

The Dualistic Aging in Japan*

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I. INTRODUCTION

The great increase in the number of elderly in Japan recently has been the locus of public attention. This is easily warranted by three demographic characteristics of the Japanese population. Firstly, the life expectancy at birth of both men and women has become the world's highest today. During the Meiji period both Japanese men and women lived, on the average, only through their mid-40s. Today, however, their life expectancy has nearly doubled.¹⁾ This is truly a "longevity revolution."

Secondly, the proportion of the elderly in Japan today is slightly more than one in every ten people. Nevertheless, it was only one and a half decades ago that Japan launched into an aging society, in that the proportion of the elderly surpassed 7 percent of the total population.²⁾ Furthermore, it has been projected that the proportion will become approximately 15-16 percent by the year 2000, and will be the world's highest 24 percent by 2020.

Thirdly, the nature of the rapid increase of aged Japanese becomes outstanding when contrasted with other nations. Although the proportion of the elderly in Japan today is one of the lowest among the industrialized nations,³⁾ it has been progressing at an unprecedentedly rapid pace. In fact, it is projected that it will take only 26 years for the Japanese elderly population to double from 7 percent, a standard level to indicate the onset of aging society of a nation, to 14 percent. This is indeed amazing. In fact, no other nation in the world has ever undergone such an extremely rapid aging process as Japan. Hence, Japanese society is currently encountering the "graying of Japan" syndrome.⁴⁾

As these characteristics of aging society indicate, Japan now has attained

a very high degree of modernization. Because, it is a well-documented notion that the higher the level of modernization of a society is, the higher the degree of aging of the population. Also the higher the level of modernization of a society is, the longer the life expectancy of the people in the society becomes (Cowgill & Holmes, 1972; Kumagai, 1985a; 1984b).

We come to the question, however, of how modern is modern Japan? (Dore, 1972) In analyzing Japan's economic growth Watanabe (1967 : 116) contends that it is an imitative process of development strongly biased toward industrialization. That is, the modernization of Japanese society is a cultural veneer. Although Japanese society attained a very high level of economic growth in a short span of time, traditional elements still persist. Throughout the process of economic modernization in Japan, characteristics of a pre-modern industrial nation continue to be preserved. In other words, the essence of the dual structure exists in the very fact that both the pre-modern and the modern elements *coexist* within the system. These contrasting components never blend with each other, but they coexist in a single structure. That is, the modernization of Japanese society is being accomplished not at the expense of the traditional nature, but rather with a high regard to it. That is, the coexistence of modernity and tradition within a single social structure might be indeed the essence of the uniqueness encompassing Japanese society today. And, the same might be true for aging in Japan. Therefore, it is the purpose of this paper to analyze and to identify the nature of dualistic aging in Japan today.

One way to test the internal variation of the structural differences of any institution would be to analyze the society by dichotomizing into a rural-urban regional framework. Japan is a small island country with an area of only about 378,000 km² (146,000 square miles), roughly equivalent to that of the state of Montana, or one twenty-fifth that of the U.S.A. The total length of Japan from the northernmost point to the southernmost, however, extends over approximately 3,200 kilometers (1,860 miles), approximately the same distance from the US-Canadian border to the US-Mexican border. In addition, one side of Japan faces the Pacific Ocean, and the other does the Japan Sea. The popular name for the former region is "Omote-Nihon" (the front of Japan) and the latter is "Ura-Nihon" (the back of Japan). Due to this dual structure in geography, the Japanese climate differs drastically from one

region to the other. On the Pacific side, for example, the summer is hot and humid with prevailing seasonal winds from the southeast. The winter is dry and marked by many clear days. On the Japan Sea side, however, north-westerly winter winds off the Asian Continent bring regular, heavy snows that make this one of the snowiest regions on earth. In fact, in Niigata Prefecture, an annual snowfall amounting to 4 to 5 meters (13 to 16 feet) is not unusual. A greater proportion of the Japan Sea side is classified as rural Japan.

With this unique feature of the Japanese geography it would be a terrible mistake to assume that the life-style of the people in such small island country as Japan does not differ from one region to the other. For a proper understanding of the Japanese social structure, however, it would be essential to pay due attention to the regional variation. Aging, for example, must be analyzed in light of this assumed duality. Otherwise, the results of this study would not reflect an accurate picture of the Japanese society.

The dual nature of aging in Japan can be identified by dividing the society into a rural-urban regional framework. If it were always true that the level of economic development and the degree of aging of the society go hand in hand, ageing in the urban sector would be more advanced over the rural sector. This is not the case, however. Because, as Tachibanaki and Shimono contend (1985 : 239) differences in the age-composition of the labor force have had a serious impact on economics and society. Therefore, it would be more appropriate to assume that the degree of aging in the rural sector is more advanced than that of the urban sector. This argument appears to contradict the overall interrelationship between the level of socio-economic development and that of aging. It is not so, however, if we acknowledge an acute depopulation trend, especially of the labor force, currently occurring in rural Japan. On the basis of this dual structural perspective of the rural-urban regional variation this study, therefore, attempts to clarify the realities of aging in contemporary Japan. The major emphasis of the study will be on the following two central questions:

1. How much and in what manner does the rural-urban variation in aging exist in Japan today?
2. What are the factors which account for the psychological well-being of the Japanese elderly today?

II. A MULTI-LEVEL MODEL OF ELDERLY'S PERCEIVED SATISFACTION

The subjective state of one's own satisfaction is difficult to measure, since it is based on a conception of the total configuration of an individual's perceptions. In other words, it is the organized character of experience and behavior. It is the position of Gestalt psychology and has been developed into the field theory perspective (Lewin, 1951; Yinger, 1965). The theory places emphasis on the necessity to combine the different analytic foci, and to employ an interdisciplinary view for the understanding of human behavior. The combined results of two or more influences are a product of their multiplicative interaction, not a sum of each of the influences.

If so, the degree of satisfaction among the elderly in regard to their present living conditions and their perceptions of past history as well must also be analyzed in the same manner. Following Yinger's proposition this study offers four analytical levels for satisfaction and perception of the Japanese elderly, i.e., individual, psychological, cultural, and social structural. Examples of variables included in each analytical focus are as follows: Individual: age, educational achievement, number of children, and health condition; Psychological: values and religiosity; Cultural: roles, length of leisure activities; and Social structural: economic condition, social services, support network. The model appears in Figure 1.

III. RESEARCH DESIGN

In the summer of 1985 structured interviews were conducted. People interviewed were the elderly and the family members in three-generational households in rural Yamato-machi in Niigata prefecture as well as in urban Setagaya-ku in Tokyo. The three-generational families of this study were confined to those whose third generation was adults. Thus, most of the families studied actually constituted four-generational households.⁵⁾ We selected three-generational households, because a greater majority of the Japanese elderly still adopt a co-residence living arrangement. Although it has been on the decline ever since the end of World War II, the proportion of co-residency was as high as 65 percent in 1984.⁶⁾ In addition, it is well documented that the Japanese family structure today is not the modern

Figure 1 A Multi-Level Causal Model of Elderly's Satisfaction and Perception

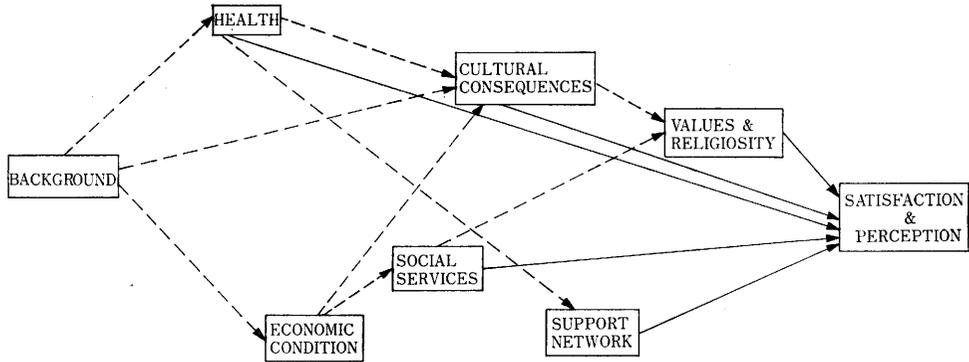
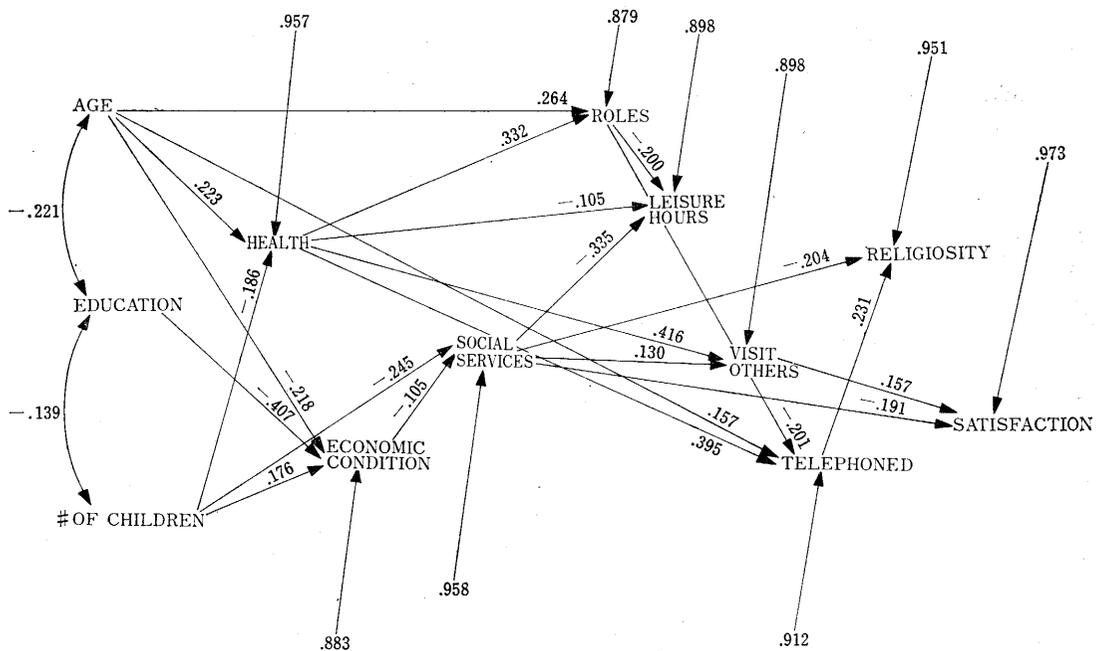


Figure 2 A Path Diagram for Elderly's Satisfaction



nuclear, but rather the traditional modified-stem family (Kumagai, 1986).⁷⁾ And, therefore, the dual nature of aging in Japan could be uncovered if we analyze the so-called traditional family institution of the three-generational households.

Yamato-machi (population: 15,243; households: 3,559 as of April 1, 1985) is a rural farming town in Niigata prefecture. Not only is it located in the snow belt, but it is also surrounded by mountains on all four sides. Since the population density of Yamato is approximately one-third of the national average (111/km² vs. 320/km², see Table 1), it can well be considered as a representative for our rural sample. On the basis of the family registers filed with the town office we identified relevant three-generational family households.

Setagaya ward, on the other hand, is the largest jurisdiction in Tokyo (population: 783,724, households: 342,460 as of January 1, 1985) with a population density of 13,328. Thus, it was most legitimate to draw our urban sample from there. Not being practical to examine all the records of the family registers in Setagaya ward, a cluster sampling procedure was adopted to derive the Setagaya sample. Honjyo district was selected since it is the largest jurisdiction among the three in Setagaya, with approximately one half of Setagaya's entire population (50.0%) and households (52.8%). Within the district, regions under the supervision of three health centers were selected from which we drew our sample. Relatively higher proportions of the elderly reside in these regions. The total population of these three regions were 67,430 (8.6% of Setagaya), the number of households were 32,545 (9.5% of Setagaya), and the proportion of the elderly 65 and over was 11.5% (9.4% for all Setagaya).

Both in Yamato and Setagaya it was hoped that interview could be conducted with 100 elderly people and 100 family members. The result of the Yamato sampling was as follows: 192 households which met our objectives were identified (occurrence rate: .054, see Table 1). The eighty villages in Yamato were arranged in order of the occurrence rate. Since we identified approximately twice as many households as our target sample size, we eliminated inappropriate households where GI's would be incapable of participating in our study due to their ill health. Officials of the health center in each village assisted in this regard. After eliminating these, it was necessary to

consider 23 villages to surpass our goal of 100 households. Then, our final sample size for the Yamato survey became 107 (male: 37, female: 70) with an access rate of 100 percent.

In the Setagaya survey, on the other hand, only 78 households relevant to our study were identified (occurrence rate: .002). Thus, all the 78 households were included in our sampling list. Of them we were able to complete interviews with only 52 individuals (male: 10, female: 42), which yielded an access rate of 66.7 percent. The lower response rate in the Setagaya interviews might be due to the following two reasons. Firstly, it is possible to assume that the majority of older people in the three-generational households in Setagaya who did not respond to our request might be in ill-health. Having a less-than-sufficient sample size, the Setagaya survey did not eliminate these supposedly ill-fitted subjects from the sampling list. Hence, there was a substantial number of the elderly who could not respond affirmatively to our request for interviews. Secondly, life in urban Tokyo is extremely isolated, and people in general possess strong concern for their privacy. Urbanites tend to shun visits by strangers such as interviewers or salesmen. And, therefore, our attempts to make interview appointments often failed.

IV. FINDINGS AND DISCUSSION

1. THE RURAL-URBAN VARIATION:

The first question in this study is to measure the extent and the pattern of the rural-urban variation in aging in Japan today. Statistics in Table 1 were compiled in the following manner: Figures for the rural area were based on data from Yamato-town, Minamiuonuma-county, Niigata-prefecture. The urban statistics, on the other hand, came from Honjo-section, Setagaya-ward, Tokyo-metropolitan prefecture except for those of the family size and the proportion of the elderly 65 and over. These two represent all Setagaya statistics. Although interviews were conducted during the summer of 1985, these statistics were compiled January 1, 1985.

All five categories, i.e., the population density per square kilometer, the number of people per household, the proportion of the elderly 65 and over, the proportion of the elderly 90 and over, and the proportion of the three-generation family where the third generation is adult, exemplify sharp contrasts between rural and urban regions. Let us then examine each of these

five categories.

First, the urban population density was almost 60 times more dense than the Japanese national average, whereas the rural counterpart was roughly one third of the national average. Therefore, the population density in urban Japan becomes nearly 180 times as dense as its rural counterpart. The greater metropolitan area of Tokyo does boast of the most populous city in the world today. Whereas, an image of a densely populated nation of Japan hardly applies to rural Japan. A contrasting regional variation seems to prevail in the population density in Japan today.

Secondly, the average family size of the Japanese households was examined. The average number of family members in one household has declined to as little as 3.18 in 1985.⁸⁾ From Table 1 it is noticed that there is a striking regional variation in the family size. The family size of the urban household is even smaller, and the rural family is much larger than the national average. In fact, the average size of the rural family is more than twice as large as the urban counterpart. This finding supports the notion that the nuclearization of the Japanese family in urban areas has been progressing far more rapidly than in rural sectors. Although indirectly, this finding suggests the existence of the dual nature of aging in Japan today, because the large family size indicates a prevalence of co-residence living arrangements among the elderly.

Thirdly, there exists a sharp contrast in the proportion of the elderly in rural and urban sectors. Today, one in every ten Japanese is elderly. And, by the year 2000 it is projected that the proportion will be approximately one in every six. In overpopulated urban Japan, however, the proportion of the elderly was below the national average. In the sparsely-populated rural Japan, on the contrary, the proportion was equivalent to the national average projected for the year 2000. This finding by no means indicates that rural Japan with its extremely high proportion of elderly population is more modernized than the urban counterpart. Nevertheless, it probably indicates that the process of depopulation, especially of the younger generations, has been extremely acute in rural Japan. And, therefore, the elderly constitute a greater proportion of the population left behind in the rural quarter of Japan. This finding clearly indicates the existence of the dual structural nature of aging in Japan today.

Fourthly, the proportion of the elderly 90 and over was examined. The age of 90 was taken as evidence to signify three chronological generations. In Japan, it used to be considered that one generation was approximately equal to a 30-year span. It is true that the proportion of the elderly who survived for more than three generations were only a fraction of the entire population. The regional variation, however, does exist even in this demographic characteristic. That is, the proportion of the very old is 3-4 times higher in rural than urban Japan. Together with the finding obtained in the preceding section, this is taken as indicative of the dual structure of Japanese society today.

Lastly, the occurrence rate of the three-generation family household, where members of the third generation were an average of 35 years of age, was examined. Among the rural households in Japan one such three-generational family was found in every 18-19 households, whereas in the urban area the ratio was one in every 500. Concerning the occurrence rates of the three-generational family examined in the present study, the existence of a sharp contrast between rural and urban Japan, is truly amazing. This result again is taken as evidence for the dual nature of aging in Japan.

2. DEMENTED ELDERLY:

It has been reported that an overall proportion of the demented elderly is approximately 5 percent in the urban Tokyo and Kanagawa area (Hasegawa, 1985 : 7). In addition, it is known that as aging progresses, the proportion increases drastically (i.e., 65-69:2%, 70-74:3%, 75-79:6%, 80-84:14%, and 85+ :20-25%). Furthermore, after around the age of 75 the rate among women becomes much higher than that of men.

The average age of the GIs interviewed in Yamato was 83. Of all the 192 GIs sampled in Yamato, health center officials identified 44 (22.5%) as being demented (males: 13=30%, females: 31=70%). The occurrence rate for this age bracket in Yamato was nearly twice as high as those in urban areas reported in Hasegawa's study (1985). If this ratio of occurrence could be applied for the elderly 85 and over, the demented elderly in this age bracket would be about 50 percent in Yamato. This amazingly high figure is not an exaggeration. In fact, of all these 73 elderly 90 and over (males: 22, females: 51), 38 (males: 11=29%, females: 27=71%) had been diagnosed

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Table 1 Population Density, Family Size, the Elderly Population, and Three-Generation Family Household in Rural Niigata and Urban Tokyo in 1985

	Population Density/km ²	Family Size	65+ %	90+ %	3-Generat'n Fam. Hshlds. Rate
Rural Niigata	111	4.28	15.3 M: 13.1 F: 17.5	.48	.054
Urban Tokyo	18,306	2.07*	9.4* M: 7.9 F: 10.9	.14	.002
All Japan	320	3.18	9.9 M: 8.3 F: 11.5	.13	

* For all Setagaya, not for the Honjyo district.

Table 2 Measures of Variables/Indices & Descriptive Statistics in Elder Satisfaction Analysis

	YAMATO (s=107, M:37 F:70)			SETAGAYA (s=52, M:10 G:42)			p
	Mean	SD	t	Mean	SD	t	
SATISFACTION Index (1=least satisfied, 4=most satisfied)	3.78	.51	1.17	3.59	.62	1.33	.2495
PERCEPTION Index (1=excellent, 15=worst)	6.29	1.64	.31	6.12	2.12	.37	.1441
AGE	82.96	5.18	-1.41	84.59	4.09	-1.21	.2933
EDUCATION (1=never, 2=90 days, 3=4yrs, 4=6yrs, 5=8yrs, 6=12yrs, 7=14yrs, 8=16+yrs)	3.96	.76	-2.78	5.24	1.86	-4.58	.0001
OF CHILDREN	6.35	2.26	4.70	3.83	1.59	3.69	.1989
HEALTH (9=most normal, 43=worst)	11.29	3.27	-.66	12.00	4.15	-.76	.1708
ECONOMIC CON- DITION (1=completely self-supporting, 7=completely depend on children)	4.99	.62	2.24	3.71	2.34	4.22	.0001
SOCIAL SERVICES (1=received, 2=not received)	1.58	.50	.36	1.53	.51	.37	.7932
ROLES (1=yes, 2=no)	1.41	.50	-2.34	1.71	.47	-2.26	.8593
LEISURE Hours/day	8.07	3.95	-.02	8.09	3.53	-.02	.6359
VISIT OTHERS (1=yes, 2=no)	1.43	.50	-1.61	1.65	.49	-1.59	1.0000
TELEPHONED (1=yes, 2=no)	1.45	.50	.71	1.35	.49	.71	1.0000
RELIGION (1=very important, 2=important, 3=not at all)	1.33	.53	-.18	1.35	.49	-.17	.8039

as demented elderly. That is, more than half (52.02%) of the elderly 90 and over in Yamato are demented. Besides, it has been proved true that among the very old, females are much more likely to suffer from the senile dementia. That is, of all the demented very old in Yamato 7 out of 10 were females. The life expectancy of females is usually longer than that of males, and as it has been prolonged significantly over the years, their health condition will inevitably be aggravated in the future, unless some appropriate measures are taken.

Careful attention must be paid to these findings. With the successful achievement of the longevity revolution most Japanese people will live beyond the age of 80. It does not necessarily mean, however, that the very old are all in good health. On the contrary, more than half of the very old are demented. As a consequence, the older women in Japan today confront an insurmountable difficulty in aging well.

3. RURAL-URBAN VARIATIONS IN PERCEIVED SATISFACTION:

Is the degree of satisfaction to their present living conditions higher among the rural elderly than that of the urban counterparts? Is the level of perception about their past experiences more positive among the Setagaya elderly than those of the Yamato elderly? We really hoped to see affirmative answers for these statements, because our research from the beginning was aimed at testing the hypothesis of the dualistic nature of aging in Japan. That is, despite the disadvantaged experiences in earlier days the elderly's satisfaction to present living conditions would be greater among those in the rural sector than in the urban quarter.

Table 2 reveals that satisfaction to present life is slightly higher among the Yamato over those of the Setagaya elderly, while self-perception of the rural elderly about their past experiences was slightly more negative than their urban counterpart. Regardless of the place of residency, the emotional state of elderly in three-generational families was relatively stable. They lead everyday lives without becoming unduly frustrated or worried. Does this mean that whether or not the elderly are satisfied with their present lives is not due to the rural-urban variation, but rather to the traditional living arrangement of co-residency? Generational family relationship seem to affect the emotional stability of the Japanese elderly in a positive manner.

The relative perception of the elderly's own life must be examined throughout their life course, but not at one point in time. The elderly in rural and urban regions as well feel that they are better off than their parents (85% and 73% respectively). In comparison to the people of the same age where a much higher proportion of the rural elderly (88%) perceive their lives as better than their urban counterparts (67%). When the elderly compare their life course with that of their children the urban elderly perceive it more positively (59%) than those in the rural area (43%).

The fact that the rural elderly feel that they are better off than their parents' generation, but worse than their children's, may indicate that modernization in the rural sector penetrated gradually from one generation to the other. The profile analysis of the very old tells that the life course of the rural elderly is a span of hardship. For example, they were thankful for being able to attend classes at school even if they had to carry their younger brothers and sisters on their back. Such stories were unheard of among the urban elderly. As the generation progressed the economic circumstances of the rural people were eased and a modern life style was introduced into their daily living.

The items used to test for the elderly's satisfaction and perception in the Yamato and Setagaya interviews appear in Table 2.⁹⁾ Two items differed significantly. They were the level of educational attainment and the economic condition of the elderly. As was expected, educational attainment of the urban elderly was much higher than that of the rural elderly. On the average, the elderly in Yamato had only a primary school education as opposed to the secondary school level of the Setagaya elderly. None of the Yamato elderly interviewed had a college education. Distributions of the level of educational attainment of the elderly in both regions are as follows: the majority of the Yamato elderly (76%) had elementary education and only a few with no or 90-day education (4%). The Setagaya elderly, on the other hand, are diversified and semi-evenly distributed across the categories. When the elderly with no education and with only 90 days of education were combined, the proportion of such elderly in Setagaya (7% and 5% respectively) becomes three times as high as that of the Yamato elderly. Although among the Setagaya elderly interviewed women outnumbered (81%) men, it did not lower the overall level of educational attainment. Differences in

educational attainment are mainly due to the rural-urban dichotomy ($p \leq .001$ for both male and female), but not to the sex differences ($p = .7648$, ns). In other words, the elderly in the rural area were mostly from the local area, and their backgrounds are similar to one another. The urban elderly, on the contrary, come from various parts of Japan and their background and experiences differ from one individual to the other. As is true for the people in general, rural elderly are quite homogeneous, but the urban seniors are heterogeneous in their backgrounds. The implications of this point should be kept in mind. That is, the socio-cultural needs of the rural elderly could be monotonous, whereas various programs and social policies for the urban elderly must be proposed and implemented to meet their diversified needs.

Similarly, the economic condition of the elderly in Yamato and Setagaya differ significantly. Almost all the elderly in Yamato (99%) list public pension as the sole source of their income. Hence, they are obliged to depend economically on their children except for an allowance usually derived from their pension checks. Sources of income of the Setagaya elderly are not only pensions (45%), but also rent and interest (37%), and earnings (12%). Among the elderly interviewed in Setagaya a large proportion of them are completely self-supporting (31%), but a quarter depend on their children for all but spending money, followed by those who depend completely on their children's families (23%). That is, in one way or another, approximately one half of the GIs in Setagaya are financially supported by their children. These findings suggest that regardless of the region of residency, economic independence is, at present, difficult to attain for the Japanese elderly. The elderly's attainment of economic independence may not be the best alternative for their well-being. It is evident, however, that family relationships of the Japanese elderly must be reevaluated in this year of aging society. If the Japanese elderly were able to attain economic independence, they might be able to live out their lives in a physically sound and emotionally graceful state.

The rest of the measurements examined in the multilevel model of the elderly's satisfaction do not appear to possess statistically significant regional variation ($p \leq .10$). Because of their relatively high significance level, three of them are worth scrutiny. They are the age, the number of children, and the health condition of the elderly.

The average ages of the elderly in the three-generational household in rural Yamato and in urban Setagaya were 83 and 85 respectively. The sex ratio discrepancy of the elderly in each region would be the major reason for the difference in the average age of the two groups. Among the Yamato sample, approximately one out of three elderly was male, whereas one out of five in Setagaya. Usually, it is the case that as the age of the elderly advances, the proportion of females increases dramatically. Hence, having predominantly large number of females in the Setagaya sample, the average age of the urban elderly was higher than their rural counterpart.

Another item worthy of discussion is the average number of children. Although it is not statistically significant (at $p \leq .10$ level), there exists a clear difference in the family size of these two groups. As was expected, the rural elderly had many offspring, and the average number was 6 to 7. Whereas, the urban elderly had come from families of 6 siblings, and had about 4 children of their own. The reduction in the family size of the urban residents through the generations is apparent. This may indicate that the possibility for keeping multi-generational living arrangements during one's old age would decrease, especially among the elderly in urban settings.

A third item to be discussed is the health condition of the elderly. The health index was compiled by adding the nine items in the ADL (Activities of Daily Living) scale, a standard measure for the overall health condition of the elderly. These nine items were listed by a member of the three-generational family, not by the elderly themselves. Although not convincingly strong enough, there exists a noticeable difference in the health condition of the elderly between these two regions. Since prearrangements were made to exclude demented elderly neither of these two samples included the demented elderly. Among the Setagaya elderly interviewed 3 (5.8%) were bed-ridden, and all of them were females. The study also asked the self-rated health condition of the elderly themselves. More than 4 out of 10 elderly in Yamato rated their health as being excellent and/or good, whereas 3 out of 10 did so in Setagaya. These findings suggest that their rural surroundings provide opportunities for a healthier life. With a span of hot and humid intolerable summer days and an incessant snowfall for an extended period of almost five months, year-round living in Yamato is in no way easy to manage. Perhaps the rural life generates less stress, and as a consequence, would contribute to

the enhanced health of the elderly in the long run.

4. A MULTI-LEVEL MODEL OF THE ELDERLY'S SATISFACTION:

Now let us discuss the multi-level model of the elderly's satisfaction to present life.¹⁰⁾ As was discussed earlier, there was no significant difference in satisfaction between the rural and the urban elderly. The level of satisfaction among the elderly was examined by controlling for region. It did not, however, yield any noticeable variation between the two. That is, in an attempt to identify factors to account for the elderly's satisfaction only the total model which includes both the rural and the urban elderly would be sufficient to analyze.

As is seen in Figure 2, a full model of the elderly's satisfaction includes 11 independent variables, 3 being exogenous variables. As the first step to construct a path diagram nine multiple regression analyses were conducted. Looking at standardized beta-weight coefficients of variables in each multiple regression, variables whose significance levels were less than .10 were eliminated from the equation. Then, after a repeated multiple regression analyses with only these significant variables, the best fitted model was derived where the significance level of all the beta-weights coefficients was greater than .10 (see Figure 2).

This optimized model for the Japanese elderly reveals that the use of both social services and a support network has a direct impact on the level of satisfaction. That is, the less one uses social services, and the more one visits others, the higher the level of satisfaction. The Japanese people, especially the elderly, are not used to the idea of making use of social services. They have traditionally thought that their welfare should be provided internally by the family, not externally through social services. Receiving social services is not regarded as a right, but is perhaps thought to lower self-esteem. As a consequence, the psychological well-being of social service recipients was impaired.

The ability to visit others more often assured the elderly of good health. This can be taken as evidence that activity in old age assures a positive self-image. Our finding that the health condition of the Japanese elderly was affected whether or not they visited others indeed supports this reasoning.

Naturally, if they are healthy they can be more active and willing to socialize themselves. That will certainly enhance their psychological well-being.

At the same time, if an older person is healthy he/she can take full responsibility for family roles and chores assigned to them. Members of the three-generational household can count on the elderly, and their performance is appreciated. Furthermore, the number of hours spent for leisure activities in a day correlates positively with the degree of good health. Older people in good health enjoy their leisure time more than the elderly of ill health. These relationships do not pose any noticeable impact on the psychological well-being of the elderly, at least in the present study. Nevertheless, it is believed that good health would enhance the elderly's level of satisfaction significantly. If it were true that health condition of the elderly affects their psychological well-being directly or indirectly, it would be essential to examine factors which might account for that condition.

As can be expected, age and health show a negative relationship with each other. Children, on the contrary, provide the elderly with a positive impact on their health. As one gets older, it usually is a great pleasure to have close contacts with one's own family. The elderly's own children would be the major source of such joy. The larger the number of one's own children, the higher the likelihood of having frequent contacts with each other. Hence, joy and relaxation provided by family interactions would undoubtedly contribute to the good health of the elderly. We must pay close attention to this finding. The fact that the Japanese people are living longer than even before does not necessarily guarantee that they are physically sound. With the development of chronic diseases, the progress of an individual's aging process may imply the deterioration of one's own health. It is evident that the Japanese elderly in the future will be surrounded by a smaller number of family members. Thus, the Japanese people must start thinking seriously now as to the way to be healthy in one's old age.

It is found that the level of elderly's well-being is influenced by one's decision as to whether or not to receive social services. If that is the case, it is important to identify factors which lead to that decision. Those elderly who depend economically more on their family tend to receive social services more frequently than those who are self-supporting. A higher level of educational attainment enables an individual more often to be economically

independent. Having a large number of children suggests that during one's own old age one can count on financial support of the children's family. As one's stage of aging progresses, one is more likely to depend on others. All in all, these findings provide us with information concerning the economically independent Japanese elderly today. They are relatively younger elderly with higher level of educational attainment, and having had fewer children.

V. CONCLUSION

It is true that Japanese society has been aging rapidly in recent years, and this process will accelerate in the years to come. Realities of aging in Japan, however, vary from rural to urban regions. Analyses of three-generational families in rural Yamato and in urban Setagaya as well proved the existence of dualistic ageing in Japanese society today.

Although Japan is a small island country itself, the internal or structural nature of the Japanese family and households varies significantly from those in the rural regions to the urban counterparts. Five categories discussed in the present study, for example, population density, family size, the proportion of the elderly 65 and over, the proportion of the very old 90 and over, the extent of the three-generation family, all demonstrate clearly the existence of the rural-urban variation within the Japanese structure today. The impact of the regional variation in demographic characteristics extends to the phenomenon of aging in Japan today.

Of the measures included in the model for the Japanese elderly's satisfaction two were found significantly different from each other between these two regional sectors. They were the level of educational attainment and the economic condition of the elderly.

In spite of the privileged socio-economic status of the urban elderly, their emotional well-being was found lower than their rural counterparts. In other words, despite their hard times in earlier days the extent of the elderly's satisfaction in regard to present living conditions is greater among the rural rather than the urban elderly. This fact may be taken as evidence to attest to the dual nature of socio-cultural structure and aging in Japanese society today.

Although indirectly, both the health and economic conditions of the Japanese elderly have significant bearing on their psychological well-being.

An implication of this point should be borne in mind. Since these two factors, health and economics, will become crucial for the Japanese people to age well and gracefully.

Regardless of the place of residency, there emerged no significant difference in the extent of satisfaction among the elderly of three generational households. The fact that the three-generational family setting brings satisfaction to the elderly's life clearly exemplifies that the virtue of filial piety is still appreciated and practiced widely by the Japanese people. And, this trend will most likely to continue into the next generation. Even young adults in Japan today prefer to adopt the multi-generational living arrangement with their elderly parents.¹¹⁾ This is indicative that exposure to Western culture contributed to the people's willingness to adopt the modern family system and lifestyles in Japan, but not at the expense of a lowered appreciation of their own society and culture. In other words, the external modernization of the Japanese life-style was achieved at a similar level to that of Western counterparts, but not at the expense of the internal tradition inherent in the Japanese socio-cultural structure itself. This duality is the essence of Japanese society today as well as a unique feature of contemporary aging in Japan.

In light of the dual nature of aging in Japan, it would be necessary to strive for the construction of the social system in aging society suitable for each locality. It is true that there exists a persistently strong desire among the Japanese people to adopt a co-residency living arrangement. Its materialization, however, will become less feasible from now on. Even so, the Japanese elderly could still maintain their emotional well-being if and only if an appropriate alternative to the multi-generational households could be proposed and implemented. Such an alternative must provide the elderly with a close-knit family-like human relationship, humanitarian support network, and social services which meet the needs of the elderly individual. An attempt to construct a well-formulated social system such as this is a difficult task currently bearing upon Japanese society. Such an endeavor, however, must be undertaken in the rural and urban sectors separately. Both policy makers and practitioners must take into full consideration the results of the assessed needs of each region, such as the one attempted in this study. Such a pursuit will be the first step for the Japanese elderly, both in the rural and urban sectors as well, to live healthy and gracefully. It might be a difficult

undertaking, but such a venture must be attempted. If pursued successfully, it is certain that the prospect of aging in Japan will become an encouraging one.

NOTES

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1) Changes over time in the life expectancy of Japanese men and women are listed below (Institute of Population Problems, 1985: 21, Table 31; Ministry of Health & Welfare, Life Table, 1985):

Year	Male	Female
Meiji Period	43-44	44-45
1947	50.06	53.96
1960	65.32	70.19
1970	69.31	74.66
1980	73.35	78.76
1984	74.54	80.18

2) Changing proportions of older people 65 and over are as follows (Institute of Population Problems, 1985: 37, Table 55; 1985 Census Preview):

Year	%	Year	%	Year	%
1870	6.7	1940	4.7	1970	7.1
1900	5.4	1947	4.8	1975	7.9
1920	5.3	1950	4.9	1980	9.1
1925	5.1	1955	5.3	1984	9.9
1930	4.8	1960	5.7	1985	10.3
1935	4.7	1965	6.3		

3) Examples of proportion of the elderly 65 and over in Western societies are as follows (The Japan Economic Journal, 1986):

Country & Year	%
Japan (1985)	10.3
USA (1982)	11.6
UK (1982)	15.0
FRG (1982)	15.0
France (1983)	13.2
Sweden (1981)	16.6

4) Years which took for the elderly population 65+ to double from 7 to 14 percent in six countries are as follows:

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Country	Year at		
	7%	14%	Years
Japan	1970	1996 (prj)	26 (prj)
France	1865	1980	115
FRG	1930	1975	45
Sweden	1890	1975	85
UK	1930	1975	45
USA	1945	2020 (prj)	75 (prj)

- 5) In-depth interviews to the elderly 90 and over were also conducted. Discussion of the results, however, is beyond the scope of the present paper. For the detailed profile analysis refer to the Kumagai's report (1985).
- 6) Changes over time in the proportion of the elderly who adopt co-residence housing arrangements were as follows (Shishido, 1985):
- | Year: | 1960 | 1968 | 1974 | 1984 |
|-------|------|------|------|------|
| % | 81.7 | 79.5 | 74.7 | 65.3 |
- 7) The essence of the modified stem family in Japan today can be described as follows (Kumagai, 1986: 22): Coexistence of both the modern and the traditional elements of the family system in today's Japanese modified stem family clearly indicates that the high proportion of nuclear families does not accurately reflect the reality. On the contrary, the structural nature of the Japanese family today itself still maintains traditional elements of its own.
- 8) Changes over time in the average number of family members are as follows (Institute of Population Problems, 1985: 52, Table 81; 1985 Census Preview):
- | Year | Family Size | Year | Family Size | Year | Family Size |
|------|-------------|------|-------------|------|-------------|
| 1920 | 4.99 | 1947 | 4.92 | 1970 | 3.44 |
| 1925 | 4.98 | 1950 | 5.02 | 1975 | 3.32 |
| 1930 | 5.07 | 1955 | 4.97 | 1980 | 3.25 |
| 1935 | 5.13 | 1960 | 4.52 | 1985 | 3.18 |
| 1940 | 5.10 | 1965 | 4.08 | | |
- 9) In total, 361 items are recorded in the interview questionnaire, in which a household background sheet is included. Detailed descriptive statistics and discussion of these measures as welfare shown in the report of the Toyota Foundation (Kumagai, 1985).
- 10) Although the original model included the elderly's perception of their past experiences, the variable was not accounted for at any appropriate level of significance. And, therefore, we decided not to discuss the dependent variable of perception.
- 11) According to the recent survey conducted by the Economic Planning Agency, 51 percent of Japanese men and women between ages of 25 and 74 (Ss= 3,000) expressed a desire to adopt co-residence living arrangements when

they become old, and 24 percent want to live in the neighborhood of their children's families (Economic Planning Agency, 1986).

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