

ABSTRACT

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This project explored the perceived factors that may contribute to the Japanese possessing one of the greatest longevities in the world today. Twenty-four residents of Nagano, Japan, ages 20 to 90 years, answered a 7-item questionnaire that included the role history, personal behaviors, and institutions (e.g., hospitals, schools, and insurance agencies) may have played in the longevity of the Japanese people. Responses were coded for themes and patterns. Focus was given to the most salient responses provided by the subjects. The salient themes that emerged from the responses included the Japanese nutritional habits of not eating too much meat, but eating a bounty of fish, rice, and vegetables. Also, exercise, going to bed early, and arising early were noted. Additionally, having good insurance to cover the cost of medical needs to prevent or mitigate illness and disease, having hospitals, clinics, and public health centers in the vanguard of research, and technology were noted. Further, a pristine environment of clean air and water were noted to enhance longevity. These salient themes could be augmented to a school health curriculum, school lunches, or personal lifestyle.

PERCEIVED CONTRIBUTORY FACTORS OF AGE LONGEVITY
AMONG JAPANESE ADULTS

A GRADUATE PROJECT PRESENTED
TO
THE GRADUATE FACULTY
UNIVERSITY OF WISCONSIN-LA CROSSE

IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE
MASTER OF SCIENCE DEGREE

BY
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DEPARTMENT OF HEALTH EDUCATION AND HEALTH PROMOTION
HEALTH GRADUATE PROJECT FINAL APPROVAL FORM

Candidate: Shamus Nigel Walljasper

I recommend acceptance of this Graduate Project in partial fulfillment of this
candidate's requirements for the degree:

Master of Science

Concentration: School Health Education

The candidate has successfully completed the Graduate Project.

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SECTION I

INTRODUCTION AND OVERVIEW

Background and Purpose

The project director's interest in Japanese health stems from living in Japan from 1992 to 1994. During this period of time there was an awareness of the unique lifestyles of the Japanese. These lifestyles posed an idiosyncratic situation, in that these lifestyles consist of exorbitant tobacco and alcohol use. Further, overcrowdedness and pollution are overwhelming. Considering these ostensible negative factors within the Japanese lifestyle the project director, as a health educator, deemed that these people were augmenting their chances for an early death with other more positive behaviors.

Yet, despite these ostensible negative factors, the Japanese enjoy one of the greatest longevities in the world. Additionally, the project director's wife is Japanese, which makes the project even more an affinity. This relationship offers a synergistic opportunity for the project director and his wife. The project director is offered a cornucopia of resources in his wife's family and friends in Nagano, Japan to elaborate on the perceived factors that may contribute to the Japanese possessing one of the greatest longevities in the world today.

The purpose of this project was to initially explore the perceived factors that may contribute to the Japanese possessing one of the greatest longevities in the world

today. The intent of the outcome was for personal and professional relevance as a health educator. Twenty-four residents of Nagano, Japan answered a 7-item questionnaire. The questionnaire inquired about the role history, personal behaviors, and institutions (e.g., hospitals, schools, and insurance agencies) may play in the longevity of the Japanese people. The rationale for surveying Japanese subjects lies in the purpose of the project.

Rationale

The Japanese average life expectancy is the longest in the world today. These life expectancies are more than a year longer than those found in Sweden and Switzerland, both well known for their longevity (U.S. Bureau of the Census, 1997).

The U.S. along with other countries such as Canada, Germany, and France are challenged with trying to improve the health of their people through diet, exercise, attitudes, and improving the environment. Yet, these countries often fall short of goals to improve health and longevity of their people, as has been shown in the rise of heart disease, obesity, high cholesterol, and depression (Allsen & Harrison, 1997).

Integration of some positive lifestyle factors of other countries like Japan might enhance longevity in the U.S. Implementation of these lifestyle factors in schools and communities might prove to be one difference in enhancing the lives of children and adults. The implementation of some possible factors that may contribute to the longevity of the Japanese could be done in the schools and within communities.

Examples might include:

1. Principals initiating possible changes in the diet of the students while at school, as well as improving curriculum to incorporate nutritional ideas.

2. School breakfast and lunch programs could be modified to include beneficial foods that might be linked with longevity.
3. Curriculum could be developed to utilize specific skills that are taught to Japanese students.
4. Cheaper insurance rates could be offered to insure that one will go to the hospital when necessary.
5. Implementation of a communication network at school and community sites to give the opportunity to students and adults to communicate by voice or by mail with others.

Review of Related Literature

For the purpose of this project, the review of literature includes documented aspects that have enhanced the Japanese longevity. These aspects include improvement of health and medical services, effects of rapid economic development, personality characteristics, and social values.

Improvement of Health and Medical Services

The first possible factor for increased longevity may come from the improvement of health and medical services. Health and medical services have been improved significantly not only due to the development of knowledge and techniques in the area of science, medicine, and pharmacology, but also due to economic development (Sekiguchi, 1994). In 1964, the number of hospital beds per 10,000 population was 86, which was one of the lowest of developed countries. Since 1964 hospital services have improved drastically. By 1985 hospital beds increased to 147 per 10,000 population, which was one of the highest among developed countries. Thus, those

that needed hospitalization were given assistance. In the past, these same people may have not had the chance to stay in the hospital, and thus suffered the ramifications of no medical intervention. Similarly there has been an increase in the number of physicians in Japan. From 1964 to 1984 physicians increased from 12 per 10,000 population to 15 per 10,000 population.

The increase of hospital beds contributed to the reduction in death for all ages. In most cases, there is always an open hospital bed anywhere in Japan. Only in cases of very rare illnesses, beds might be difficult to find (Sekiguchi, 1994).

The improvement in public medical insurance has also given a boost to the life expectancy of Japan. In 1974, the public medical insurance system was drastically improved. The proportion paid by patients, when a dependent of the insured, was reduced from 50% to 30% of total medical cost. Medical services for those over age 70 was subsidized 100% except for nominal fees. In previous years those same senior citizens, when they were a dependent of the insured, had to pay 50% of the expenses which often prevented them from seeing a physician at the early onset of illness.

One more possible factor is the free mass health-screening program for those over age 60, which was initiated in 1963. This particular program, together with the public medical insurance program and free medical services for those over age 70, seems to have made considerable contribution in the reduction of death rates among older persons (Miura, 1997).

Effects of Rapid Economic Development

From 1965 to 1985 the per capita national income increased from one of the lowest among developed countries to above average for developed countries (Sohmura, 1992). Even though Japan has experienced recent rapid economic development, the benefits have been quite evenly distributed. Thus, it is even possible for the lowest income brackets to take part in highly developed medical technology.

This economic development has also made it possible to make new roads and bridges throughout Japan which thus makes it more accessible to get to medical services when needed. In addition, Japan's national government has openly promoted a special service system to small communities living in mountainous areas. This service system to these needy communities provided the needed medical care to reduce the death rate of all age brackets in less advantageous areas (Sohmura, 1992).

The positive effects of well developed health education services should be noted together with cooperative attitudes of newspapers and television in promoting these services. The highly developed mandatory education system makes health education services very effective.

The increase in economic development along with mandatory health education in the schools has caused the nutrition of the Japanese to be rapidly improved. Today, Japanese consume more animal protein and drink more milk, taking the place of the traditional Japanese diet of rice, salted vegetables, and fish. This improvement of a more balanced diet has increased not only the body structures of the Japanese

children, but also resistance against infections and recovery from pathological diseases (Nakahara & Fuke, 1994).

The Japanese decreased consumption of salt has been related to a decline in cerebrovascular disease, which was once a national concern. Also, the once deadly ischemic heart disease has declined due to well balanced diets developed by the public health education program (Nakahara & Fuke, 1994).

An increase in economic development has further improved home heating in Northern Japan. This seems to be a contributing factor in the decline of death rates from stroke and pneumonia among elderly people during the winter season.

Among countries in Western Europe and North America, the leading cause of death is cardiovascular disease. Yet, in Japan cardiovascular disease remains as the second leading cause of death. Many people attribute this to the differences in eating habits. Japanese people consume much less animal meat than Europeans and Americans while consuming much more fish and vegetables. This holds true despite comparable lifestyles and social aspects in other areas such as smoking, stressful daily life, and improved medical services (Tomiyasu, 1990).

Personality Characteristics

In a 1995 study, 164 people were interviewed in Japan ranging from 100 to 117 years in age. The observations made included that the subjects were easy going, self-confident, and cheerful. The subjects felt their lives had been well spent, that they enjoyed other people, enjoyed their own lives, and were able to handle frustration with having a characterized type B behavior pattern. In a tangential synopsis, type B behaviors include having less time urgency, being patient, and valuing the present as

much as the future. Also, type B behaviors relinquish control: they delegate, tolerate, and even enjoy the differences in others. They appreciate, accept, and value themselves. Further, they don't find fault with others to bolster their own ego, they enjoy empowering and lifting others, and they are capable of feeling and expressing affection. On the other hand, type A behaviors include aggression, and an aggressive style of speech. Also, type A behaviors include an insatiable drive for success, high ambition, impatience, insecurity, and a constant drive to control others and the environment. Further, many type A's are selfish, easily bored, compulsive, and unobservant. These insalubrious traits, research says, make one more susceptible to diseases ranging from heart disease to cancer (Hafen, Karren, Frandsen, & Smith, 1996).

These same centenarians were characterized as more androgynous than other age groups, and had feminine traits such as cheerfulness, calmness, and friendliness. Also, they had masculine traits such as independence, self-confidence, forcefulness, and activity. This study summarized that androgynous people live longer lives than those assuming traditional gender roles, and would additionally have better mental health with lower anxiety levels and be more adaptive with high self-esteem in their societies (Maeda, Egami, Kimura, & Ohta, 1995).

Sohmura (1992) proposed that people who were calm, flexible, relaxed, happy, and satisfied with their lives tend to live longer. Those individuals who are aggressive, adventurous, repressive, dogmatic, and stubborn tended to die before they could achieve a mean life expectancy in Japan.

Social Values

Divorce rates have been on a roller coaster in the U.S. since the end of World War I, when family life was pretty stable and the divorce rate was relatively low. Since the postwar period of WWII, divorce rates have steadily increased, from about 10% in the early 1950's to a rate that approaches 50% today (Hafen, et al., 1996).

Yet, in Japan, they enjoy an overall copacetic marriage system with a low divorce rate of 6% (U.S. Bureau of the Census, 1997). This monolithic establishment holds stoic, despite the current devitalizing trend in the U.S.

Divorce has been significantly related to depression, alcoholism, admission to psychiatric facilities, homicides, and death from disease in general (Sarason & Pierce, 1990). Various studies give insight into the specific health hazards of divorce. One of those studies included divorced Caucasian men under age 70 who lived alone. These men were shown to have twice the death rate from heart disease, stomach cancer, and cirrhosis of the liver, and three times the incidence of high blood pressure (Hafen & Frandsen, 1987).

Research has also shown that divorce can actually compromise the immune system, which helps explain why there is an increase in illness and death among those who divorce. Immune system compromise is especially apparent the first year following divorce. Some of the physiological ramifications of divorce are poor cellular immune function, a lower number of natural killer cells, and a deficit in their ability to fight disease with responsive lymphocytes (Sarason & Pierce, 1990).

Research has also shown that people in Japan have one of the greatest longevities in the world. This long longevity hold veritable despite the fact that they smoke cigarettes, have high blood pressure, endure crushing stress, and live in polluted and crowded cities. Researchers who strive to figure out why, finally decided that one factor is the Japanese are protected from ill health and premature death by their unusually close ties to friends, family members, and community (Hafen, et al., 1996).

A study by Hafen and Frandsen (1987), examined 12,000 Japanese men in three different groups. The groups consisted of (1) men who still lived in southwestern Japan; (2) men who had immigrated from Japan to Hawaii and who had resisted a westernized lifestyle; and (3) men who had immigrated from Japan to the San Francisco Bay area. The results of the study found that the highest life expectancy and the lowest rate of heart disease among the groups was the group least expected - the men who had immigrated to San Francisco. The men who had immigrated to San Francisco had formed the closest social ties, the closest family ties, and the strongest social networks. These Japanese men in the San Francisco area stayed heavily involved with Japanese people, moved into Japanese neighborhoods, formed close friendships with other Japanese people, attended Japanese language schools in addition to English-language schools, and returned to Japan for further schooling.

SECTION II

METHODS

Procedures

This project explored the perceptions of 24 Japanese subjects regarding factors that may contribute to the Japanese possessing one of the greatest longevities in the world today. The focus of this project was to have the 24 Japanese subjects answer a 7-item qualitative questionnaire, sent to them by mail, regarding the factors they perceive contribute to the longevity of the Japanese. To accomplish the goal of this project, the following procedures were followed.

Step One

This graduate project began during the summer of 1998. The first step included traveling to Nagano, Japan to explore and make connections with possible subjects needed for this project. Once the 24 subjects were found, ages ranging from 20 to 90 years of age, they gave permission to be included in the project. Permission was solicited to prospective subjects by stating the purpose of the project and the need to elicit their opinions. Permission was granted by subjects, providing their names, phone numbers, and addresses to the project director. This project was reviewed by the Institutional Review Board (IRB) at the University of Wisconsin-La Crosse.

Step Two

A review of literature was performed. While in Japan during the summer of 1998, literature concerning Japanese longevity was found in both public and university libraries. Reviewing the literature was also done after returning to the U.S., which was accomplished via the university and public libraries in La Crosse, Wisconsin.

Step Three

A 7-item qualitative questionnaire was written, translated into Japanese, and mailed to the subjects in Japan. All subjects were asked to complete the questionnaire in their own words with as much detail as possible. Space was provided on the questionnaire to provide additional responses if needed (see Appendix A).

Step Four

Subjects were instructed to complete the questionnaire and mail it back to the project director in a self-addressed stamped envelope. The project director, with the assistance of his wife, translated the returned questionnaires from Japanese to English. The project director's ability to speak Japanese has been inveterated from studying and living in Japan since 1991. Further, the project director's wife's ability to translate the written portion of the questionnaire proved indispensable.

Step Five

The project director examined each questionnaire item for themes and patterns among the responses. The responses of all subjects were categorized by how many times they appeared for each of the seven questions and by commonalities. Thus, the salient responses were given focus over the extraneous or less prevalent responses, as

manifested by the subjects. The project director brought meaning to groups of responses by identifying the theme or pattern among subject responses.

Step Six

The project director developed suggestions for possible strategies for implementing the themes and patterns within U.S. schools and communities. For example, principals could initiate possible changes in the diet of the students while at school. Additionally, a health education curriculum could be augmented to incorporate salient themes identified in the project such as nutrition and stress management techniques.

Evaluation

Evaluation of this project was based on themes and patterns found within the responses to the questionnaire by the subjects. Focus was placed on those responses that appeared most often. Accordingly, less focus was placed on those responses that appeared less often within the response patterns of the subjects.

The responses of the subjects were categorized into how many times they appeared for each of the seven questions. Thus, the salient responses were given focus over the extraneous or less prevalent responses manifested by the subjects.

Project Timeline

May 10-June 6, 1998

Initial inquiries regarding possible subjects were made in Nagano, Japan and information about the project was distributed. Additionally, a review of literature was conducted at university and public libraries within Japan.

- July 1-August 15, 1998 A further review of literature was conducted at university and public libraries in La Crosse.
- August 17, 1998 The 7-item questionnaire was developed.
- August 20-Oct. 30, 1998 The IRB narrative statement was revised and completed for permission to include Japanese subjects.
- November 20, 1998 The 7-item questionnaire is translated from English to Japanese so all subjects can understand and respond appropriately to the questionnaire.
- November 25, 1998 The translated questionnaire was sent to all Japanese subjects respectively, including a self-addressed stamped envelope for return of the responses.
- December 20-29, 1998 Japanese subjects sent their responses back to the project director.
- Jan. 10 - Feb.2, 1999 A description of the findings, searching for themes and patterns were conducted.
- February 10-30, 1999 The discussion, conclusion, and recommendations section of the project were developed.
- March 30, 1999 The results of the project were translated into Japanese.
- April 10, 1999 The translated results were sent to all the Japanese subjects that participated in the project.

April 28, 1999

Results were presented to faculty and staff at UW-La Crosse.

May, 1999

Project submitted for approval to the Director of University Graduate Studies.

SECTION III

FINDINGS

This section summarizes the results of the subjects' responses on the 7-item questionnaire. The responses reflect no right or wrong answers, only the subjects' perceptions towards the Japanese possessing one of the greatest longevities in the world today.

From the 7-item questionnaire, responses were examined for themes and patterns. Themes and patterns were identified by how often they appeared for the questions and by commonalities. The salient responses were given focus over the extraneous or less prevalent responses. The results are presented in the order of the questionnaire items.

The Perceived Role of History in Japanese Longevity

There were a total of 11 different responses regarding the role of history in the longevity of the Japanese. The most salient theme identified was Japan's traditional eating style. Japan's traditional eating style was described by respective subjects primarily as receiving protein from fish and not other meat. Also, consuming an unstinting amount of rice and vegetables as Japanese have for several hundred years was noted. Subjects noted nutrient consumption was due to Japan being an island country. Further, subjects noted that despite the influence from other countries like America and Europe that consume a plethora of processed foods, Japan does not. This is due to Japan's infrastructure remaining unrelenting to outside influences.

Another theme that appeared, equally as salient as eating style, was Japan's improvement as a society since 1945. Subjects stated that Japan has been a peaceful society, free from war for over 50 years. Accordingly, the medical, welfare, and medicaid systems have evolved, serving and helping all people, from the affluent to the philistine. The last theme that appeared was the improvement of economics and agriculture due to Japan's open door policy. This event appeared to open doors for Japan to be revitalized through the influence and trade of knowledge, food, clothes, and medical supplies from other countries (see Appendix B).

The Perceived Role of Personal Behavior in Japanese Longevity

There were a total of 16 responses regarding personal behavior's role in Japan's longevity. The most compelling theme identified was again that of eating style. As with the role of history, the dominant theme from this item also centered on food and eating. Under the main theme of eating style there were several components. Subjects noted not eating too much meat, such as beef, pork, and chicken. In Japan, meat is superseded or bypassed altogether with fish. Although subjects noted meat was a good source of protein, Japanese receive their protein from soybean products, as in tofu and beans.

Other responses focused on eating mainly vegetables, fish, and rice. This holds steadfast to its progenitor, the traditional eating style. An illustration of this component given by a subject makes it very pellucid. In America, a meal might consist of an 8-ounce steak accompanied by 1 ounce of corn. In Japan a meal might consist of 8 ounces of vegetables and only 1 ounce of meat or fish. Other comments focused on (a) eat a variety of foods and a balanced diet; (b) don't eat oily foods; (c)

don't eat processed foods; (d) only eat till 80% capacity of stomach; (e) eat a big breakfast, medium lunch, and a small dinner; (f) have meals at the same time everyday; (g) eat more carbohydrates than protein; and (h) consume plenty of pickles, tea, and miso soup (bean soup).

The next salient theme identified was physical maintenance of body. Subjects perceived physical maintenance of body as exercising and sleeping well. Subjects noted exercise as taking walks and hiking in the mountains as well as sports. Subjects also noted that they eschewed driving a car whenever possible in place of walking. Further, due to the mountainous terrain of Japan, subjects replied they enjoyed hiking whenever the opportunity presented itself. Subjects perceived sleeping well as going to bed early and waking up early. Subjects exhorted not to stay up late, or sleep in late. Further, subjects noted that the human body needs to follow its natural body rhythm of early to bed and early to arise (see Appendix C).

The Perceived Role of Institutions in Japanese Longevity

There were a total of 7 different responses in this category. The preponderate theme that emerged was that of National Health Insurance, which covers almost the entire cost of seeing a physician. Thus, the elderly who pay almost no money can see a physician early in an illness to prevent or mitigate any further debilitating infirmities. Subjects noted the difference of having insurance that covers little, or no insurance at all. In this scenario, people might have a financially timorous situation that would prevent them from seeing a physician even when a malaise is suspected.

The second most salient theme identified was that of excellent hospitals, clinics, and public health centers. Subjects noted, without these establishments, which have

been established and strengthened over many years because of improvements in trade and influence from America and Europe, that the National Health Insurance would be rendered irrelevant (see Appendix D).

The Perceived Role of Nagano in Japanese Longevity

There were a total of 15 different responses regarding why Nagano Prefecture itself has one of the greatest longevities within Japan. The most salient theme identified was the physical environment of Nagano. Subjects defined the environment as clean air and water, and the many entrancing mountains which add to nature's beauty. Subjects noted that because of the pristine nature of the environment, there are many places to relax and relieve stress. Additionally, it was noted that due to the beauty and unspoiled nature of the environment, a salutary attitude proved veritable to longevity. Further, Nagano, which has four seasons during the year, was noted to add to the overall health of Nagano residents.

The next most salient theme identified was the consumption of traditional Japanese foods. These foods were defined by subjects as tea, pickles, miso (soybean paste), vegetables, fish, fruit, and soba (wheat noodles). Subjects noted that these foods have little to no fat, thus protection from pernicious diseases as cancer and heart disease.

Lastly, physical activity was identified as a salient theme. Physical activity was defined by subjects as exercise, and retirees tending gardens, yards, and doing other activities. Subjects noted that even though someone retires from their job at a company they continue to work. This work encompasses tending gardens and yards to part time jobs as a parking attendant or volunteering for the community to clean

parks. Further, subjects stated that the mountainous terrain of Nagano makes it very difficult to utilize machinery in farming. Thus, the farmers must make use of their physical bodies to accomplish the various tasks that farming poses (see Appendix E).

Further Comments About Japanese Longevity

This part of the 7-item questionnaire gave subjects the opportunity to elaborate on any further sentiments concerning Japan's longevity. There were a total of 17 different responses in this general question. The first and most salient theme identified was again eating style. This theme, as manifested by the subjects, proved to be the most salient theme of this project. The last theme identified was a relaxed and effervescent attitude. Japanese psychographics, as noted by respective subjects, can also be defined as buoyant and vivacious, which may serve as a protective barrier from stress and disease. Sample quotes from subjects included, (a) "the old adage of work much, learn much, play much and don't do one thing too much is one reason for long longevity"; and (b) "people in Nagano are cheerful everyday, relaxed with no worries or concerns. Also, people enjoy the changing of the four seasons." Further quotes from subjects were (a) "Japan's weather and climate are good for humans, because there is no extreme temperatures"; (b) "most important is eating habit, then taking hot baths and going to hot springs. Not just showers, but baths for good blood circulation and relief of stress. Many diseases come from stress, and Japanese know how to relieve their stress"; and (c) "social security is good, thus no fear or anxiety about retiring. Japanese have little stress and a relaxed attitude."

SECTION IV

DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this project was to explore the perceived factors that may contribute to the Japanese possessing one of the greatest longevities in the world today. This was accomplished by having 24 residents of Nagano, Japan answer a 7-item qualitative questionnaire. The questionnaire ranged from the role history, personal behaviors, and institutions may have played in the longevity of the Japanese people. The information presented in this section represents the discussion, conclusions, and recommendations related to the 7-item qualitative questionnaire answered by 24 residents of Nagano, Japan.

Discussion

I believe I have grown in many ways that otherwise would have been impossible without doing this graduate project. First of all, I have come to appreciate and respect the Japanese people and their culture. The Japanese subjects I worked with were helpful, attentive, supportive, and very knowledgeable about their history and culture. Next, by doing this graduate project I have been enlightened to further my education and possibly explore more on the Japanese culture to share with future students, faculty, friends, and family.

Personal Comments

I have had a personal interest concerning aspects of Japan's longevity since 1990, Japan's longevity continues to be one of the longest in the world today. This holds veritable, despite egregious lifestyles that consist of exorbitant tobacco, alcohol, and ostensible high levels of stress. During the last few years my interest in health and health related issues has been strengthened. As the opportunity presented itself in the form of a graduate project, I adamantly decided to explore some of the perceived factors that may contribute to Japan's longevity with a limited number of Japanese residents. Further, my wife being from Japan offered an auxiliary in the language and a cornucopia of resources in the form of friends and family.

In doing this project about Japan's longevity, I have infused certain themes identified by subjects of this project into my own life. The most salient theme that I have attempted to incorporate in my life has been the eating style of Japan. The responses of the 24 subjects indicated that the eating style was core to long longevity. The review of literature also strongly alluded to the same salient themes as being possible aspects for Japan's longevity. These foods include soba (wheat noodles), rice, vegetables, soybean products as in tofu, and consuming less meat. Through this eating style I have noticed my energy levels rise as well as my weight remaining constant. Having my wife available to prepare and cook the food has been an integral part in attempting this eating style. Yet, many of the themes that appeared under Japan's eating style need no special preparation or arrangement. These themes include (a) not eating too much beef, pork, or chicken; (b) not eating processed or oily foods; and (c) consuming an abundance of vegetables and fruits. Also, I have

tried to limit my consumption by eating meals to 80% of my stomach's capacity. To my surprise, after I finish eating I still might feel hungry, yet after a few minutes I feel full and all other desires to eat have ceased. Further, I have slept more soundly, with fewer abrupt awakenings in the night.

Another theme that appeared in the results that I have implemented into my life has been going to bed early and waking up early. As I have attempted to go to bed by 10:00 p.m. and wake up at 7:00 a.m. everyday, I have noticed my body being full of energy, and my mind is more able to concentrate and focus. The theme of exercising has been an indispensable part of my stress reduction. My life and stress levels are commensurate with that of my exercising. When I exercise, my mind and body are able to combat the vicissitudes of everyday life. Yet, when I don't exercise, my attitude and overall body suffer the ramifications of too much stress. These ramifications include headaches, swollen joints, and an overall indisposed physical body. Overall, I believe I have gained an insight to some of the possible aspects that are perceived to prolong the Japanese people's lives. As I have incorporated these themes given by subjects of this project, I have moved toward an optimal physical and mental state that hopefully will continue to transcend and remain embryonic in nature. These salient themes, as noted by the Japanese subjects, are very comparative to the goals and ambitions of the U.S. The U.S., like Japan, is trying to improve the physical activity, nutrition, and overall health of its people (U.S. Department of Health and Human Services, 1992).

Professional Comments

From a professional point of view, this project has provided me with insights to share with others in the field of education. The knowledge gained from this project has already been a focus of discussion in HED 354, stress management and relaxation techniques, that I taught at the University of Wisconsin-La Crosse to the general student body. This topic has stirred interest and further questions about Japan's longevity inspite of their exorbitant use of tobacco and alcohol. No embellishment has been necessary to stir interest in the students concerning this topic. Hopefully, some of the students, through this knowledge of Japan's longevity, have entered the arena of cognitive dissonance, asking themselves questions about changing certain lifestyle factors for the better (see Appendix F).

I also look forward to sharing this knowledge with future students in health education classes, faculty, and school administrative cadres. As my plans to enter the administrative field evolve, I hope this knowledge can make a difference in the lives of faculty, students, parents, and communities, hopefully enriching their lives for the better as adherence to possible aspects to Japan's longevity are followed.

Further, I believe my writing skills have improved in coming to know and use a wide repertoire of vocabulary. My punctuation and grammar skills have also been improved. Writing the questionnaire and going through the University of Wisconsin-La Crosse Institutional Review Board (IRB) to receive permission to query subjects on this topic caused me to exercise my patience. This was true because of the many revisions that were necessary.

Additionally, this project has caused me to have a predilection towards furthering my education and in doing additional research regarding Japan's social and educational systems. Through this project, my ambition, confidence, and desire to continue my education and share pertinent knowledge with others has been augmented.

Challenges and limitations that I encountered while completing this project included the limited number of subjects that inhibited a wider array of responses. Another challenge was the response of the subjects were perceptions versus a more empirical based study eliciting a more accurate state of reality for the Japanese. A larger sample may reveal even more perceptions of factors that contribute to Japanese longevity. Lastly, the fact that I am not employed in a school district made incorporation, comparison, and augmentation of the themes difficult, thus, the need to wait until an opportunity presents itself to infuse the themes into a health education curriculum.

Conclusions

From a personal perspective, I have come to the conclusion that I will incorporate as many themes into my own life and my family's life as possible. As discussed previously, I have implemented certain themes into my life already and hope to continue them in the future. Being a new father, I look forward to teaching my own children about these themes and helping to incorporate them into their lifestyle. I am thankful for the opportunity to complete this project. I have gained pertinent knowledge to enrich the lives of those around me and my own life.

The results of the 7-item qualitative questionnaire answered by 24 subjects from Nagano, Japan indicated five salient themes. The most salient theme identified was eating style found in the category of history's role in Japan's longevity, and in personal behavior's role in Japan's longevity. Japan's eating style was given definition by subjects as not eating too much meat, and eating mainly vegetables, fish, and rice. Further, the description encompassed, eating a variety of foods, not eating oily or processed foods, and only eat 80% capacity of the stomach.

A second major theme identified was having insurance that covers visits to the hospital and physicians. Subjects exhorted that having good insurance was an assurance that one could visit a physician in the early stages of an illness to prevent or mitigate any further debilitating infirmities, even when only a malaise was suspected.

A third major theme identified was physical maintenance of the body. Subjects defined physical maintenance as exercise, as in walking and hiking in mountains. Also, subjects noted the importance of going to bed early and waking up early. This keeps the body's natural rhythm proving veritable to long longevity.

A fourth major theme was the improvement of Japan's society. Subjects defined this improvement as a peaceful society, free from war and destruction for over 50 years. Thus, the welfare, medical, medicaid, economic, and agriculture systems have enhanced the health of the Japanese people.

The last major theme identified was a pristine environment. Subjects gave definition of a pristine environment as clean air and water. Further, subjects noted that the beauty of the mountains offered a refuge to relieve stress by relaxing and exercising.

Recommendations

Unfortunately, this project had only 24 subjects which resulted in limited responses. One recommendation would be to further research this area with more subjects to elicit additional responses about Japan's longevity. This could include having a younger group of subjects to elicit their opinion on Japanese longevity. Considering the cultural evolution that is taking place in Japan with fast food chains like McDonalds, Kentucky Fried Chicken, and other American influences emerging, the younger generations might differ in their views about longevity in Japan.

The information presented in this project could provide viable benefits to other educators and learners alike. The themes identified in this project could be used to augment existing health education curriculum, and enhance the overall health of a school lunch program.

A second recommendation, based upon the results of the subjects, could be the augmentation of the Japanese eating style in a health education curriculum, which could prove to be an unassailable difference in the health of the students. These themes could include abstaining from meat, such as beef, pork, and chicken in favor of fish or other soybean products like tofu and beans that are equally high in protein. Further, it is suggested to eat a well balanced diet of fruits and vegetables, avoid oily and processed foods, and be diligent in only eating to 80% capacity. This particular theme could be augmented to a nutrition segment. To further this incorporation of the Japanese eating style, the parents of the students could be contacted through a newsletter sent home at the beginning of the nutrition unit explaining the theme, reasoning behind it, and activities trying to incorporate this theme. Ideas such as

recipes could be stated in the letter for parents to be encouraged to implement subtle, yet nutritional Japanese foods. Possibly at the end of the nutrition unit, a survey could be given by the teacher to the students and their parents for responses and further implementation ideas.

A third recommendation is to utilize salient themes to improve a stress management curriculum. For example, as subjects noted, going to bed early, waking up early and eschewing staying up late or sleeping in late may enhance longevity and release stress by enhancing the body's natural body rhythm. Also, exercise that is well known in mitigating stress levels could be reintroduced with the knowledge that there is an affinity between longevity of the Japanese and exercise. Further, it was noted to have an outlet to vent stress through hobbies like sports, singing, hot baths or traveling that may enhance longevity. Hot baths could be utilized in the form of jacuzzis in the home or in public centers. In Japan, there are not only hot bath capabilities in the home, but also in public facilities. These public centers, called sentos, offer a refuge to relieve stress and tension. Thus, it might be beneficial to utilize the health benefits of hot baths by establishing public centers or in the home for hot baths.

These themes could be introduced to a class that understands that, despite the Japanese exorbitant use of tobacco, alcohol, and ostensible high levels of pollution, overcrowding and stress, they possess one of the greatest longevities in the world today. To further enhance this theme students could keep a journal to see how their stress levels could possibly be lowered through incorporation of these practices. Also, the students could be given a stress inventory to assess themselves before the

stress management unit, and then after experiencing the ideas and lessons from the unit.

A fourth recommendation that could possibly be promoted in a health education curriculum might include the importance of having health insurance. Thus, this insurance would assure one to see a physician in the early stages of an illness to prevent or mitigate any pernicious diseases, versus if one did not have any health insurance, or adequate health insurance. Accordingly, if one chooses not to go see a physician to avoid the exorbitant prices of hospital and doctor bills, he or she must deal with the ramifications of the prolonged illness. Thus, the importance of teaching the students the possible implications of not having insurance. To make this theme prevalent in the students' life, the students could survey friends and family that either have insurance or do not. Possible questions in the survey could include how willing he or she would be to see a physician with no insurance compared to just staying at home and taking care of oneself. Students could also interview patients or physicians of a hospital to receive their perspective and experiences on this subject.

A fifth recommendation would be to implement the Japanese eating style themes into a school lunch program. These themes included, superseding beef, pork, and chicken with fish and soybean products that include tofu and beans that are also high in protein. Also, one could limit the amount of oil that is in food, avoid processed foods, and incorporate a variety of foods that include vegetables and fruits in the lunch (see Appendix G). The following is an example of how a school lunch could utilize the benefits of Japan's eating style. This example is an actual lunch menu program for grade school, middle school, or high school. This list is by no means all

encompassing, rather it is to exemplify how a school lunch could be slightly modified to incorporate a few aspects of the Japanese eating style. Some possible ways to successfully implement the Japanese eating style in a school could include the incorporation of certain foods without the knowledge of the students. For example, diced tofu could be put into a tossed salad. After the lunch hour is over, a survey could be taken to get the student's reaction to the salad as a whole, not putting any emphasis on the added tofu. This type of food implementation is presently used in the Onalaska, Wisconsin school district. Further, it was noted by the director of the Onalaska school lunch program that, if students are unaware of any change in the food, they continue to eat and enjoy the food that has been changed by adding an ingredient or two.

Additionally, to ensure a successful implementation in a school lunch program it would need to be done over an extended period of time. A gradual introduction of tofu into salads and salmon sandwiches instead of hamburgers to corn without butter will probably ensure consumption, versus a sudden change in the lunch with total rejection by the students.

The final recommendation I can give to others is to try to incorporate the themes identified in this project in one's life. Personally, I have incorporated these themes into my life and have felt a renewal of both mind and body. I have become more satisfied with my life, less stressed, and a more magnanimous father and husband. I look forward to sharing this knowledge with future students, faculty, parents and friends alike. Possibly, after other quick fixes have failed to give the health benefits

they so promised, try the themes presented in this project. There are no more extenuating circumstances for copacetic health.

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APPENDIX A
LONGEVITY QUESTIONNAIRE

Longevity Questionnaire for Japanese Living in Nagano

When answering the following questions, please respond in your own words with as much detail as you can. If you need more space for your responses, please use the additional paper attached to the questionnaire. Remember, there are no right or wrong answers. There are only your personal opinions to each of the questions.

1. How old are you?
2. How long have you lived in Nagano?
3. What from an historical perspective has contributed to Japan having the greatest longevity in the world today?
4. Why do you think Nagano Prefecture itself has one of the greatest longevities within Japan?
5. What personal behaviors of your own or of those of other Japanese do you believe contribute to the longevity of the Japanese, such as diet, smoking, attitude and work ethic?
6. From an institutional standpoint, as in medical institutions, educational institutions, and insurance, what impact do you think they have had on the Japanese possessing the greatest longevity in the world?
7. Please add any further comments about Japanese longevity you think important to note.

** When done, please mail back in the self-addressed stamped envelope by 12/20.*

アンケート

質問にお答えいただく際、あなた自身の言葉でなるべく詳しくお答えいただくようお願いいたします。回答欄が足りない場合は、別紙にお書きいただいても結構です。このアンケートでは、正解というものはありません。それぞれの方のご意見をお聞きするものですので、ご自由にお書きください。

【1】年齢はおいくつですか。

【2】長野に何年お住まいですか。

【3】歴史上の背景で、どんなことが日本の長寿に貢献していると思いますか。

【4】日本人のどんな生活スタイルが長寿に影響していると思いますか。ご自身の経験、または一般的な事どちらでもかまいません。(例)食習慣・喫煙・生活習慣・就業習慣

【5】医療制度・教育・保険などの日本の制度が、どのように長寿に影響していると思われますか。

【6】日本の中でも長野は長寿県の一つですが、どのような理由からだと思われますか。

【7】その他、日本の長寿についてコメントがありましたらご自由にお書きください。

APPENDIX B

THEMES OF HISTORY'S ROLE IN LONGEVITY

Salient Themes of History's Role in Japan's Longevity (N = 24)

Nutrition

This salient theme encompassed not eating too much meat in beef, pork and chicken. Yet, instead to eat a bounty of fish, rice and vegetables. This traditional eating style has been in place for several hundred years, this in large part because of Japan being an island country. By being an island country, Japan has unlimited resources of fish to eat from.

Improvements in Society

This theme included the fact that Japan has not had war since 1945, thus a peaceful society. Being free from war and destruction has allowed Japan to excel in the areas of the medical, welfare, medicaid, economic and agriculture systems. These improvements in Japan's society have thus proved to be indispensable to Japan's longevity.

APPENDIX C

THEMES OF BEHAVIOR'S ROLE IN LONGEVITY

Salient Themes of Personal Behavior's Role in Japan's Longevity (N = 24)

Nutrition

This salient theme encompassed not eating too much beef, pork and chicken. Yet, to eat mainly rice, fish and vegetables. Also, to eat a variety of foods in pickles, tea and miso soup (bean soup). Further, stay away from oily and processed foods, only eat till 80% capacity and not overeating, eat a big breakfast, medium lunch and a small dinner. Additionally, to have meals at the same time everyday, and to eat more carbohydrates than protein.

Physical maintenance of Body

This them included exercising and sleeping well. Exercising was walking and hiking in the mountains. Also, to avoid driving a car as much as possible in place of riding a bike and walking. Sleeping well was given definition as going to bed early and arising early. This ensures that the body follows its natural rhythm, ensuring optimal efficiency.

APPENDIX D

THEMES OF INSTITUTION'S ROLE IN LONGEVITY

Salient Themes of Institution's Role in Japan's Longevity (N = 24)

Insurance

This salient theme encompassed almost entirely the National health Insurance. This insurance covers almost the entire cost of seeing a physician, which insures one see a physician earlier and possibly prevent any illness or disease.

Hospitals

This theme identified hospitals, clinics and public health centers in the vanguard of research and technology, which thus ensured excellent care to the patients. Also, hospitals used to send physicians out into the community to teach others about preventing disease and illness. Thus, augmenting the communities residents a better chance for a healthier and vibrant life by having cognizance of how to prevent disease and illness.

APPENDIX E

THEMES OF NAGANO'S ROLE IN LONGEVITY

Salient Themes of Nagano's Role in Japan's Longevity (N = 24)

Environment

This salient theme encompassed pristine air, water and a beautiful scenery, as in the mountains. Also, Nagano having four seasons in the year was stated as being veritable to long longevity. Further, unlike the big city life of Tokyo, Nagano has a country life style in not too many bars, porn stores or late nightlife which affects the residents with a effervescent attitude and little to no worries.

Nutrition

This theme elaborated on the food consumed in Nagano that possibly enhances longevity. The food included pickles, miso (soybean paste), fruit, and vegetable consumption. Also, particularly in Nagano, the consumption of soba (wheat noodles) is common. As was mentioned in previous items, Japanese eat mainly fish in place meat, avoid eating fatty or oily foods and don't eat too much, or past 80% capacity of the stomach.

Physical Activity

This theme included exercise as in walking and hiking in the mountains. Also, retirees still tending gardens, yards and other activities ranging from part time jobs to community service. Further, the mountainous terrain of Nagano makes the farmers use their physical bodies to accomplish the work a farm machine would normally do.

APPENDIX F

STRESS MANAGEMENT CLASS IMPLEMENTATION

Stress Management Class Implementation of Salient Themes of Project

Regular Topics for Stress Class

Modified Class With Japanese Themes

1. Relaxation techniques	Sleep habits
2. Stress physiology	Japanese eating style
3. Time management	Taking hot baths/springs
4. Humor and laughter	Singing
5. Social support	Traveling
6. Exercise	Staying active after retirement
7. Communication	Work ethic
8. Attitude	Living with grandparents
9. Imagination	Respect for others

APPENDIX G

SCHOOL LUNCH IMPLEMENTATION

School Lunch Implementation of Japan's Eating Style

American lunch	Modified Japanese lunch
1. Sausage pizza	Curry rice with chicken & vegetables
2. Buttered niblet corn	Corn with out butter
3. Tossed lettuce salad	Tossed lettuce salad with diced tofu
4. Ice cream bar	Banana, apple or grapes
5. Chips	Fresh fruit
6. Poptarts	Granola bars
7. Churros	California roll (rice, seaweed, avocado and cucumber)
8. Ham and cheese sandwich	Salmon sandwich & rice and veggies
9. Roast beef	Teriyaki fish & vegetables
10. Chicken salad	Shrimp salad
11. Cheeseburger with fries	Soybean burger with salad
12. Brats with fries	Cod / catfish & rice and vegetables
13. Hotdogs and chips	Tuna sandwiches and fat free chips
14. Spaghetti and meatballs	Spaghetti with soba (wheat noodles) and meatballs
