

Health Inequality and Health Promotion : Lessons from other countries

Eeh-eun Song
(Korea University)

I . Introduction

People's interest in health increases, there have been many attempts to enhance health in various levels such as the national, regional, and individual. The determining factors in health are genetics, policies, institutions, health behaviors, and environmental factors. And recently, some have been focus on the sociopsychological factors. Health behavior, environmental and sociopsychological factors which function as a kind of resource that affect to health, are unequally distributed and this cause health inequality. Also, with the emergence of trend which attributing one's health status to the individual responsibility, many argues that the social intervention should be implemented to decreases health inequality.

WHO has emphasized on health promotion to each country in the world since 1970s. International Conference on health Promotion was held by WHO and many countries have participated since 1970s. The results were used to recommend for health promotion in each country. Based on this health promotion policies have diffused to each country. By the statistics from WHO, it is possible to estimates average levels of health between countries. According to this, there are inequalities not only within countries but also between countries. In 2009, life expectancy globally was 68 years, ranging from 57 years in low-income countries to 80 years in high-income countries. Japan is the highest level of longevity(83.4 years) and the lowest level of infant mortality among the 194 countries which is included in WHO's reporting object for 2009. The indicators of life expectancy and infant mortality is generally used. Because these factors reflect the hygiene, medical care etc. Further, Japan's health level is good too. The next best country for life expectancy in Asia is Singapore(82 years). Followed by South Korea(80.6 years) and China(74.8 years) for average life expectancy. The other Asia countries such as Vietnam(72.4 years), Philippine(70 years), Russia(68 years), Indonesia(68 years, equal to world average), are relatively low level of life expectancy. Japan which is the most longevity country in the world has relatively low level of health inequality within

country. According to previous researches, there have been no changes in health inequality in Japan(Wilkinson, 1996; Hiyoshi, Shipley, Fukuda and Brunner, 2012).

By the 2000's the WHO has reported the health life expectancy, not only the length of life which isn't an absolute value in health area any longer. The health life expectancy is calculated by subtract the years of the period suffering from disease or injury, from the life expectancy. The average of health life expectancy is 71 years in South Korea(76 years in Japan). This figure is lower about 10 years than average life expectancy in South Korea. And South Korea carried out the health policy to aims to rise the health life expectancy. Also, they have established a long-term strategy to the most good health and the most longevity nation in the world until 2030. This effort is not only in South Korea, but also in the most of the countries in the world.

The health promotion and healthy lifestyle have emerged as an important issues. And now, it should be noted that factors affecting an individual's health behavior and specific environmental conditions, to reduce health inequalities and to seek practical solutions in health promotion in substance. Previous researches focused on the socioeconomic factors which affect on health, such as sex, marriage status, age, income, education level, parents' status and education level, local factors, neighborhood, employment status, childhood experience and ethnicity. According to them, the people with low income and education, and those who do not have spouse and also living in rural area, are unhealthier than other people(Kang and Cho, 2007; Kim, Kwon and Lee, 2012; Kim, 2007; 2008; Lee, 2005; Ross and Mirowsky, 1995). These factors are important health determinant factors undoubtedly, so it is need Based on this, finding vulnerable groups should be followed. In order to realize the health promotion, it is most important that we find a vulnerable point by various groups. The health promotion policy should be carried out with regards to this point. And it is useful to get an adequate policy effect.

This study aims to explore the vulnerable social groups in Asia countries. And by comparing with each other, we would find some implications on health promotion. So far, the strategies of health promotion was found by each country separately. But from now on, it is need to find the vulnerable groups by countries and find the differences to compare it. The lessons from each other could be useful to all of us. Thus this paper will find the differences of health by countries and groups, using the indicators such as gender, age, marital status, income, education, residence, religion, and will suggest the policies that can correct these discrepancies.

This paper will use the 2006 Asia Barometer Survey. This is the latest data which includes the nations such as Singapore, Japan, South Korea, China, Taiwan and Hong Kong whose levels of economic, public hygiene, medical care and nutritional supply are above the certain level in Asia. Using this data, we will compare means of the health by countries and then I test to find the significant differences in health among each social groups.

II. The Current State of Health Promotion

Every country do it's endeavors to improve the health system to fit their circumstances. According to a related report(WHO,2002), Japan is ranked top in terms of the overall achievement of health system's effectiveness. United States is ranked 15th and South Korea is ranked only 35th in health system achievement. The policy intervention for national health could be divided into pre-preventive one and curative one. The health promotion is pre-preventive which is considered more effective in aspect of financial burden and personal life. This is the reason that the health promotion is being magnified. The health promotion is a concept from this context.

The efforts for health promotion started from 1970s have diffused in the world in 1990s. recommend good health behavior in nutrition, exercise, alcohol, non-smoking etc. and try to make good environment It is similar in formation of health promotion policy in each country. The 'health promotion' concept is the most powerful policy tool to health and it's determinant factors(Jeon, 2006). This has been started from the report titled as "a New Perspectives on the Health of Canadians" in 1974. It is published by Lalonde who was the minister of health and welfare department in Canada. As part of an the health promotion program, the first International Conference on Health Promotion was held in 1986 in Ottawa, Canada. After that, the health promotion conferences have held 7 times until 2011.¹⁾²⁾ By these world health promotion conferences, the concept of health promotion has been indicated and diffused. And this made it possible to establish the concepts and changes of health responsibility from individuals to society(Park and Kim, 2007:139).

Based on results from the health promotion conferences by WHO, it has promoted to concern of health promotion and most countries have been proceeding with health promotion policy. In U.S.A., the 'Healthy People 2010' is carried forward since 1979 to reduce the rate of premature death and maintain the independence of individuals. In 2000, 10 leading health indicators were proposed such as physical activity, overweight and obesity, tobacco use, substance abuse, mental health etc by 'Healthy People 2010'. In Canada, the health promotion policy started from Lalonde Report - New Perspective on the Health of Canadians in 1974. They consider 12 factors for health determinants. They put emphasis on social determinants such as

1) participants : Antigua, Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Eire, England, Finland, France, German Democratic Republic, Federal Republic of Germany, Ghana, Hungary, Iceland, Israel, Italy, Japan, Malta, Netherlands, New Zealand, Northern Ireland, Norway, Poland, Portugal, Romania, St. Kitts-Nevis, Scotland, Spain, Sudan, Sweden, Switzerland, Union of Soviet Socialist Republic, United States of America, Wales and Yugoslavia.

2) 1st in Ottawa, Canada in 1986, 2nd in Adelaide, Australia in 1987, 3rd in Sundsvall, Sweden, 4th in Jakarta, Indonesia in 1997, 5th in Mexico City, Mexico in 2005, 6th in Bangkok, Thailand in 2005, 7th in Nairobi, Kenya in 2011.

income, SES, education, employment, culture, gender for health. It's about the same with other countries. That is, they perform tasks such as prevention of chronic disease, health promotion, exercise and leisure. In Japan whose level of health and the effectiveness of health promotion policy is on top of the world, The project of 'Making National Health' by Japanese ministry of public health and welfare, has been started from 1978. And 'Healthy Japan 21' is currently underway since 2000 which is the third 'Making National Health' project. The goal of 'Healthy Japan 21' is extension of health life expectancy and the major task is divided to 3 parts; improvement of life style, promotion of health and prevention of disease. Above all, the specific goal of life style is nutrition, eating habits, physical activity(exercise), rest, mental health, alcohol, tobacco use, dental health etc. and these are similar to other countries. In Australia, the health promotion policy is in the process of 'Better Health Commission' since 1989. The factors of majority priority are non-smoking, alcohol, diet, physical activity, obesity etc. In Sweden, the major priority tasks are(NIPH) not too different with other countries. They emphasize a protection from health risk, mental health, vocational life, air pollution and accident, infectious disease, overweight and exercise, tobacco use, alcohol, female violence etc. In Australia, the financial resource is gotten by a cigarette tax centrally, and national policy projects have been successfully carried out. In national level, they publish a biennial Australia's Health report from 1988s and the health status is monitored. In UK, 'Our Healthier Nation' has been carried out. In China, the health promotion policy was introduced in 1990s. The General Administration of Sport implement 'Main Points for Health Promotion Plan'³⁾. In South Korea, based on the content which was recommended by WHO, the health promotion policy has been implemented with 'Health Plan 2020' as the central figure. Like this, each government has similar frames with health promotion policy. But there are differences in health status and life expectancy by countries. Although, most countries carry out the similar health promotion policy, some country is healthy but other country is unhealthy. And then, we need to pay attention to the reasons that makes discrepancies. And we could get some lessons from other countries each other. The health promotion policy's priority is to improve the level of health for unhealthy people. Thus, the standards and focuses to apply to the health policy are different by each country. According to this, scarce resources the policy should support, could be different. A large part of the positive and negative resources for health is discovered. Therefore the adequate strategies for it's own society is what's important now.

To achieve this, it is need to consider the social and environmental factors which could impact on the health. The subject of you will be healthy only when you are in a equal society that have been proved by many researches and no doubtable. This is the reason that socioeconomic inequality received attentions in discussion of

3) <http://www.iolaw.org.cn/showNews.asp?id=29653>

health inequality. Thus, previous researches have proved that low income, low education level, low employment status, irregular working related with to unhealthy. Above all, education has the highest explanation power and the most important standard point is high school degree. For the rest, the researches about that the socioeconomic status in childhood days affect on health inequality in adulthood, marital status related to health and parent's education level related to sons' or daughters' health pay attention to the mechanism of effect of sociopsychological factors. Also, there have been causation controversy that which was the preceding factor the low level of health caused by low socioeconomic status(social cause model) or the low level of socioeconomic caused by low level of health(social selection model). But the social cause model have gotten persuasive. The health behavior such as exercise, smoking, health examination, also affect on health level although there are differences according to nations or regions. Moreover, WHO(2000) emphasized the policy effect because the influence of policy is important. Also, the effect of the factor of region receives attention. In the early research, many researchers proved the gaps between rural and urban(Choi and Shin, 1991; Hong, Seo and Hwang, 2004; Lee, 2005) and in-country researches recently have interested in the gaps in seoul among each gu and the interaction effect with personal factors. Especially, the study of Lee et al.(2007) revealed the low mortality in Gangnam, Seocho, Songpa gu than other area, and pointed out the regional inequality. The researches in USA also have been proved that the community effect is related to subjective health(Kawachi et al., 1997; Kennedy et al., 1996; Wilkinson 1998).

Based on the previous researches, this paper will explore differences in health by gender, age, income, marital status, education, job, religion, region, residence. And then check the points of approach to the health promotion in each country. Using the average life expectancy and infant mortality indicator's standards which was reported by WHO, we will except the absolute unhealthiness countries whose levels of health, public hygiene, medical care and nutritional supply are below the certain level. And the influences on the nation's member's health from the nation's economic level is higher than the influences from the inequality factors in society. Therefore, middle Asia, economic deviation is too much, will be excepted, and the object of this research is the countries that the health status and medical care level reached a certain standard. And Singapore, Japan, South Korea, China, Hong Kong and Taiwan is selected.

III. Method

(1) Data

This study uses 2006 Asia Barometer Survey. It covers 6 countries including Singapore, Japan, South Korea, Taiwan, China and Hong Kong. Each Country contains about 1,000 individuals but the sample of China consists of 2,000 individuals.

<Countries Covered>

	2003	2004	2005	2006	2007	2008
7. China	o	o		o		o
8. Hong Kong				o		
11. Japan	o	o		o		o
23. Singapore		o		o		
24. South Korea	o	o		o		
26. Taiwan				o		

(2) Variables

Self-reported health is a valid and reliable measure of general physical well-being (Davies and Ware 1981; Mossey and Shapiro, 1982). Generally, The self-reported health is asked, "How do you think about your health status?". To measuring illness is to ask people to summarise their own general state of health. A good deal of research uses measures of 'self-assessed health'. Is is asked by a simple question like 'In the last two weeks has your health been good, fair or poor?' (Wilkinson, 1996:55). And analysis of this paper will be used the satisfaction of health instead of self-reported health substitutingly. The "satisfaction" is important in health. It is related to a stress level and happiness too. So, the subjective health satisfaction could be an important indicator to assume a personal health.

Dependent variable is the satisfaction of health. Respondents were asked, "Please tell me how satisfied or dissatisfied you are with the following aspects of your life". Responses are 'very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied very dissatisfied'. And items are coded in reverse." The distribution of health satisfaction at baseline is positively skewed. Therefore, log transformation is used to avoid the violation of the normality assumption in OLS regression.

Independent variables are (1) gender is coded 1 for female, 0 for male. (2) Household income group is composed of low, mid and high group and high group is

(3) Age is scored in number of years. (4) Education is coded 1 for low, 2 for mid and 3 for high(reference group). (5) Marital status is coded 1 for persons currently single, 2 for married, 3 for divorced or separated and 4 for widowed. (6) employment status is coded 1 for persons currently employed, 0 for self-employed and 2 for unemployed. (7) Religion were asked, "Do you regard yourself as belonging to any particular religion?". Responses are coded 1 for Catholic and Christian religion other than Catholic, 2 for Buddhist (Mahayana) 7. Buddhist (Hinayana/Theravada), 3 for other religion such as Muslim(Sunnah), Muslim(Shiah), Hindu, Confucian, Jewish, Sikh, Taoism and Other, 4 for None. (8) Residence is asked, "Which category does your current residence fall into?" and responses are coded 1 for owner-occupied detached or semi-detached (duplex) house and owner-occupied terraced house or unit in an apartment or condominium complex, coded 2 for rented detached or semi-detached (duplex) house and rented terraced house or unit in an apartment or condominium complex and coded 3 for other (a room in a relative's home, etc.). (9) Region is different in countries. In Japan the reference group is Kanto and the region of Hokkaido/Tohoku, Chubu, Kinki, Chugoku/Shikoku and Kyushu are considered. In South Korea, the region is classified with Seoul metropolitan area(reference group), Middle area, South-west area and South-east area. In China, the region is classified with Eastern, Central region and Western region. In Taiwan, the region is classified with Northern, Western and Southern.

Mediator variables are asked, "please tell me how satisfied or dissatisfied you are with the following aspects of your life". Responses are 'very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied very dissatisfied'. (1) The living satisfaction is measured with 5 items; housing, standard, income, education and job and the scale is the mean response to this five items, and alpha reliability of the scale is .784. (2) The relationactivity satisfaction scale is the mean response to the 6 items; friendships, marriage, neighbors, family, leisure, spiritual, and alpha reliability of the scale is .771 (3) The system satisfaction scale is the mean of 4 items; safety, environment, welfare, democratic, and alpha reliability of the scale is .764.

(3) Methods

First of all, this paper shows the descriptive statistics about the health satisfactions by countries. And stand on the basis of this, the relations between independent variables and the health satisfaction would be analyzed by multiple regression analyses on each country.

IV. Results

4.1. Descriptive Statistics

<Figure 1> Most Important

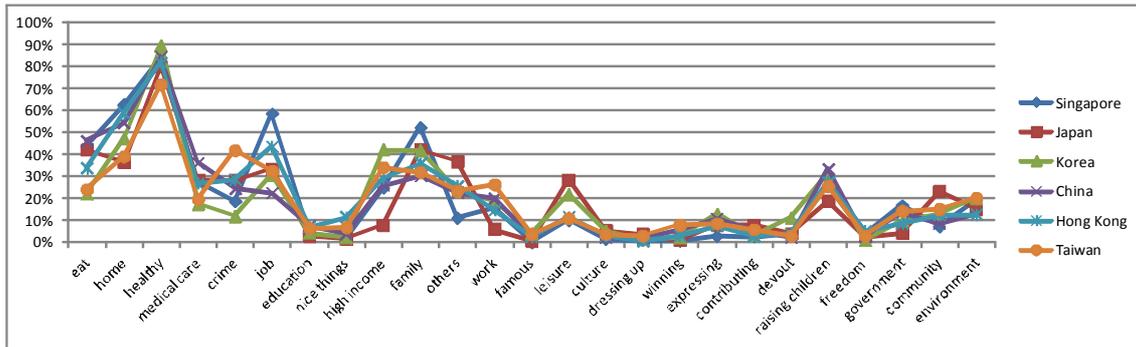


Figure 1 is showed that the percentages of responses from the question of "Of the following lifestyle aspects or life circumstances, please select five that are important to you". It is responded that Having enough to eat, Having a comfortable home, Being healthy, Having access to good medical care if required, Being able to live without fear of crime, Having a job, Having access to higher (beyond compulsory) education, Owning lots of nice things, Earning a high income, Spending time with your family, Being on good terms with others, Being successful at work, Being famous, Enjoying leisure, Appreciating art and culture, Dressing up, Winning over others, Expressing your personality or using your talents, Contributing to your local community or to society, Being devout, Raising children, Freedom of expression and association, Living in a country with a good government, Having pleasant community to live, Having safe and clean environment.

Health is the most important thing every countries overwhelmingly. The level of importance of the item of 'having enough to eat' which is much related with health, was low relatively in South Korea and Taiwan, compared to other countries. And in Japan, the high income is important in South Korea and Taiwan but not in Japan. In Japan and South Korea, the leisure is relatively important and in Singapore and Japan the famous is important little.

<Table 1> Most Important

	Singapore	Japan	Korea	China	Hong Kong	Taiwan
eat	450 (43.4%)	422 (42.1%)	225 (22%)	924 (46.2%)	337 (33.7%)	242 (24.1%)
home	650 (62.6%)	365 (36.4%)	483 (47.2%)	1086 (54.3%)	588 (58.8%)	392 (39.0%)
healthy	870 (83.8%)	803 (80.1%)	914 (89.3%)	1684 (84.2%)	816 (81.6%)	721 (71.7%)
medical care	286 (27.6%)	285 (28.4%)	178 (17.4%)	723 (36.2%)	268 (26.8%)	196 (19.5%)
crime	193 (18.6%)	281 (28.1%)	122 (11.9%)	487 (24.4%)	286 (28.6%)	420 (41.7%)
job	607 (58.5%)	336 (33.5%)	314 (30.7%)	447 (22.4%)	436 (43.6%)	325 (32.3%)
education	44 (4.2%)	30 (3.0%)	43 (4.2%)	147 (7.4%)	69 (6.9%)	64 (6.4%)
nice things	19 (1.8%)	16 (1.6%)	24 (2.3%)	80 (4.0%)	115 (11.5%)	67 (6.7%)
high income	255 (24.6%)	79 (7.9%)	431 (42.1%)	520 (26.0%)	291 (29.1%)	342 (34.0%)
family	542 (52.2%)	422 (42.1%)	428 (41.8%)	605 (30.3%)	360 (36.0%)	320 (31.8%)
others	115 (11.1%)	369 (36.8%)	241 (23.6%)	451 (22.6%)	257 (25.7%)	234 (23.3%)
work	162 (15.6%)	59 (5.9%)	193 (18.9%)	399 (20.0%)	146 (14.6%)	264 (26.2%)
famous	1 (0.1%)	6 (0.6%)	40 (3.9%)	50 (2.5%)	25 (2.5%)	37 (3.7%)
leisure	104 (10%)	285 (28.4%)	223 (21.8%)	228 (11.4%)	115 (11.5%)	111 (11.0%)
culture	13 (1.3%)	54 (5.4%)	53 (5.2%)	46 (2.3%)	30 (3.0%)	36 (3.6%)
dressing up	8 (.8%)	38 (3.8%)	14 (1.4%)	37 (1.9%)	7 (.7%)	29 (2.9%)
winning	5 (.5%)	8 (0.8%)	22 (2.2%)	119 (6.0%)	30 (3.0%)	78 (7.8%)
expressing	29 (2.8%)	80 (8%)	131 (12.8%)	216 (10.8%)	76 (7.6%)	87 (8.6%)
contributing	28 (2.7%)	80 (8%)	32 (3.1%)	101 (5.1%)	28 (2.8%)	58 (5.8%)
devout	42 (4.0%)	39 (3.9%)	114 (11.1%)	43 (2.2%)	39 (3.9%)	20 (2.9%)
raising children	267 (25.7%)	187 (18.6%)	320 (31.3%)	665 (33.3%)	273 (27.3%)	257 (25.5%)
freedom of expression	34 (3.3%)	27 (2.7%)	8 (0.8%)	53 (2.7%)	50 (5.0%)	29 (2.9%)
government	174 (16.8%)	43 (4.3%)	99 (9.7%)	271 (13.6%)	86 (8.6%)	143 (14.2%)
community	75 (7.2%)	232 (23.1%)	131 (12.8%)	171 (8.6%)	124 (12.4%)	151 (15.0%)
environment	199 (19.2%)	152 (15.2%)	205 (20%)	255 (12.8%)	126 (12.6%)	203 (20.2%)

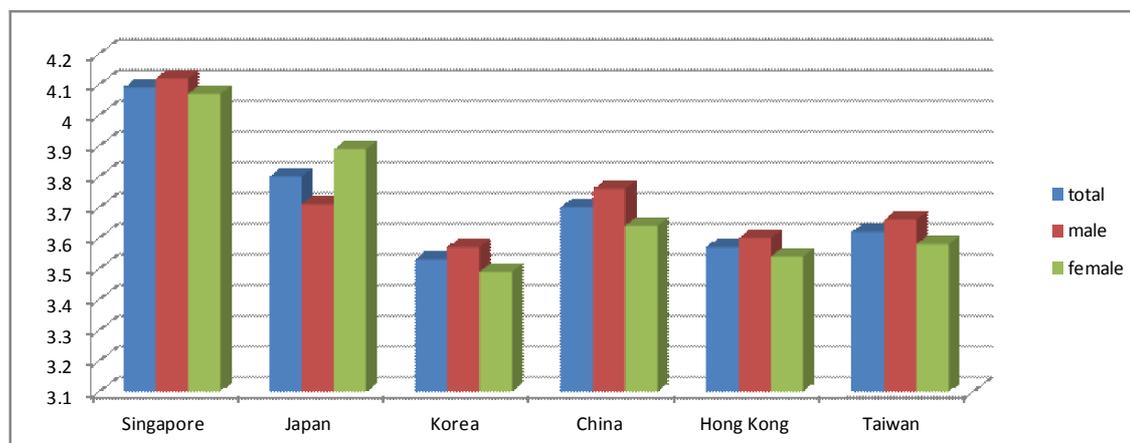
<Table 2> Mean of the satisfaction of health by country

Country		Mean	N	Std. Deviation
Singapore	male	4.12	475	.819
	female	4.07	563	.778
	total	4.09	1038	.797
Korea	male	3.57	512	.940
	female	3.49	511	1.002
	total	3.53	1023	.972
Japan	male	3.71	502	.991
	female	3.89	501	.933
	total	3.80	1003	.966
China	male	3.76	1015	.988
	female	3.64	985	1.090
	total	3.70	2000	1.041
Hong Kong	male	3.60	484	.678
	female	3.54	516	.740
	total	3.57	1000	.711
Taiwan	male	3.66	514	.863
	female	3.58	492	.815
	total	3.62	1006	.840

The satisfaction of health is the highest in Singapore among six countries. And in most countries, the female's health satisfaction is lower than male's. This result support the previous research that report female is vulnerable in health. By the way, in Japan the mean of the health satisfaction of female is higher than male.

Total Singapore > Japan > China > Taiwan > Hong Kong > Korea
 male Singapore > **China** > **Japan** > Taiwan > Hong Kong > Korea
 female Singapore > Japan > China > Taiwan > Hong Kong > Korea

<Figure 2> The Satisfaction of Health



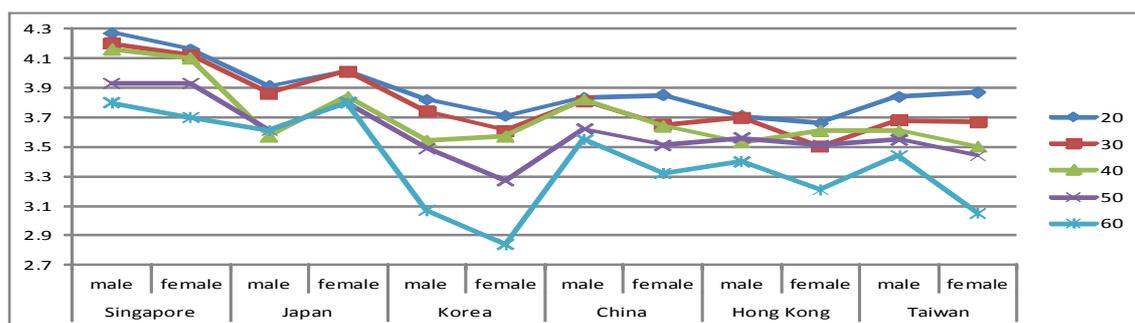
4.2.1. Age and the level of health satisfaction

<Table 3-1> Mean by age

Country	Gender	Age	Mean	N	Std. Deviation	Country	Mean	N	Std. Deviation
Singapore	male	20	4.27	93	.678	China	3.83	207	.953
		30	4.20	125	.803		3.81	299	.945
		40	4.16	132	.809		3.82	233	1.011
		50	3.93	85	.910		3.62	177	.952
		60	3.80	40	.883		3.55	99	1.145
	female	20	4.16	111	.654		3.85	209	1.133
		30	4.12	163	.732		3.65	285	1.076
		40	4.10	162	.744		3.64	224	.912
		50	3.93	94	.871		3.51	173	1.242
		60	3.70	33	1.104		3.32	94	1.039
Japan	male	20	3.91	96	1.016	Hong Kong	3.71	101	.653
		30	3.86	111	.899		3.70	119	.618
		40	3.57	93	1.026		3.53	131	.660
		50	3.61	112	.998		3.56	78	.676
		60	3.61	90	.991		3.40	55	.840
	female	20	4.01	92	.932		3.66	114	.739
		30	4.01	108	.743		3.50	139	.774
		40	3.84	91	.969		3.61	137	.667
		50	3.80	113	1.028		3.51	78	.716
		60	3.80	97	.964		3.21	48	.798
South Korea	male	20	3.82	106	.837	Taiwan	3.84	130	.852
		30	3.74	112	.825		3.68	120	.809
		40	3.54	123	.880		3.61	123	.826
		50	3.49	98	1.018		3.55	91	.898
		60	3.07	73	1.045		3.44	50	.972
	female	20	3.71	102	1.191		3.87	120	.685
		30	3.61	152	.900		3.67	120	.792
		40	3.57	133	.907		3.50	120	.917
		50	3.27	73	.886		3.44	90	.689
		60	2.84	51	.987		3.05	42	.825

Every country tends to get lower of the health satisfaction with advancing years. But in Japan, the level of health satisfaction get lower in the early stage and then after 50s, there is no change in the health level or get higher a little. South Korea and Taiwan, worst in the level of health satisfaction, shows a yawning gap among age groups. Especially, the level of health satisfaction of the female group in South Korea and Taiwan fall sharply from 60s.

<Figure 3-1> Mean by age

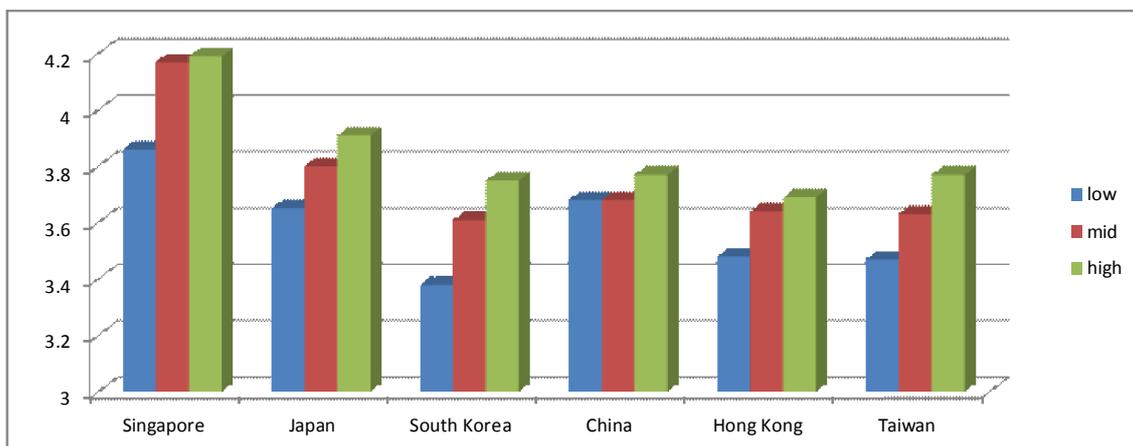


4.2.2. Income and the level of health satisfaction

<Table 3-2> Mean by income

Country	income	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	low	3.86	279	.843	China	3.68	1366	1.089
	mid	4.17	382	.752		3.68	300	.943
	high	4.19	344	.765		3.77	324	.914
Japan	low	3.65	370	1.020	Hong Kong	3.48	380	.739
	mid	3.80	222	.941		3.64	466	.675
	high	3.91	160	.845		3.69	91	.662
South Korea	low	3.38	487	1.078	Taiwan	3.47	212	.868
	mid	3.61	321	.847		3.63	609	.814
	high	3.75	183	.825		3.77	163	.826

<Figure 3-2> Mean by income



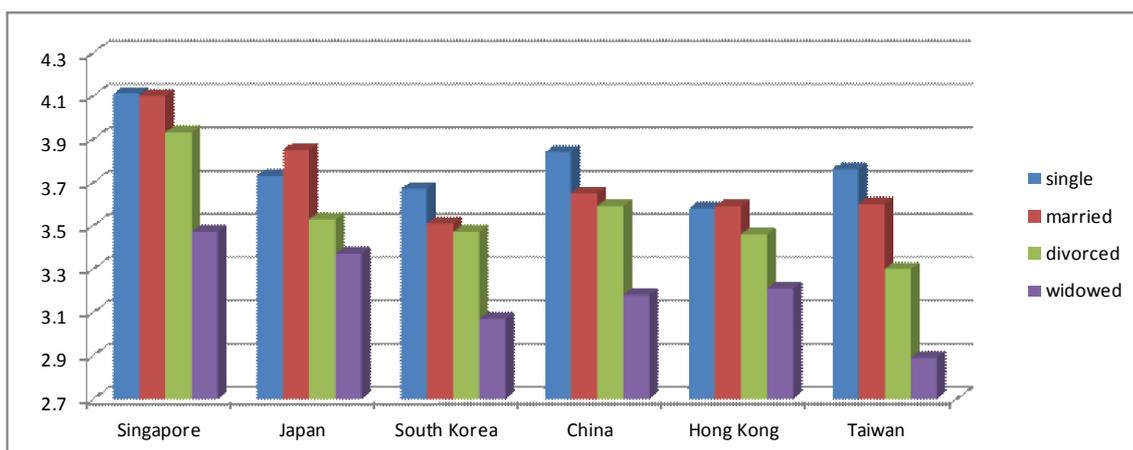
In Japan and South Korea, the inequality of the health satisfaction by income relatively shows clear distinction. In Singapore and Hong Kong, the health satisfaction of the low income group is not good also. The widened gap by income level in South Korea could be explained by their own social nature that there is heavy competition and comparing themselves with those around ones. That is, in South Korea, the population is centralized toward the metropolitan area and the society is comprised of homogeneous individuals. And the competition and comparison is severe. It could affect to the stress level of member of society. In China, there was little differences among the income groups and the low income group's health satisfaction was not so low.

4.2.3. Marital status and the level of health satisfaction

<Table 3-3> Mean by marital status

Country	marital status	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	single	4.11	267	.777	China	3.84	332	.992
	married	4.10	724	.788		3.65	1568	.967
	divorced	3.93	30	.907		3.59	37	.896
	widowed	3.47	17	1.068		3.18	44	1.126
Japan	single	3.73	192	1.052	Hong Kong	3.58	302	.729
	married	3.85	730	.905		3.59	631	.691
	divorced	3.53	43	1.077		3.46	37	.767
	widowed	3.37	35	1.060		3.21	24	.833
South Korea	single	3.67	213	1.008	Taiwan	3.76	258	.821
	married	3.51	764	.954		3.60	709	.826
	divorced	3.47	17	1.068		3.30	20	1.031
	widowed	3.07	29	.961		2.89	18	.963

<Figure 3-3> Mean by marital status



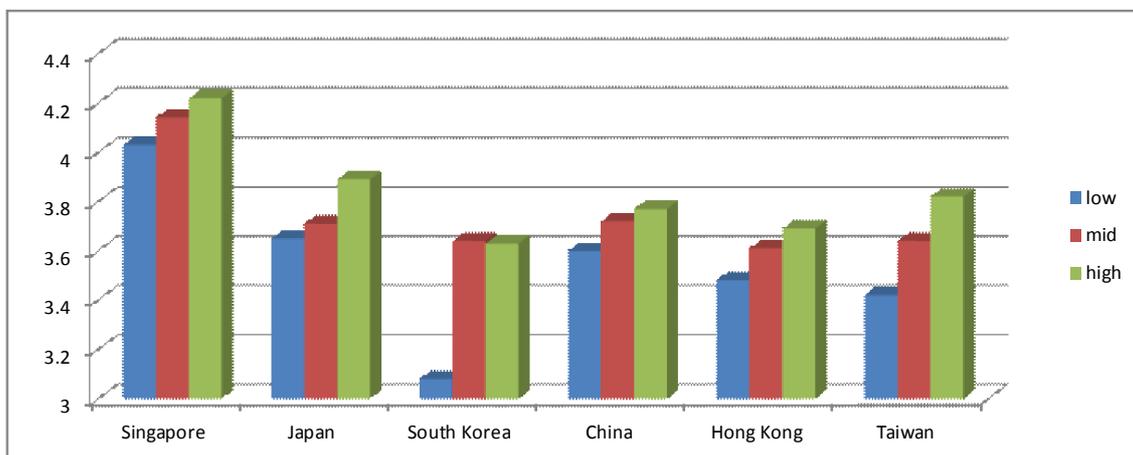
Averagely, the widowed group has the lowest health satisfaction and the next worst level of health satisfaction is the divorced group. There are some differences of the health satisfaction of the marital group and the single group to the countries. In Singapore, South Korea, China and Taiwan the health satisfaction of the single group is high. In Japan, and Hong Kong, the marriage group's health satisfaction is highest.

4.2.4. Education and the level of health satisfaction

<Table 3-4> Mean by education

Country	education	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	low	4.03	597	.837	China	3.60	987	1.022
	mid	4.14	252	.768		3.72	488	.930
	high	4.22	189	.685		3.77	516	.932
Japan	low	3.65	82	.935	Hong Kong	3.48	420	.719
	mid	3.71	442	1.006		3.61	419	.698
	high	3.89	472	.891		3.69	159	.702
South Korea	low	3.08	195	1.045	Taiwan	3.42	325	.884
	mid	3.64	441	.952		3.64	395	.801
	high	3.63	386	.889		3.82	286	.792

<Figure 3-4> Mean by education



Most countries shows that increase of a education level is related with a higher level of health satisfaction. But in South Korea, the middle level of education group has the highest level of health satisfaction. But a gap between low education group and the other group is great. And this gap is wide, compared to the other countries' low education groups.

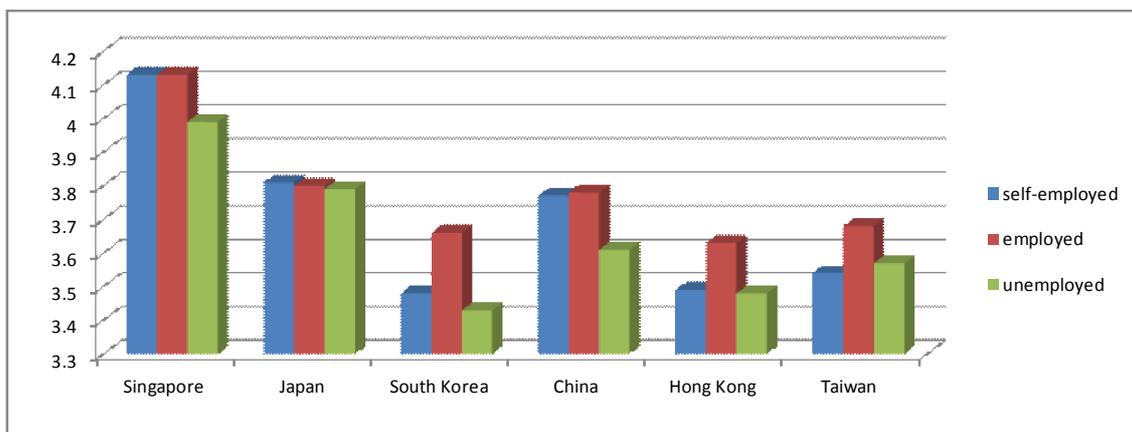
4.2.5. Employment and the level of health satisfaction

<Table 3-5> Mean by employment

Country	Occupational group	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	self-employed	4.13	62	.820	China	3.77	387	.962
	employed	4.13	652	.763		3.78	456	.942
	unemployed	3.99	323	.852		3.61	170	.999
Japan	self-employed	3.81	140	.993	Hong Kong	3.49	39	.756
	employed	3.80	547	.926		3.63	600	.667
	unemployed	3.79	310	.970		3.48	359	.769
South Korea	self-employed	3.48	245	.943	Taiwan	3.54	175	.882
	employed	3.66	338	.840		3.68	506	.809
	unemployed	3.43	438	1.003		3.57	325	.860

Unemployment group is the lowest in the level of health satisfaction. In most countries, the employed group shows the highest level of the health satisfaction but only in Japan, the self-employed group is more healthy. Also, in Singapore and China, the self-employed group has a high level of health satisfaction as well as the employed group. And the unemployed group in Japan has not a low level of health satisfaction. But in South Korea, Taiwan and Hong Kong, the mean differences among three employment groups are very clear and especially, the South Korea's unemployment group's level of health satisfaction is very low.

<Figure 3-5> Mean by employment



4.2.6. Residence and the level of health satisfaction

<Table 3-6> Mean by residence

Country	residence	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	owner	4.09	998	.798	China	3.68	1538	.967
	rented	4.13	30	.730		3.72	292	.966
	relative	4.29	7	1.113		3.55	154	1.121
Japan	owner	3.82	708	.943	Hong Kong	3.62	566	.706
	rented	3.77	287	.963		3.50	434	.714
	relative	3.17	6	1.329		-		
South Korea	owner	3.52	806	.966	Taiwan	3.64	890	.828
	rented	3.54	211	.996		3.54	91	.873
	relative	4.00	6	.894		3.24	25	1.052

Singapore **relative > rented > owner**

Japan owner > rented > relative

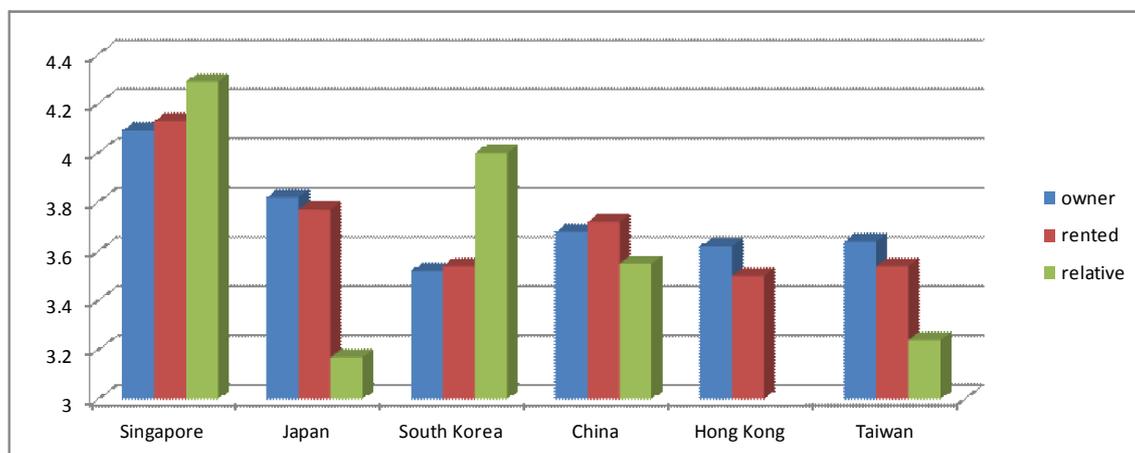
South Korea **relative > rented > owner**

China rented > owner > relative

Hong Kong owner > rented

Taiwan owner > rented > relative

<Figure 3-6> Mean by residence



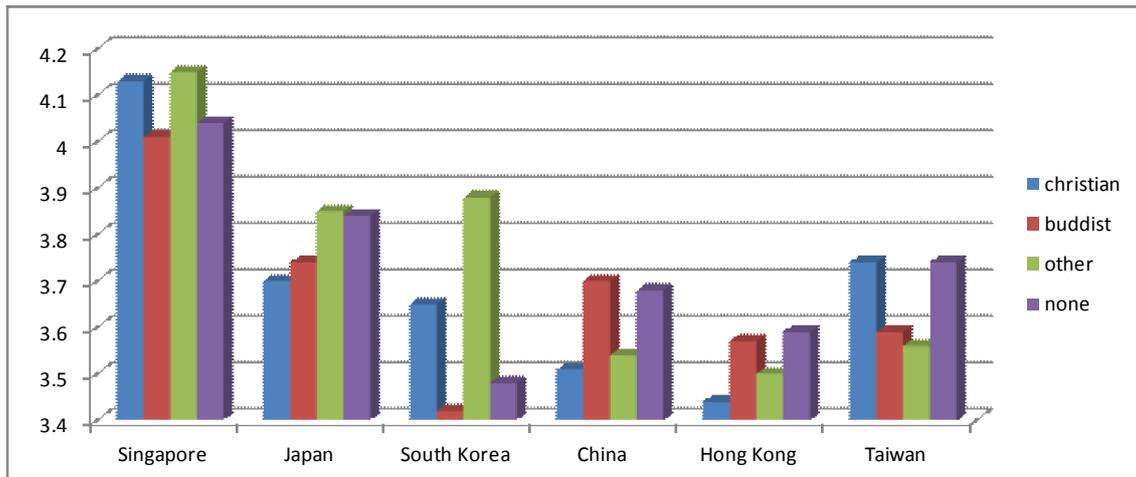
In Japan, Hong Kong and Taiwan, the owner group's health satisfaction is the highest and in South Korea and Singapore, the relative group's health satisfaction is the highest. And in China, the rented group's health satisfaction is the highest.

4.2.7. Religion and the level of health satisfaction

<Table 3-7> Mean by religion

Country	religion	mean	N	Std. Deviation	Country	mean	N	Std. Deviation
Singapore	christian	4.13	173	.759	China	3.51	81	1.131
	buddhist	4.01	312	.824		3.70	264	1.022
	other	4.15	420	.794		3.54	54	.985
	none	4.04	133	.782		3.68	1585	.965
Japan	christian	3.70	23	1.259	Hong Kong	3.44	133	.773
	buddhist	3.74	322	.969		3.57	131	.734
	other	3.85	39	.961		3.50	6	.837
	none	3.84	602	.925		3.59	728	.694
South Korea	christian	3.65	334	.975	Taiwan	3.74	31	.930
	buddhist	3.42	224	1.012		3.59	311	.848
	other	3.88	17	.857		3.56	419	.860
	none	3.48	441	.949		3.74	242	.775

<Figure 3-7> Mean by religion



In South Korea the none and buddhist group's health satisfaction is low. In Singapore and Taiwan, the christian's health satisfaction is high and in China, the buddhist group shows a high level of health satisfaction. And in China, Japan, Taiwan and Hong Kong, the none group also has a high level of health satisfaction relatively. In other words, only in Korea, the none group's health satisfaction is vulnerable. In Singapore, Taiwan and South Korea, if except the other group, the christian group is the highest group in the health satisfaction. And in China and Hong Kong, the group of buddhist and none is higher than the christian group in the health satisfaction.

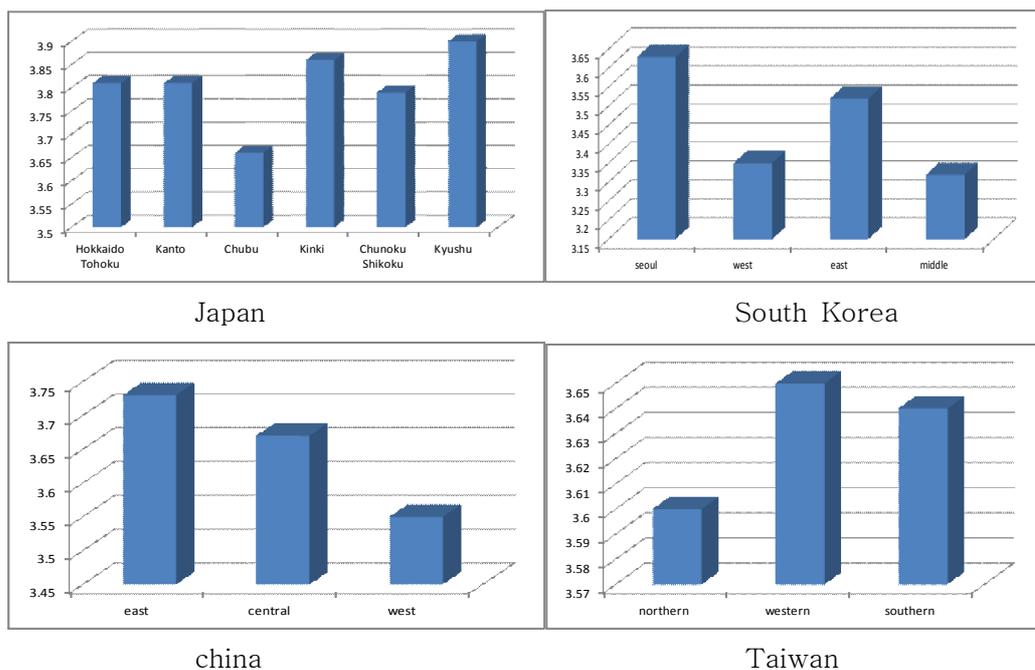
4.2.8. Region and the level of health satisfaction

<Table 3-8> Mean by region

Country	region	mean	N	Std. Deviation
Japan	Hokkaido	3.81	120	.929
	Tohoku			
	Kanto	3.81	330	.970
	Chubu	3.66	181	.909
	Kinki	3.86	170	.910
	Chunoku	3.79	91	.995
	Shikoku			
South Korea	Kyushu	3.90	110	1.013
	seoul	3.63	507	.945
	west	3.35	111	1.067
	east	3.52	271	.885
China	middle	3.32	134	1.101
	east	3.73	839	.947
	central	3.67	755	.999
Taiwan	west	3.55	397	1.003
	northern	3.60	476	.787
	western	3.65	240	.846
	southern	3.64	290	.917

Singapore and Hong Kong have no data about region and this is analyzed only the case of Japan, South Korea, China and Taiwan.

<Figure 3-8> Mean by region



2. Multiple Regression Results

<Table 4> Relationship between the satisfaction of health and Socioeconomic factors

	dependent variable : health					
	Singapore	Japan	SouthKorea	China	HongKong	Taiwan
female	-.012 (.015)	.052** (.020)	-.051* (.021)	-.043** (.014)	-.024 (.015)	-.019 (.017)
age	-.003*** (.001)	-.003*** (.001)	-.005*** (.001)	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)
low(edu)	-.005 (.023)	-.028 (.038)	-.066† (.038)	-.017 (.020)	-.039 (.025)	-.065* (.026)
middle(edu)	-.014 (.023)	-.040† (.021)	.041† (.024)	.007 (.021)	-.018 (.022)	-.035 (.022)
low(income)	-.073*** (.020)	-.070** (.023)	-.087** (.028)	-.035† (.021)	-.020 (.023)	-.059* (.027)
middle(income)	-.001 (.018)	-.049† (.026)	-.026 (.028)	.036 (.025)	.013 (.021)	-.030 (.022)
widowed	-.120* (.058)	-.109* (.055)	.114 (.062)	-.119* (.050)	-.075 (.048)	-.197** (.063)
divorced-separated	-.012 (.044)	-.086† (.049)	.017 (.078)	-.006 (.053)	-.021 (.039)	-.114† (.059)
single	-.031† (.019)	-.090** (.029)	-.087* (.034)	-.004 (.023)	-.073*** (.021)	-.041† (.025)
living satisfaction						
relationactivity satis						
system satisfaction						
Constant	1.557*** (.036)	1.469*** (.045)	1.532*** (.061)	1.425*** (.035)	1.424*** (.043)	1.487*** (.048)
R ²	.054	.052	.088	.026	.037	.067

note: † P<.10 * P<.05 ** P<.01 *** P<.001 (2-tailed tests).

reference groups : male, high income, high education, married.

In Japan, the female group is higher than male in the level of health satisfaction. Otherwise, in South Korea and China, the health satisfaction of female is lower than male significantly. And all 6 countries have differences in the health satisfaction by age. By education level, the health satisfaction is lower in the low education group than high education group in South Korea and Taiwan. Also, in Japan, the middle education group has a lower satisfaction level than the high education group in the health satisfaction. But in South Korea, the middle education group's health satisfaction is higher than the high education group's. The level of health satisfaction by income is significant in most countries except in Hong Kong, but in China the significant was not strong. In most countries, the low income group's health satisfaction is lower than the high income group's significantly. Only in Japan,

the middle income group has significantly a higher level of health satisfaction than the low income group. By marital status the health satisfaction, in Singapore, Japan, China and Taiwan, is lower in the widowed group than the married group. In Singapore, Japan, South Korea, Hong Kong and Taiwan, the single group's health satisfaction is lower than the married group's significantly. In South Korea and Hong Kong, the single group is and in China, the widowed group is and in Singapore and Taiwan, the widowed group and the single group are vulnerable. In Japan, the marriage group is the highest in the health satisfaction among 4 groups.

	dependent variable : health					
	Singapore	Japan	SouthKorea	China	HongKong	Taiwan
female	-.009 (.013)	.030 [†] (.018)	-.047* (.019)	-.047*** (.013)	-.011 (.015)	-.024 (.015)
age	-.003*** (.001)	-.003*** (.001)	-.005*** (.001)	-.003*** (.001)	-.002*** (.001)	-.004*** (.001)
low(educ)	.015 (.019)	.022 (.034)	-.013 (.035)	.031 [†] (.018)	.016 (.024)	.001 (.024)
middle(educ)	.001 (.020)	-.013 (.019)	.081*** (.022)	.020 (.019)	.014 (.020)	.008 (.020)
low(income)	-.029 (.018)	-.016 (.021)	.011 (.026)	.031 (.019)	.009 (.021)	.003 (.024)
middle(income)	.005 (.015)	-.021 (.023)	.026 (.026)	-.012 (.023)	.021 (.020)	-.008 (.020)
widowed	-.077 (.049)	-.106* (.049)	.064 (.057)	-.039 (.045)	-.078 [†] (.045)	-.110 [†] (.056)
divorced·separated	.104** (.038)	-.044 (.043)	.105 (.071)	.086 [†] (.048)	.020 (.036)	-.056 (.053)
single	-.009 (.016)	-.046 [†] (.026)	-.066* (.031)	.020 (.021)	-.051** (.019)	-.028 (.022)
living satisfaction	-.133*** (.013)	-.111*** (.017)	-.144*** (.019)	-.130*** (.013)	-.105*** (.018)	-.173*** (.017)
relationactivity satis	-.097*** (.017)	-.116*** (.020)	-.079*** (.022)	-.127*** (.013)	-.062** (.020)	-.079*** (.018)
system satisfaction	-.014 (.011)	-.048*** (.014)	-.034* (.015)	.015 (.011)	-.060*** (.016)	.019 (.013)
Constant	2.007*** (.039)	2.118*** (.057)	2.127*** (.072)	2.006*** (.046)	1.943*** (.056)	2.012*** (.062)
R ²	.320	.249	.248	.201	.185	.255

In six countries, the living satisfaction, the relationactivity satisfaction and the system satisfaction was all related to the level of health satisfaction. But the system satisfaction was related to health only in Hong Kong, Japan and South Korea.

<Table 5> Relationship between the satisfaction of health and residence

	dependent variable : health					
	Singapore		Japan		South Korea	
female	-0.009 (.016)	-0.009 (.016)	.056** (.015)	.056*** (.021)	-.024 (.023)	-.024 (.023)
age	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.006*** (.001)	-.006*** (.001)
low(educ)	-.008 (.031)	-.004 (.023)	-.031 (.038)	-.033 (.038)	-.069† (.038)	-.069† (.038)
middle(educ)	-.012 (.017)	-.013 (.023)	-.040† (.021)	-.042* (.021)	.033 (.024)	.034 (.024)
low(income)	-.071*** (.021)	-.071*** (.021)	-.070** (.023)	-.066* (.024)	-.083* (.028)	-.079** (.028)
middle(income)	-.001 (.018)	-.001 (.018)	.048† (.026)	-.047† (.026)	-.027 (.028)	-.025 (.028)
widowed	-.117* (.058)	-.117** (.058)	-.109* (.055)	-.108† (.055)	.011 (.062)	.015 (.062)
divorced-separated	-.015 (.044)	-.015 (.044)	-.086† (.049)	-.079 (.049)	.012 (.078)	.020 (.078)
single	-.032† (.019)	-.032† (.019)	-.089** (.029)	-.087** (.029)	-.081* (.034)	-.083* (.034)
self-employed ²	-.008 (.031)	-.008 (.031)	.026 (.030)	.024 (.030)	-.005 (.028)	-.007 (.028)
unemployed ²	-.012 (.017)	-.012 (.017)	-.002 (.024)	-.002 (.024)	-.073** (.024)	-.076** (.025)
rented		.002 (.044)		-.010 (.023)		-.026 (.026)
relative		.020 (.088)		-.257* (.127)		.176 (.129)
Constant	1.556*** (.036)	1.555*** (.036)	1.467*** (.045)	1.477*** (.047)	1.560*** (.062)	1.573*** (.063)
R ²	.055	.055	.053	.057	.097	.100

note: † P<.10 * P<.05 ** P<.01 *** P<.001 (2-tailed tests).

reference groups : male, high income, high education, married, employed, owner.

In Singapore and South Korea, the influence of residence on health was not significant. In Japan, on the other hand, the health satisfaction of the relative group was lower than the owner group.

	dependent variable : health ¹					
	China		Hong Kong		Taiwan	
female	-0.038*	-0.038**	-0.016	-0.015	-0.020	-0.019
	(.015)	(.015)	(.015)	(.015)	(.017)	(.017)
age	-0.002***	-0.002***	-0.003**	-0.003***	-0.003***	-0.004***
	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
low(educ)	-.012	-.012	-.038	-.035	-.064*	-.057*
	(.021)	(.021)	(.025)	(.025)	(.026)	(.027)
middle(educ)	.009	.007	-.020	-.019	-.034	-.030
	(.021)	(.021)	(.022)	(.022)	(.022)	(.022)
low(income)	-.034	-.030	-.020	-.014	-.058*	-.052†
	(.021)	(.021)	(.023)	(.023)	(.027)	(.027)
middle(income)	-.036	-.036	.010	.013	-.030*	-.029
	(.025)	(.025)	(.021)	(.021)	(.022)	(.022)
widowed	-.115*	-.112*	-.070	-.070	-.198**	-.199**
	(.050)	(.050)	(.048)	(.048)	(.063)	(.063)
divorced·separated	-.008	-.007	-.020	-.013	-.118*	-.119*
	(.053)	(.053)	(.039)	(.039)	(.060)	(.060)
single	.001	.003	-.072***	-.071***	-.043†	-.022
	(.023)	(.023)	(.021)	(.021)	(.025)	(.023)
self-employed ²	-.008	-.007	-.040	-.040	-.023	-.022
	(.019)	(.019)	(.038)	(.038)	(.023)	(.023)
unemployed ²	-.031	-.033†	-.027	-.029†	-.005	-.005
	(.019)	(.019)	(.017)	(.007)	(.020)	(.020)
rented		-.007		-.033*		-.035
		(.021)		(.015)		(.029)
relative		-.068*				-.116*
		(.027)				(.054)
Constant	1.415***	1.421***	1.422***	1.434***	1.492***	1.493***
	(.036)	(.036)	(.043)	(.043)	(.048)	(.048)
R ²	.027	.030	.040	.045	.069	.074

In China and Taiwan also the health satisfaction of the relative group was lower than the owner group like Japan. But in Hong Kong, the level of health satisfaction of the rented group was lower than the owner group significantly.

<Table 6> Relationship between the satisfaction of health and religion

	dependent variable : health					
	Singapore		Japan		South Korea	
female	-0.012 (.015)	-0.009 (.015)	.052** (.020)	.054** (.020)	-.051* (.021)	-.060** (.021)
age	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.005*** (.001)	-.006*** (.001)
low(educ)	-.005 (.023)	-.007 (.023)	-.028 (.038)	-.028 (.038)	-.066† (.038)	-.061 (.038)
middle(educ)	-.014 (.023)	-.014 (.023)	-.040† (.021)	-.040† (.021)	.041† (.024)	.043† (.024)
low(income)	-.073*** (.020)	-.081*** (.021)	-.070** (.023)	-.069** (.023)	-.087** (.028)	-.089*** (.028)
middle(income)	-.001 (.018)	-.004 (.018)	-.049† (.026)	-.048† (.026)	-.026 (.028)	-.026 (.028)
widowed	-.120* (.058)	-.128* (.058)	-.109* (.055)	-.111* (.056)	.114 (.062)	.009 (.062)
divorced-separated	-.012 (.044)	-.013 (.044)	-.086† (.049)	-.086† (.049)	.017 (.078)	.018 (.078)
single	-.031† (.019)	-.026 (.019)	-.090** (.029)	-.085** (.029)	-.087* (.034)	-.086* (.034)
bud		-.033 (.022)		.098† (.053)		-.044 (.027)
other		.009 (.017)		.123† (.070)		.128 (.078)
none		-.038 (.009)		.100* (.051)		-.063** (.023)
Constant	1.557*** (.036)	1.559*** (.040)	1.469*** (.045)	1.373*** (.066)	1.532*** (.061)	1.576*** (.063)
R ²	.054	.061	.052	.056	.088	.099

note: † P<.10 * P<.05 ** P<.01 *** P<.001 (2-tailed tests).

reference groups : male, high income, high education, married, christian.

In Singapore, the religion difference was not significant in the health satisfaction. And in Japan, the group of bud, other and none were significantly higher in the level of health satisfaction than the group of christian. On the other hand, in South Korea, the group of none was lower than the group of christian in the level of health satisfaction significantly.

dependent variable : health ¹						
	China		Hong Kong		Taiwan	
female	-.043** (.014)	-.043** (.014)	-.024 (.015)	-.023 (.015)	-.019 (.017)	-.018 (.017)
age	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.003*** (.001)	-.004*** (.001)
low(edu)	-.017 (.020)	-.017 (.020)	-.039 (.025)	-.052* (.025)	-.065* (.026)	-.054* (.027)
middle(edu)	.007 (.021)	.006 (.021)	-.018 (.022)	-.027 (.022)	-.035 (.022)	-.030 (.022)
low(income)	-.035† (.021)	-.038† (.021)	-.020 (.023)	-.022 (.023)	-.059* (.027)	-.062* (.027)
middle(income)	.036 (.025)	-.037 (.025)	.013 (.021)	.011 (.021)	-.030 (.022)	-.029 (.022)
widowed	-.119* (.050)	-.119* (.050)	-.075 (.048)	-.072 (.048)	-.197** (.063)	-.205*** (.063)
divorced·separated	-.006 (.053)	-.003 (.053)	-.021 (.039)	-.020 (.039)	-.114† (.059)	-.110† (.059)
single	-.004 (.023)	-.003 (.023)	-.073*** (.021)	-.073*** (.021)	-.041† (.025)	-.045† (.025)
bud		.072† (.039)		.066* (.029)		-.042 (.048)
other		.006 (.055)		.027 (.095)		-.056 (.047)
none		.055 (.035)		.060** (.022)		-.023 (.048)
Constant	1.425*** (.035)	1.375*** (.047)	1.424*** (.043)	1.379*** (.046)	1.487*** (.048)	1.527*** (.065)
R ²	.026	.028	.037	.045	.067	.070

In China, the group of bud was higher than the group of christian in the level of health satisfaction. In Hong Kong, the group of bud and none were higher than the group of christian in the level of health satisfaction. But in Taiwan, there were no significant effect of religion on the health satisfaction.

<Table 7> Relationship between the satisfaction of health and region in Japan, South Korea and China : the effect of mediator

		dependent variable : health				
		Japan	South Korea		China	
female		.053** (.020)	-0.048* (.021)	-0.043* (.019)	-0.044** (.014)	-0.047*** (.013)
age		-0.003** (.001)	-0.005*** (.001)	-0.005*** (.001)	-0.003*** (.001)	-0.003*** (.001)
low(educ)		-.033 (.038)	-.067† (.038)	-.013 (.035)	-.018 (.020)	.031† (.019)
middle(educ)		-.045* (.021)	.039 (.024)	.078*** (.022)	.005 (.021)	.020 (.019)
low(income)		-.073** (.023)	-.079** (.028)	.025 (.026)	-.026 (.022)	.030 (.020)
middle(income)		-.048† (.026)	-.027 (.028)	.031 (.026)	-.030 (.026)	-.012 (.023)
widowed		-.110* (.055)	.004 (.062)	.057 (.056)	-.117* (.049)	-.038 (.045)
divorced·separated		-.085† (.049)	.004 (.078)	.096 (.071)	-.007 (.053)	.085† (.048)
single		-.086** (.029)	-.083* (.034)	-.059† (.031)	-.005 (.023)	.020 (.021)
HT	east central	.015 (.033)	-.005 (.024)	-.041† (.022)	-.018 (.016)	.007 (.015)
Chubu	west west	-.036 (.028)	-.081* (.033)	-.105*** (.030)	-.048* (.020)	-.010 (.018)
Kinki	middle	.033 (.029)	-.087* (.031)	-.102*** (.028)		
CS		.007 (.037)				
kyushu		.038 (.034)				
living satisfaction				-.142*** (.019)		-.130*** (.013)
relationactivity satis				-.084*** (.022)		-.127*** (.014)
system satisfaction				-.037* (.015)		.015 (.011)
Constant		1.463*** (.047)	1.538*** (.061)	2.158*** (.072)	1.436*** (.036)	2.005*** (.046)
R ²		.058	.099	.264	.029	.201

note: † P<.10 * P<.05 ** P<.01 *** P<.001 (2-tailed tests).

reference groups : male, high income, high education, married, Kanto Seoul, East.

In Japan, there were no significant differences in the health satisfaction among the regions. But in South Korea, the level of health satisfaction of the west region and the east region were lower than the Seoul area. In China, the west region was lower than the east in the level of health satisfaction significantly. These

differences of the level of health satisfaction according to the regions was mediated by the living satisfaction and the relationactivity satisfaction in China. But in South Korea, the mediate effect was not significant. It may be summarized as follows.

Country	the vulnerable groups in health
Singapore	low income, widowed
Japan	male, low income, middle income, widowed, single, middle education, relative
South Korea	female, age?, single, low income , low education, unemployed none religion, west and middle region
China	female, widowed, relative, bud>christian, west region
Hong Kong	rented , single, bud,none>christian
Taiwan	low income, low education, widowed, divorced, relative

In most countries, the low income group is vulnerable in the health satisfaction and especially, in South Korea the condition was severe. Only in Hong Kong, the effect of residence was more important than income. And in China, income was not too important to the health satisfaction. The gap of residential environment is serious in Hong Kong and it has been pointed out repeatedly. In terms to gender difference on the health satisfaction, South Korea and China need to focus on female's health and Japan need to focus on male's health. In Hong Kong, Taiwan, and Singapore, there was not differences in the health satisfaction by gender but on average, male's health satisfaction was higher. But only in Japan, female's health satisfaction was higher significantly.

In Japan, South Korea and Hong Kong, single is vulnerable in the health satisfaction. Although, previous researches argue that widow is the most vulnerable group, the widow group was not lower than the married group in the health satisfaction significantly in South Korea and Hong Kong. But in the other countries, the widowed group was vulnerable just as the results of previous researches. In South Korea, the none group of the religion had a lower level of health satisfaction than christian. South Korea was the only country that christian's health satisfaction is high. The other countries show that the none group was high in the level of health satisfaction but in South Korea, the none group was vulnerable. This implies many meanings that Christianity performs many roles above and beyond the function of religion. Therefore it may be important to find out the resources of Christian such as networks with people or sociopsychological reinforcement.

Among Japan, South Korea and China, the inequality in the health satisfaction by region is low relatively in Japan, but in South Korea and China, the gap is large in the health satisfaction by region and it is need to focus on this factor. The group of relative is vulnerable in most countries but not in South Korea. But there are the great variety of characteristics of relative and it is difficult to make an interpretation consistently and concretely. In Taiwan and South Korea, the low education group is vulnerable in the health satisfaction but in Japan, the middle

education group is vulnerable. And in South Korea, the unemployment group's health satisfaction is very low. Actually, in South Korea, the employment problem is serious and it seems to be need to strengthen the social safety net for the health satisfaction of unemployed. Age effect on the health satisfaction in every countries. In other words, the level of health satisfaction decreases with age. Especially, in South Korea, old age's health status is very low. It could be an way that create the aged jog to help their activities like Japan.

V. Discussion

First of all, the income which is the most basic social inequality indicator, effects on the health satisfaction little in Hong Kong and not significant in China. On the other hand, the differences of the health satisfaction by income was large in Singapore, Japan, South Korea and Taiwan. In other words, the low income group's health satisfaction was lower than the high income group's. In Taiwan and South Korea, they have something in common that the low education group's health satisfaction is vulnerable.

Contrary to the popular belief, the group of female's health satisfaction was higher than male's and there were no differences in the health satisfaction by region, religious and employment in Japan. In China and South Korea, it seems to important to reduce the gap of region in health. On the other hand, almost every country that Japan, Singapore, China, South Korea and Taiwan have no differences on the health satisfaction between owner and rented. But in Hong Kong, the rented group's health satisfaction was lower than owner's significantly. And South Korea need some countermeasures for the health satisfaction of unemployed. The vulnerable groups that was found by this research, could be used as an effort to health promotion in the policy.

The findings from this research, could be simplified inversely. That is, the female group in Japan is one up on the male. And we could learn from Japan about the secret to a health equality by region. China's income groups had no differences in the health satisfaction and it is worthy of notice. From Singapore, we could take a lesson how they maintain the equality of health by job difference or education level. In terms of region, we could focus on the person who lives around the capital area in China and South Korea. Whether they are influenced by government health policy or they could get more good informations, it is helpful to explore the health resources from them. And the living satisfaction and the relationactivity satisfaction as a role of mediator were explored partially, and in case of necessity, it could be used to make up for the weak points by group.

This paper has some limitation. It was not considered the sociopsychological

factors such as self-esteem, sense of control, social support and trust or stress variable which are very important in health. And the health satisfaction as a dependent variable is could not be enough adequate to substitute for self-reported health. The longitudinal analysis will be need to evaluate the effect of policy and the change of the vulnerable groups in each country. Finally, although 2004 data includes the factor of eating which could have strong relation with health, this paper used 2006 data and the eating factor could not be considered. Despite these limitations, we could classify the vulnerable groups by country.

<References>

- Choi, Y. H. and Y .H. Shin. 1991. “대도시, 중소도시, 농촌 노인의 건강상태에 관한 연구”. 「대한간호학회지」 365-382.
- Hiyoshi, A., M. J. Shipley, Y. Fukuda and E. J. Brunner. 2012. "Health Inequalities in Japan 1986 to 2007 Based on Self-Rated Health, Household Income and A novel Occupational Classification". *Journal of Epidemiology Community Health* 66(suppl 1):A13.
- Hong, S. M., Y. E. Seo and H. J. Hwang. 2004. “도시와 농촌 여중생의 영양섭취상태, 식습관 및 철영양상태 연구”. 「한국식품영양과학회지」 33(10): 1634-1640.
- Jeon, B. Y. 2006. “우리나라의 건강증진정책”. 「간호학탐구」 15(2):146-156.
- Kang, H. W. and Y. T. Choi. 2007. “서울시 남녀노인의 건강불평등”. 「한국사회학」 41(4):164-201.
- Kawachi, I., B. P. Kennedy, K. Lochner and D. Prothrow-Stith. 1997. "Social Capital, Income Inequality, and Mortality". *American Journal of Public Health* 87(9):1491-1498.
- Kawachi, I. and B. P. Kennedy. 1997. "Health and Social Cohesion: Why Care about Income Inequality?". *British Medical Journal* 314: 1037-1040.
- Kim, J.Y. 2007. “사회경제적 지위와 건강의 관계 : 연령에 따른 변화를 중심으로”. 「한국사회학」 41(3): 127-153.
- Ca mD. 2008. “잠재성장곡선 모형을 이용한 교육과 건강의 궤적 간 관계 분석.” 「한국사회학」 42(2): 164-190.
- Kim, T. H., S. W. Kwon and Y. J. Lee. 2012. “서울시민의 개인 및 지역 효과에 의한 건강불평등”. 「서울도시연구」 13(3):15-35.
- Lee, M.S. 2005. “한국 성인의 건강불평등: 사회계층과 지역 차이를 중심으로” 39(6):183-209.
- Park, I. K. and S. Y, Kim. “건강증진기본법 제정에 관한 연구”. 「한국의료법학회지」 15(2):133-150.
- Ross, C. E. and J. Mirowsky. 1995. "Does Employment Affect Health?" *Journal of Health and Social Behavior* 36:230-243.
- WHO. 2000. "The World Health Report 2000 - Health Systems: Improving Performance".
- WHO. 2002. World Health Report.
- Wilkinson, R. G. 1996. "Unhealthy Societies : the Afflictions of Inequality". Routledge:N.Y.
- Wilkinson, R. G., I. Kawachi and B. P. Kennedy. 1998. "Mortality, the Social Environment, Crime, and Violence". *Sociology of Health and Illness* 20:578-597.