-------------|-------|-------------|-------------|-------------|-------------|
| Culture | .412 | .247 | -.094 | .373 | -.148 | -.049 |
| Price | .312 | -.035 | -.008 | .518 | .297 | -.159 |
| Promotion | .308 | -.065 | -.101 | .619 | -.176 | .227 |
| Convenience | -.112 | .198 | .209 | .610 | -.024 | -.079 |
| Quick | .036 | .358 | .097 | .580 | .116 | -.124 |
| Nutritious | .763 | .146 | -.052 | .133 | .032 | -.141 |
| Calories | .203 | .267 | .597 | .032 | .103 | .238 |
| Fiber | .565 | .131 | .096 | -.010 | .144 | -.403 |
| Sodium | .614 | -.020 | .332 | .096 | .121 | -.023 |
| Protein | .648 | .059 | .309 | .001 | -.084 | .144 |
| Calcium | .708 | .100 | .053 | .150 | .081 | -.037 |
| Fat | .009 | .166 | .839 | .084 | .018 | -.026 |
| Vitamin | .773 | .145 | .030 | .026 | -.012 | -.032 |
| Sugar | .177 | -.045 | .756 | .034 | -.011 | -.176 |
| Frequency | .056 | .003 | .156 | .290 | .580 | .292 |
| Portion | .038 | .013 | -.042 | -.117 | .811 | -.047 |
| length since first visit | -.125 | -.020 | -.034 | -.110 | .106 | .809 |

Notes. Extraction method is Principal Component Analysis and rotation method is Varimax with Kaiser Normalization. Rotation converged in 7 iterations. The highlighted is the greatest correlation coefficient for each individual variable.

After the factor analysis, reliability test was conducted. Coefficient (Cronbach's) Alpha is a measure of reliability or internal consistency (Cronbach, 1951). Values of Cronbach's Alpha

of .50 or above, is consistent with the recommended minimum values stated by Nunnally (1967). Cronbach's alpha indicating reliability for each factor groupings showed that four factors were acceptable level of alpha, factor 1 Food Benefit ($\alpha=.8171$), factor 2 Environment ($\alpha=.7160$), factor 3 Food Risk ($\alpha=.6825$) and factor 4 Marketing Features ($\alpha=.5102$). The Cronbach's alpha for factor 5 Value of Products and Frequency was .3132 and there was only one item loaded in factor 6 Length of Patronage so that the reliability test was unable to be conducted. However, factor 5 and 6 was not dropped out from further regression analyses because factor 5 contained only two items which could explain the relatively low value of Cronbach's alpha.

Data Analysis and Results

Data Analysis

The data from survey were analyzed using multiple regressions to develop a path analysis diagram. In order to complete this path diagram, seven regression equations were analyzed.

Each of variables was compiled from factor analysis and computed from various questions in the survey instrument. Food Benefit includes food taste, food reflection of culture, food's nutritious value, food fiber content, food sodium content, food protein content, food calcium content, and food vitamin content. Environment includes the U.S. quick service restaurants' cleanness, food safety and atmosphere. Food Risk includes the food provision of calories, food content of fat, food content of sugar. Marketing Feature includes price, promotion, convenient location and quick service. Values of the Products and Frequency includes patronizing frequency and portion size. Length of Patronage includes length since first visit. Best Health was calculated by adding BMI and Health Index. BMI was obtained by dividing the weight in kilograms by the square of the height in meters. Health Index was achieved by adding

weight score which was weight gain scale and activity level. The more physical activity, the more increase on Health Index. Due to low response of self-reported nutritional-related illness, this question was not used in the Best Health dimension.

In the path diagram, the exogenous variables, which are not influenced by other variables in the diagram, was decided to include all the demographic attributes based on logic causality. These exogenous variables are gender, occupation, mode of transportation, age, education level, children and income level.

Successive regressions of these relationships were completed. In the path diagram, the endogenous variables—variables that are affected by other variables was Food Benefit, Environment, Food Risk, Marketing Features, Values of Products and Frequency and Length of Patronage. Each endogenous variable was regressed upon all the exogenous variables using backward elimination method. After each regression was run, the exogenous variables were examined, and the one which p value is greater than .1 was retained. This process eliminated only one variable at a time.

After Food Benefit was regressed upon all the exogenous variables, gender ($\beta=-.083$, $p=.076$), occupation of business-related profession ($\beta=.227$, $p=.000$), age ($\beta=.207$, $p=.001$), education level ($\beta=-.186$, $p=.000$), children ($\beta=-.128$, $p=.024$) and income level ($\beta=-.260$, $p=.000$) were retained in the model as Table 5 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 5

Regression—Food Benefit^a vs. Demographic Characteristics

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | .394 | .170 | | 2.324 | .021 |
| gender | -.165 | .093 | -.083 | -1.781 | .076 |
| business | .656 | .134 | .227 | 4.889 | .000 |
| age | .019 | .006 | .207 | 3.287 | .001 |
| education level | -.308 | .087 | -.186 | -3.533 | .000 |
| children | -.152 | .067 | -.128 | -2.261 | .024 |
| income | -.168 | .036 | -.260 | -4.686 | .000 |

a Dependent Variable is Food Benefit

After Environment was regressed upon all the exogenous variables, only gender ($\beta=.103$, $p=.039$) was retained in the model as table 6 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 6

Regression: Environment^a vs. Demographic Characteristics

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -.107 | .071 | | -1.494 | .136 |
| gender | .206 | .099 | .103 | 2.075 | .039 |

a Dependent Variable is Environment.

After Food Risk was regressed upon all the exogenous variables, gender($\beta=.105$, $p=.031$), occupation of public official ($\beta=-.205$, $p=.000$), business related ($\beta=-.125$, $p=.015$), self employed ($\beta =-.240$, $p=.000$) and IT ($\beta=-.208$, $p=.000$) profession, car ($\beta=.138$, $p=.010$), public mode of transportation ($\beta=.135$, $p=.011$) and education level ($\beta =.151$, $p=.003$) were retained in the model as Table 7 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 7

Regression: Food Risk^a vs. Demographic Characteristics

| Independent Variable | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | |
|-----------------------|-----------------------------|---------------------------|--------|--------|------|
| (Constant) | -.414 | .150 | -2.765 | .006 | |
| gender | .209 | .097 | .105 | 2.161 | .031 |
| public official | -.633 | .161 | -.205 | -3.933 | .000 |
| business | -.360 | .148 | -.125 | -2.439 | .015 |
| self employed | -.916 | .193 | -.240 | -4.744 | .000 |
| IT | -.537 | .133 | -.208 | -4.026 | .000 |
| car | .456 | .176 | .138 | 2.589 | .010 |
| public transportation | .270 | .105 | .135 | 2.568 | .011 |
| education level | .249 | .084 | .151 | 2.980 | .003 |

a Dependent Variable is Food Risk

After Marketing features was regressed upon all the exogenous variables, gender ($\beta=.170$, $p=.000$), occupation of business-related profession ($\beta=.151$, $p=.002$), walking ($\beta=-.126$, $p=.010$) mode of transportation and age ($\beta=.171$, $p=.001$) were retained in the model as Table 8

demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 8

Regression: Marketing Features^a vs. Demographic Characteristics

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | -.572 | .151 | | -3.783 | .000 |
| gender | .340 | .095 | .170 | 3.569 | .000 |
| business | .437 | .139 | .151 | 3.148 | .002 |
| walking | -.269 | .104 | -.126 | -2.595 | .010 |
| age | .016 | .005 | .171 | 3.504 | .001 |

a Dependent Variable is Marketing Features

After Values of Products and Frequencies was regressed upon all the exogenous variables, occupation of education ($\beta=-.081$, $p=.093$) and self employed ($\beta=.168$, $p=.000$) profession, walking ($\beta=-.217$, $p=.004$) and public transportation ($\beta=-.293$, $p=.000$) mode of transportation and age ($\beta=-.271$, $p=.000$) were retained in this model as Table 9 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 9

Regression: Value of Product and Frequency^a vs. Demographic Characteristics and Other Factors

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|----------------------|-----------------------------|------------|---------------------------|--------|------|
| | B | Std. Error | Beta | | |
| (Constant) | 1.102 | .200 | | 5.509 | .000 |
| education | -.581 | .345 | -.081 | -1.685 | .093 |

| | | | | | |
|-----------------------|-------|------|-------|--------|------|
| self employed | .641 | .182 | .168 | 3.521 | .000 |
| walking | -.462 | .161 | -.217 | -2.871 | .004 |
| public transportation | -.587 | .146 | -.293 | -4.016 | .000 |
| age | -.025 | .005 | -.271 | -5.456 | .000 |

a Dependent Variable is Value of Product \$ frequency.

After Length of Patronage was regressed upon all the exogenous variables and other factors, gender ($\beta=.188$, $p=.000$), occupation of business-related ($\beta =-.141$, $p=.006$) and IT ($\beta=-.142$, $p=.005$) profession, walking ($\beta=-.204$, $p=.011$) and public transportation ($\beta =-.239$, $p=.003$) mode of transportation, children ($\beta=.116$, $p=.021$), income ($\beta =.142$, $p=.008$) and Food Benefit ($\beta=.093$, $p=.067$) were retained in the model as Table 10 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 10

Regression: Length of Patronage^a vs. Demographic Characteristics & Other Factors

| Independent Variable | Unstandardized Coefficients | | Standardized Coefficients Beta | t | Sig. |
|-----------------------|-----------------------------|------------|-----------------------------------|--------|------|
| | B | Std. Error | | | |
| (Constant) | .082 | .185 | | .443 | .658 |
| gender | .376 | .097 | .188 | 3.859 | .000 |
| business | -.408 | .148 | -.141 | -2.766 | .006 |
| IT | -.367 | .131 | -.142 | -2.806 | .005 |
| walking | -.435 | .171 | -.204 | -2.547 | .011 |
| public transportation | -.479 | .158 | -.239 | -3.028 | .003 |
| children | .137 | .059 | .116 | 2.326 | .021 |

| | | | | | |
|--------------|------|------|------|-------|------|
| income | .092 | .035 | .142 | 2.651 | .008 |
| Food Benefit | .093 | .051 | .093 | 1.835 | .067 |

a Dependent Variable is Length of Patronage.

Finally, the dependable variable Best Health was regressed upon variables onto which it was assumed to depend. After the regression, gender, self-employed occupation, age, Food Risk and Length of Patronage were retained in the model as Table 11 demonstrated. Standardized Coefficient was marked by β , while Sig. was represented by p-value.

Table 11

Regression: Best Health^a vs. Demographic Characteristics & Other Factors

| Independent Variable | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | |
|----------------------|-----------------------------|---------------------------|--------|--------|------|
| (Constant) | 8.840 | .305 | 29.005 | .000 | |
| gender | -1.700 | .208 | -.342 | -8.158 | .000 |
| self employed | .791 | .392 | .083 | 2.018 | .044 |
| age | .098 | .010 | .420 | 10.073 | .000 |
| Food Risk | .230 | .104 | .093 | 2.205 | .028 |
| Length of Patronage | -.217 | .103 | -.087 | -2.102 | .036 |

a Dependent Variable is Best Health.

After regressions, a path analysis diagram was developed, shown in Figure one. Based on previous literature, the survey and logic of causality, the data were evaluated on the basis of their statistical parameters. Logical paths were followed and only significant coefficient ($p < .05$) were retained in the model.

In Table 12, the direct and indirect effects are shown regarding Best Health. Total effect summarized each predictor's impact on the health.

Figure 1

Patronage and Health Path Diagram. Includes standardized regression coefficients and associated p-values.

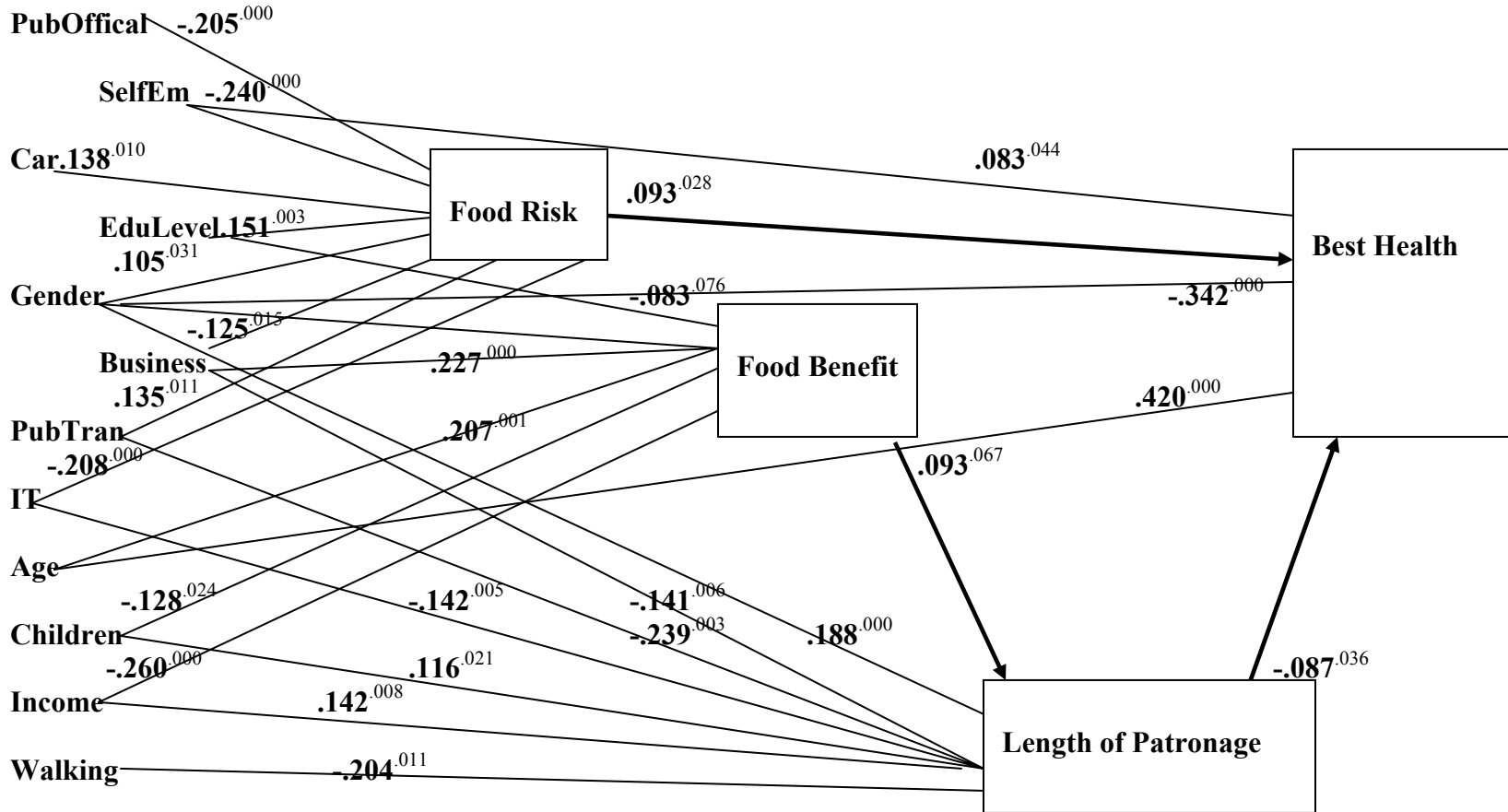


Table 12

Direct, Indirect, and Total Effects of Predictor Variables on Best Health

| Predictor | Indirect Effects | | | Direct Effects | Total Effects on Best Health |
|---------------|------------------|------------------|------------|----------------|------------------------------|
| | via Food Risk | via Food Benefit | via Length | | |
| Gender | .105 | -.083 | .188 | -.342 | -.132 |
| Business | -.125 | .227 | -.141 | -- | -.039 |
| Age | -- | .207 | -- | .420 | .627 |
| Edulevel | .151 | -.186 | -- | -- | .035 |
| Children | -- | -.128 | .116 | -- | -.012 |
| Income | -- | -.260 | .142 | -- | -.118 |
| Puboffical | -.205 | -- | -- | -- | -.205 |
| Self-employed | -.240 | -- | -- | .083 | -.157 |
| IT | -.208 | -- | -.142 | -- | -.350 |
| Car | .138 | -- | -- | -- | .138 |
| PubTrans | .135 | -- | -.239 | -- | -.104 |
| Walking | -- | -- | -.204 | -- | -.204 |
| Food Risk | -- | -- | -- | .093 | .093 |
| Food Benefit | -- | -- | .093 | -- | .093 |
| Length | -- | -- | -- | -.087 | -.087 |

*Discussion**Research Questions*

1. What are the perceptions of Chinese urban consumers toward U.S. quick service restaurants?

To answer this question, the proposed dimension of consumers' perception of U.S. quick service restaurants was analyzed based on descriptive statistics. The analysis found out that generally consumers' perceptions toward U.S. quick service restaurants were close to neutral with the mean range from 2.42—4.06. The most important perception factor for consumers is U.S. quick service restaurants are clean (M=4.06) with 54.6% of the respondents agree and 28.1% of them strongly agree, followed by the factors of nice atmosphere (M=3.88) and food

safety (M=3.74). These three items were loaded in the same factor called Environment after the data reduction using factor analysis. In addition to that, the other two strong factors included restaurants' convenience to access (M=3.63) and their quick service (M=3.59). The majority of respondents (63.7%) believed that it was convenient for them to access U.S. quick service restaurants. Over half of the respondents (58.8%) believed that U.S. quick service restaurants provide them with quick service. The lowest number was related to U.S. restaurants promotions programs such as toys with the mean of 2.42. The second lowest number was food's nutritious value with the mean of 2.68. The mean for each item under perception dimension was shown in Table 13.

Table 13

Descriptive Statistics on Perception

| Perception | Mean | SD |
|--------------------------------------|-------------|-------|
| Food taste very good | 3.38 | .954 |
| Restaurants are clean | 4.06 | .778 |
| Food items are safe to eat | 3.74 | .848 |
| Restaurant provide a nice atmosphere | 3.88 | .895 |
| I can experience American culture | 2.80 | 1.017 |
| Food items are affordable in price | 2.85 | .991 |
| I like restaurants because of toys | 2.42 | 1.118 |
| Restaurants are convenient to access | 3.63 | .901 |
| Restaurants serve meals quickly | 3.59 | .941 |
| Restaurants provide nutritious | 2.68 | 1.135 |

Note: all items were measured on a 5-point scale where 5=strongly agree and 1=strongly disagree.

The bolded ones' mean is greater than 3.5

2. What is the perception of Chinese urban consumers about U.S. quick service nutritional values?

To answer this question, the proposed dimension of consumers' perception of U.S. quick service nutritional values was analyzed based on factor analysis and descriptive statistics. The results found out that consumers' perception toward U.S. fast food's nutritious value still remained unclear because the mean ranged from 2.98—3.91. Table 4 factor rotated component matrix showed that calories, fat and sugar were loaded in the same factor called Food Risk. Among all the respondents, 61.7% of them believed that restaurants provide them with a lot of calories (M=3.69), 67.9% of them believed they provide a lot of fat (M=3.91) and 52.1% of them thought they provide a lot of sugar (M=3.57). As for the rest of the nutrients such as fiber, sodium, protein, calcium and vitamins, their knowledge still remained unclear because their answers were close to neutral. The mean for each item under nutrition perception dimension was shown in Table 14.

Table 14

Descriptive Statistics on Knowledge of nutritious value

| Knowledge | Mean | Std. Deviation |
|---------------------------------------|------|----------------|
| Restaurants provide a lot of calories | 3.69 | .958 |
| Restaurants provide a lot of fiber | 2.98 | .927 |
| Restaurants provide a lot of sodium | 3.09 | .790 |

| | | |
|--------------------------------------|------|------|
| Restaurants provide a lot of protein | 3.41 | .903 |
| Restaurants provide a lot of calcium | 3.02 | .873 |
| Restaurants provide a lot of fat | 3.91 | .944 |
| Restaurants provide a lot of vitamin | 3.02 | .957 |
| Restaurants provide a lot of sugar | 3.57 | .927 |

Note: all items were measured on a 5-point scale where 5=strongly agree and 1=strongly disagree

3. Do consumers' perceptions of U.S. quick service restaurants and their perception of nutritional value of U.S. quick service impact their patronage?

To answer this question, the proposed dimensions of patronage and perceptions of restaurants and nutritious value were analyzed based on the two regressions as shown in table 9 and 10. The patronage dimension was loaded into two factors called Value of Products and Frequency which included frequency of patronage and portion size and Length of Patronage which meant length since first visit. The first regression shown in table 9 demonstrated that there was consumers' perception of U.S. quick service restaurants and food nutritious values do not impact their patronage. However, the Food Benefit factor which included consumers' perception of food taste, food culture, food nutritious value, consumers' perception of fiber, calcium, vitamin, protein and sodium had an significant impact on consumers' length since first visit.

4. Does the consumers' health status significantly correlate with their perception of U.S. fast food and their patronage?

To answer this question, the proposed dimensions of patronage, perceptions of restaurants and nutritious value and health were analyzed based on the regression as shown in table 11. The regression analysis found out that Food Risk and Length of Patronage since first visit had significant correlation with consumers' health status as shown in Best Health. Table 11 demonstrated that perception of Food Risk was positively correlated with Best Health in this model, however the length of patronage was negatively correlated with Best Health

Hypotheses Testing

H1: Chinese urban consumers' perception of U.S. quick service restaurants will have no effect on their patronage. Based on regression of perception of quick service restaurants vs. patronage, the hypotheses had been rejected. Consumers' perception of U.S. fast food's good taste and its culture influence and nutritious value had effect on their length of patronage.

H2: Chinese urban consumers' perceptions regarding quick service nutritional values will have no effect on their patronage. Based on regression of perception of fast food nutrition vs. patronage, the hypotheses had been rejected. Consumers' knowledge of U.S. fast food's provision of large amounts of fiber, protein, calcium, sodium, and vitamin had effect on their length of patronage.

H3: Chinese urban consumers' patronage of U.S. quick service restaurants has no significant influence on their health. Based on regression of consumers' patronage, perceptions with health, the hypotheses had been rejected. Consumers' awareness of U.S. fast food's provision of large amounts of calories, sugar and fat had effect on their health status. In addition

to that, consumers' length of U.S. quick service restaurants patronage had significant influence on their health status too.

CHAPTER V

CONCLUSION

This study was designed to assess urban Chinese consumers' perceptions about U.S. quick service restaurants and their knowledge about the nutritional value that U.S. quick service can provide. Additionally, the purpose of the study was also to determine correlation between consumer patronage and self-reported health status.

When the data analysis was completed, it was concluded that this study investigated urban Chinese consumers' perceptions about U.S. quick service restaurants as well as their knowledge about nutritional value of U.S. fast food. This study also explored what demographic characteristics impacted on their perceptions and knowledge. In this chapter, the findings will be summarized. Limitations of this study will be covered and additionally, recommendations will be made for further studies related to this topic.

Summary

Urban Chinese consumers have a positive perception on the environment of U.S. quick service restaurants. These environment factors include the atmosphere and cleanliness of the establishments. They believe that U.S. quick service restaurants can provide them with a nice atmosphere and a clean environment for the dining experience. Also they are satisfied with the safety of U.S. fast food. Chinese consumers believe that it was convenient for them to access U.S. quick service restaurants which indicated the successful selection of the location. These restaurants are doing a good job in providing them quick service. These positive perceptions are associated with the famous business philosophy of U.S. quick service restaurants, QSC & V, or quality, service, cleanliness, and value (Yan, 1997). Their promotions of this business

philosophy and the corporation image have proved to be successful. One of the reasons why consumers have positive perceptions of restaurants' quality, service, cleanliness and value is the easy accessibility of the companies' business philosophy. The information about U.S. quick service restaurants can be easily accessed from short booklets at each establishment which sketches the history of the American-based corporations and emphasizes their efforts to achieve their QSC & V business philosophy (Yan, 1997). Consumers' confidence of U.S. fast food safety are primarily due to their local strategy. This strategy to promote the corporation's image is the five-minute tour of kitchen which is provided upon request (Yan, 1997). Consumers can be shown the places where employees wash their hands and the waste bins that contained food that was no longer fresh enough to meet their standards. Everything in the kitchen is highly visible and standardized, which explains the reason why consumers feel secure and safe to eat at U.S. quick service restaurants.

Urban Chinese consumers began to realize there were nutrition issues with U.S. fast food. According to this study, most consumers do not believe that U.S. fast food has nutritious value. They have a better understanding of high percentage of calories, fat and sugar that U.S. fast food contains. This perception is not consistent with the idea that Chinese media used to promote U.S. fast food as nutritious and healthy. Consumers' increasing awareness of nutrition issues with U.S. fast food may result from some Chinese nutritionist who challenges the high-calorie count and high in fat content of U.S. fast food. However, it is worth noting that consumers' knowledge on negative effects of U.S. fast food, such as high calories, high fat content and high sugar level has no impact on their patronage. On the other hand, U.S. fast food's provision of other nutrients such as vitamins, protein, sodium, fiber and calcium still remains unclear to

consumers. But consumers have a positive perception of these nutrients. Consumers perceive U.S. fast food to have more a positive effect than negative on their patronage.

Based on the literature, obesity is the most commonly claimed illness that is caused by U.S. fast food (Mydans, 2003). In this study, because the respondents' cases of developing nutritional related diseases were far less significant, the diseases question was not used. However, research has shown that the weight-for-height standard which is Body Mass Index (BMI) is the most closely related to body fat content to test people's health (Wardlaw, 2000). In this study, consumers' self-reported health status was measured by BMI and their weight gain. This study concluded that consumers' awareness of the high calorie count, high fat content and high sugar level of U.S. fast food is positively related to their good health. In other words, the more consumers are conscious about the content of U.S. fast food, high in calories, fat and sugar level, then the healthier they are in terms of body fat content. Consumers' length of U.S. quick service restaurants patronage was found to be negatively correlated with their good health. The longer that consumers had patronized U.S. quick service restaurants, the less healthier they were in terms of body fat content. This conclusion is consistent with the literature which says that U.S. fast food was one of the culprits of China's increasing obesity and body weight problems. However, comparing consumers' awareness of food risk in U.S. fast food and their length of patronage, age was found to be the most important determinant for body fat content.

The study showed that two demographic variables, gender and occupation (business professional) influenced their perceptions of U.S. quick service restaurants and their knowledge of U.S. fast food. Females are more likely to pay attention to the environment, atmosphere and food safety of the quick service restaurants. Females are more conscious about calories, fat and

sugar of U.S. fast food. Females also care about marketing features such as location, convenience, promotion, prices and services. Additionally, females will patronize U.S. quick service restaurants longer if they find them to be satisfactory. On the other hand, males pay more attention to food taste and food benefit of such nutrients as fiber, vitamins, protein and calcium. Males normally patronize U.S. quick service restaurants more than females and purchase larger portions. Business people like the food taste, compared to other professionals. They are less likely to be concerned about U.S. fast food's calories, fat and sugar content. However, they do pay a lot of attention to marketing features such as price, promotion, place and service, which makes great sense because they are dealing with these business strategies every day. They are less likely to continue to patronize these restaurants if they find not to be satisfactory.

Limitations

As mentioned in Chapter I, limitations such as the biased selection of respondents due to the convenience sampling and people's self-reported health data were summarized. This study was proposed to investigate if there was any correlation between the patronage of U.S. quick service restaurants and consumers' self-reported health status. Due to low response of nutritional diseases, the question on nutritional diseases was not used in this study. One of the reasons, according to one finding of this study is the young age of the respondents (average age is 26). It is hard for people to determine if nutritional diseases such as cancer and heart diseases are developed at this young age. Therefore, one of the limitations is that body fat content was used to measure the health status, which is less exact in answering the research question 4 (Does the

consumers' health status significantly correlate with their perception of U.S. quick service restaurant and their patronage?).

As mentioned in Chapter I, there was limitations regarding the selection of respondents. Previous literature demonstrated that U.S. quick service restaurants were very successful in promotions among children from elementary schools. However, the youngest age for the respondents of this study was 15, which is the high school age. This study found out that restaurants' marketing strategies such as toys and playgrounds did not have a significant impact on consumers' patronage. This conclusion may not to be used for evaluating U.S. quick service restaurants' marketing performance because the selection of the respondents was not within the scope of restaurants' target market.

Another limitation is that the scope of the study is too big. The study covered 1) consumers' perception of U.S. fast food restaurants, 2) consumers' knowledge of U.S. fast food nutrients, 3) consumers patronage of the U.S. quick service restaurants, 4) consumers' health status. Each dimension can be used for a complete independent study. It is obvious that because of the broad range of the study, for each dimension, the discussion and investigation is not deep enough.

Recommendations

Based on the limitations and referenced literature, the following recommendations are made. The recommendations are made based on two aspects. One is from U.S. quick service restaurants' business perspective. The other is for further researches.

Since Chinese consumers began to realize the nutrition issues with U.S. fast food, restaurants would educate consumers more on the nutrients that they could provide so that

consumers can make their own decisions based on their nutritional needs. Some restaurants have already posted their nutritional fact labels online so that consumers can access easily.

Another recommendation for U.S. quick service restaurants is to improve their menus by incorporating their original menus with Chinese traditional food. Since the majority of the respondents of this study are adults instead of children, “American culture” style is not the major attraction for them to patronize U.S. quick service restaurants. Adults are more concerned about the food itself. Based on previous literature and the results of this study, revealing the problems such as flavor and taste of some the food items (Yan, 1997), adults consumers were less intended to feel that food taste was good because some of the items such as cheese was too strange to taste good. So in order to attract adult consumers, U.S. quick service could do researches regarding the food preference of adults and change their menus accordingly.

The recommendations for further researches are 1) list more reasons for patronage, 2) the selection of respondents could be more specific and 3) the selection of cities could be more representative. Based on limitations of this study, the further studies could be deeper in each dimension.

Future research should include issues such as satisfaction of U.S. fast food portion sizes. Literature reveals that U.S. quick service did not make consumers feel full; they are more like snacks than meals (Yan, 1997). Another point is related to U.S. quick service’s marketing’s effectiveness to the public. Since most recently, 30 Golden Arches outside McDonalds’ restaurants in Beijing were removed (People’s Daily, 2002), how does this impact consumers’ image and patronage? Another point is availability of drive-through service at the U.S. quick

service restaurants in China, since last year, KFC introduced drive-through concept into China.

How effective that is in terms of consumers' perception and patronage?

The selection of respondents could be more specific. Because the sampling method for this study was convenience sampling, the respondents' selection was too narrow in terms of demographic characteristics. The population of this study could be defined based on different age groups, such as children, teenagers, younger adults and elders. The population could also be limited in specific professionals, such as business people, elementary students, and high school students.

Surveys would be distributed in cities that had the greatest percentage of fast food establishments. This study was conducted in the cities of Beijing and Chongqing. The latter has limited number of U.S. quick service restaurants. The three main markets for U.S. quick service restaurant are Beijing, Shanghai, and Guangzhou. More studies are recommended for Shanghai and Guangzhou.

After 15 years of growth in China, U.S. quick service has achieved great success, in both marketing share perspective and in affecting consumers' lifestyle. I feel the market in China still has room for a lot of development. The quick service industry is expected to continue to grow. For the near future, China offers great potential for U.S. companies willing to enter this dynamic and ever-changing market. Their business mode and philosophies have to be consistent with consumers' perceptions and their health awareness lifestyles.

APPENDIX A

December, 2002

Dear consumer:

You are invited to participate in a survey conducted by Jiaoyan Zhang, graduate student and Dr. Lisa Kennon, Associate Professor, at University of North Texas. The survey is designed to study consumers' perceptions of U.S. fast food restaurants and their perceptions of the nutritional value of U.S. fast food restaurant menu items. We are conducting this study to profile the individuals patronizing U.S. fast food restaurants.

Completing this survey will take only 5 to 10 minutes. I would appreciate if you would complete this survey and return it to the distributing person. Participation is completely voluntary and your response is absolutely anonymous. I hope that you will find this survey interesting and enjoy contributing to this study.

It is extremely important that we can communicate effectively with you. Your responses will be very important, not only to our study, but also to the quality of our life and health. The results of this study will help U.S. fast food restaurants know more about Chinese consumers and their nutritional needs so that they can serve Chinese consumers better.

If you would like a copy of the results of this project, please complete the information form and place it in the separate envelope held by the distributor. You will receive an abstract of the results of this project. Your information will remain anonymous. If you have any questions, comments or concerns, please feel free to contact us at 1-940-565-4257 or kennon@unt.edu.

Sincerely,

Jiaoyan Zhang
Graduate Student
School of Merchandising and
Hospitality Management
University of North Texas

Lisa Kennon
Associate Professor
School of Merchandising and
Hospitality Management
University of North Texas

“I understand that the return of my completed questionnaire constitutes my informed consent to act as a subject in this research.”

“This project has been reviewed and approved by the University of North Texas Institutional Review Board for the Protection of Human Subjects in Research USA-940-565-3940.”

Perceptions of U.S. Fast Food Restaurants

The following statements describe your perceptions of U.S. fast food restaurants such as KFC and McDonald's. Please pick a number from the scale to show how much you agree or disagree with each statement.

SCALE: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly agree

1. Food from U.S. fast food restaurants tastes very good. 1 2 3 4 5
2. U.S. fast food restaurants are clean. 1 2 3 4 5
3. Food items in U.S. fast food restaurants are safe to eat. 1 2 3 4 5
4. U.S. fast food restaurants can provide a nice atmosphere for dining. 1 2 3 4 5
5. I can experience American culture in U.S. fast food restaurants. 1 2 3 4 5
6. Food items at U.S. fast food restaurants are affordable in price. 1 2 3 4 5
7. I like U.S. fast food restaurants because they have toys for children. 1 2 3 4 5
8. U.S. fast food restaurants are convenient to access. 1 2 3 4 5
9. U.S. fast food restaurants serve meals quickly. 1 2 3 4 5
10. U.S. fast food restaurants provide nutritious food. 1 2 3 4 5

Perceptions of U.S. Fast Food Nutritional Values

The following are nutrients found in food from U.S. fast food restaurants. Please pick a number from the scale to show how much you agree or disagree with each statement.

SCALE: 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly agree

11. Typical food from U.S. fast food restaurants can provide me a lot of calories. 1 2 3 4 5
12. Typical food from U.S. fast food restaurants can provide me a lot of fiber. 1 2 3 4 5
13. Typical food from U.S. fast food restaurants can provide me a lot of sodium. 1 2 3 4 5
14. Typical food from U.S. fast food restaurants can provide me a lot of protein. 1 2 3 4 5
15. Typical food from U.S. fast food restaurants can provide me a lot of calcium. 1 2 3 4 5
16. Typical food from U.S. fast food restaurants can provide me a lot of fat. 1 2 3 4 5
17. Typical food from U.S. fast food restaurants can provide me a lot of vitamins. 1 2 3 4 5
18. Typical food from U.S. fast food restaurants can provide me a lot of sugar. 1 2 3 4 5

Patronage of U.S. Fast Food Restaurants

Please check (✓) or rank the answers that indicate your patronage at U.S. fast food restaurants.

19. How often do you patronize U.S. fast food restaurant? (Check only one)

- A. Every day
- B. A couple of days per week
- C. Once per week
- D. Once a while
- E. Only for events and ceremonies
- F. Hardly ever
- G. Never

20. When you purchase fast food, do you typically choose food in (Check only one)

- Small size
- Medium size
- Large size
- Super size

21. How long have you been patronizing U.S. fast food restaurants?

- A. Less than six months
- B. Six months to one year.
- C. One to two years.
- D. Two to five years
- F. Five to ten years
- G. More than ten years

Profile

The following questions are to profile consumers who patronize U.S. fast food restaurants. Please provide the answers or check all the answers that apply.

22. What is your current weight? ____

23. What is your current height? ____

24. Have you gained weight in the past five years?

- Yes. No.
If yes, how much have you gained?
 One to five pounds.
 Six to ten pounds.
 Eleven to fifteen pounds.
 Sixteen to twenty pounds.
 More than twenty pounds.

25. Have you been diagnosed with any of the following during the past five years? (Check all that apply)
- No illness
 - Heart Disease
 - Hypertension (High blood pressure)
 - Obesity
 - Cancer
 - Diabetes
 - Stroke
 - Other _____

26. Are you physically active? (such as, walking to work, bicycling, or exercising in the gym)
- Yes. No.
If yes, how much do you exercise?
- Less than one hour per day
 - One to two hours per day.
 - Two to four hours per day
 - More than four hours per day.

27. Do you smoke?
- Yes No

Demographic Characteristics

Please provide the following information about yourself. Please check or write in the answer that describe you best

28. I am a Male Female

29. What is your occupation?
 Public official

- Manufacturing
- Retailing and hospitality
- Business management, finance, marketing
- Education
- Student
- Health-related professionals
- Self-employed
- IT
- Others (Please list _____)

30. What is your most common mode of transportation?

- Walking
- Bicycle
- Motor scooter
- Car
- Public transportation

31. What is your age? _____

32. What is the highest level of education you have completed?

- High school or less
- Bachelor's degree
- Graduate degree(Master's, Doctoral)
- Other (specify) _____

33. Do you have any children in your household under 18 years old?

- Yes. No.

If yes, what age?

- 0---6 years old
- 7---13 years old
- 14---18 years old

34. What is your estimated annual household income before taxes?

- | | |
|--|--|
| <input type="checkbox"/> Less than 10,000 RMB | <input type="checkbox"/> 10,000RMB – 19,999 RMB |
| <input type="checkbox"/> 20,000 RMB – 29,000 RMB | <input type="checkbox"/> 30,000 RMB – 39,999 RMB |
| <input type="checkbox"/> 40,000 RMB – 50,000 RMB | <input type="checkbox"/> More than 50,000 RMB |

30 你通常使用什么样的交通工具

走路 自行车 摩托车 轿车 公共汽车

31 年龄 _____

32 教育程度

高中或以下 专科或大学本科 研究生 其它

33 你是否有18岁以下的小孩

有 没有

如果有，多少岁

0--6岁 7--13岁 14--18岁

34 请估计你每年税前的收入

少于1万元人民币 1--2万元人民币 2--3万元人民币
 3--4万元人民币 4--5万元人民币 多于5万元人民币

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