

# Psychological Well-Being and Its Correlates in Japan and China

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## Abstract

The paper deals with comparative, large-scale data on families from Japan and China. As causes of psychological well-being, various individual characteristics such as age, gender, marital status, number of children, education, income, and health status were examined. As the measures of psychological well-being, three variables were used; family-related stress, general life satisfaction, and depression. Family-related stress was low among Japanese men, particularly when they were young. Women were more likely to be depressed in both countries. Regression analyses indicated that education, income, marital status, and number of children showed different effects in the two countries.

## Conceptual Frameworks

Well-being is a key variable in social sciences. Physical, economical, and psychological aspects of well-being are all critical for our everyday life. Psychological well-being is becoming more important for our healthy living given that physical and economic well-being are more often maintained at relatively high levels in developed countries in these days.

In this paper, the psychological aspect of our well-being is examined with the focus upon the similarities and differences between people in

Japan and China for both genders. A comparative analysis of these two Asian countries will shed light on the mechanism of how the psychological well-being is determined in two different cultural contexts. As measures of psychological well-being, we will examine stress and strain caused by one's family relationship, general life satisfaction, and self-reported symptoms of depression.

## Research and Theories Concerning Psychological Well-Being

More attention than before has been paid to psychological aspect of well-being as societies are being modernized. Therefore, many studies concerning psychological well-being have been conducted in Western countries, particularly in the United States. In these studies, psychological well-being has been measured by various variables, including happiness, satisfaction, and (lack of) depression among others. Whichever variables are used, personal conditions affecting psychological well-being include gender, age, marital status, and socioeconomic status (e.g., Andrews 1987; Campbell 1981; Kohn, Dohrenwend, and Mirotznik 1998; Weissman, et al. 1996); those who show poorer psychological well-being tend to be female, unmarried, young, and with lower socioeconomic statuses. In other words, individuals

with more resources and stronger/larger networks tend to sustain better psychological well-being.

In addition to personal characteristics, societal conditions, such as economic and political systems, may affect psychological well-being of individuals. For example, people in societies at higher economic developmental stages are more likely to sustain higher life satisfaction (Inglehart 1997; Rojek 1995). Societal conditions affect not only people's well-being itself but also their perception toward their personal conditions. For example, members in a society with more favorable economic conditions may possess lower psychological well-being than those who make exactly the same amount of incomes in a society with less favorable economic conditions. Rather than the absolute amount of income, how one does in comparison to others in that particular society may determine one's psychological well-being. The classic idea of relative deprivation (Runciman 1966) is extended here to the notion of psychological well-being (Mummendey, Kessler, Klink, and Mielke 1999). In other words, societal conditions and other members' personal conditions affect the evaluation of our own conditions, resulting in differential effects of the same predictors depending on which society we examine.

Critical factors for psychological well-being are expected to be different depending on geographical and temporal settings. In impoverished societies, for example, material aspects of our lives (health and income) may affect our psychological well-being to a greater extent. Once we establish

our basic needs for survival, our psychological well-being may be affected more by emotional aspects of our lives including social networks (family, work, and other relationships). The classic thesis of Maslow's hierarchy of needs (1954) may apply here. These contextual effects delineated above can be tested only with comparative analyses, and this paper will contribute to this relatively understudied topic utilizing data from Japan and China.

### **Contextual Differences in Japan and China**

In either Japan or China, few studies have tested whether the relationship between psychological well-being and personal conditions shows the same patterns as those found in the United States. Geographical, historical, and cultural closeness between these two countries have led them to share similar characteristics that can not be found in Western nations. Confucianism, which originated in China and later spread to East Asian countries, for example, values age and gender hierarchy, social relationships rather than interpersonal relationships, and collective interests rather than individual interests. Also emphasized in Confucianism are filial responsibility and stable intergenerational relationships (along with intergenerational inheritance), rather than marital relationships between spouses.

Due to the cultural similarities described above and geographical closeness, Japan and China are often classified into the same category in previous research which examined relationships between psychological well-being and its correlates in multiple countries. For example,

Oishi, Diener, Lucas, and Suh (1999) examined the effect of collectivism/individualism of each country on the perception of its members toward self-esteem, and Japan and China are both categorized as collectivistic countries.<sup>1)</sup> From the Westerner's point of view, Japan and China hold many similarities, and they are often discussed in the same context as East Asian countries.

However, distinct differences are seen in historical developments of each country. China went through the Communist Revolution and has maintained socialist planning, which has shaped Chinese economic, political, and socio-cultural systems in very different ways from Japan. For example, under the Communist regime, gender equality was emphasized, especially through the state's effort to achieve universal employment for women (Bauer, Feng, Riley, and Zhao 1992). Due to this effort, female labor force participation reached to 90 percent in urban China by the 1990s (Bauer, et al. 1992), which was one of the highest female labor force participation rates in the world.

China is an interesting case of an Asian/Confucian culture colliding with the Communist ideal of gender equality. The idea of gender equality, supported by the Communist doctrine, is in direct conflict with its traditional value system based on Confucianism. Therefore, under the influence of gender equality led by the Communist government, gender relations in work and family and gender role attitudes may

be more egalitarian in China than in Japan. As a consequence, gender differences in psychological well-being may be small in China. Moreover, China has maintained socialist doctrines that try to weaken the impact of individual attributes on their educational and occupational attainment through comprehensive education system (Cheng and Dai 1995), and people from disadvantaged families such as working-class or peasant families benefited from affirmative policies (Cheng and Dai 1995). These systems may have diminished the effect of socioeconomic status on psychological well-being among individuals, or weakened the association between personal conditions and psychological well-being. If someone is not economically successful, s/he has no one but him/herself to blame. Rather than getting upset with the economic/political system, s/he may accept the personal responsibility. On the other hand, in societies with low social mobility, people may and do blame the economic/political system and this may translate to low psychological well-being such as low satisfaction or high level of depression.

Japan is a highly urbanized, economically and educationally advanced country. Japan is much like Western countries in terms of economic and educational developments and democratic political systems. Although Japan is technically a non-Western country, that country has been under strong influence from Western nations, especially the United States after the 1950s. Still, Japan is often described as a country with greater gender

1) For another analysis in the same article examining the impact of the aggregated economic level on the association between financial satisfaction and life satisfaction, Japan and China are categorized differently, "high income" nation and "low income" nation, respectively.

inequality. Combined with unequal amounts of family responsibilities between spouses, for example, the female labor force participation in Japan in 1990 reached up to only 75.1%, 51.7%, and 69.6%, for women aged 20 to 25, 30 to 34, and 40 to 44, respectively (Statistics Bureau of Japan 2005). Despite economic advancement, Japanese society is still relatively non-westernized, often described with less-than-equal gender and family relationships. This is primarily due to the influence of Confucianism described earlier. While Japanese society provides a relatively high level of social mobility, women are still enduring structural disadvantages.

These differences in historical developments have created different socio-cultural contexts to each country and impacted people's perceptions in different ways. China has been witnessing a dramatic shift to market economy from socialist planned economy after the 1980s. Scholars have documented its influences on gender equality, urbanization, and social stratification in Chinese society (Honig and Hershatter 1988; Zuo 2003). Therefore, differences in these historical processes between the two countries have led people to form attitudes and perceptions unique to their own country. While such variables as education, age, and household income help increase general life satisfaction in both countries, the effect of gender may be more complicated.

### **Previous Research on Psychological Well-Being in China and Japan**

Previous studies concerning psychological well-being in Japan and China discussed the

concept in comparison to Western countries. For example, Lin and Lai (1995) examined work-related stressors in urban China focusing on the influence of one's work unit that dictated not only work life but also family life of people during the Communist era. They illustrated the importance of one's work unit in the Communist society and its meaning to Chinese people's lives. One's work unit created a unique context for Chinese people to form their well-being. On the other hand, Cheung and Leung (2003) investigated life satisfaction and its correlates in urban China, based on research built upon theories from the West, focusing upon the contextual differences between Chinese and Western contexts. Their results indicated that the formation of life satisfaction among Chinese people was somewhat different from that in the West. Education was negatively associated with life satisfaction of Chinese people, while the importance of economic factor on life satisfaction is consistent with their American counterparts.

In the meantime, research on distress among Japanese citizens in comparison to their American counterparts was conducted by Inaba, et al. (2005). They tested if the claim that higher rates of depression were found in women, unmarried, and those with lower socioeconomic statuses is applicable to non-Western countries, comparing Japan and the United States. Their results showed that general patterns in depression and correlates were found in Japan but there was no association between education and depressive symptoms. Other scholars (Oishi, et al. 1999; Suh, Diener, Oishi, and Triandis 1998) conducted

comparative studies in multiple countries and reported that the association between the esteem needs (needs or desires for self-esteem, independence, and freedom) and life satisfaction was weaker among people in Japan and China, as compared to those in more “individualistic” nations. In “collectivistic” countries, normative beliefs are equally important predictors for life satisfaction. These studies indicate that the results from Japan and China show similar features as seen in “collectivistic” nations and there are differences in cultural notions of well-being between “individualistic” and “collectivistic” nations.

### Research Questions

When we deal with psychological well-being of adults, we need to look at certain areas of life, including health, family, work, and social aspects. Those who were healthy, in stable families, in satisfying work (with comfortable incomes), and well embedded in social networks (friends, colleagues, neighbors, and kins) tend to have higher psychological well-being, expressed in their life satisfaction and/or lack of any depression-related symptoms. The link between marital quality and psychological well-being, however, has not been examined well, unlike the link between marital quality and physical health or between marital status and psychological well-being (Shek 1995). For people in Asian countries, this line of research has been even more scarce.

Particularly important in Japan and China is the family relationship. One of the core ideas of Confucianism is its emphasis on family. The

family line (lineage) needs to be preserved for generations, and oftentimes the honor of the family is more emphasized than the individual welfare. Uchida, Norasakkunkit, and Kitayama (2004) claim that while happiness is often determined by personal achievement in Euro-American countries, it is more likely to be determined by interpersonal connectedness in East Asian countries. To be well connected to social groups, people in East Asia often have to endure hardships for the sake of the group they belong to. Being the most important social group, the family relationship is much more critical for their life satisfaction and/or depression. Under Confucianism which emphasizes age seniority and gender hierarchy, married women have been placed in oppressed positions. They were expected to be subservient to their husbands, to their parents-in-law, sometimes even to their own sons. Women in Japan have been known to express lower satisfactions with their marriages (Kamo 1993) and family lives in general, and women are more likely to express symptoms of depression in Japan (Kojima, et al. 2002) and in Korea (Cho, Nam, and Suh 1998; Kim 2001).

It is expected that family-related stress is more prevalent among women in both Japan and China. Its gender difference, however, is expected to be larger in Japan, where the Confucian idea remains more than in China where the Communist ideology partially negated gender inequality. Likewise, its effects on life satisfaction and depression are expected to be stronger among women than men in both countries.

While psychological well-being may be best

expressed in general life satisfaction, in this article we expand this concept to a couple of closely related constructs, depression and family-related psychological stress. Again, structural differences between the two countries are noted and their effects on the levels of depression and family-related stress and their causal structures are explored.

## Methods

### Analyses

We examine three different variables (general life satisfaction, family-related stress, and depression) in the present analysis. Making up a single concept of psychological well-being, we expect these three variables to be closely correlated. Thus, the first task for us is to examine the intercorrelations among them. In Asian societies including Japan and China, one's gender is such a critical characteristic so that we will run all analyses separately for men and women including the correlation matrix of these three variables.

To examine the causal relationship for each of the three variables, we use each as the dependent variable in a series of regression analyses. To compare across country and gender, we ran four regressions for each measure (two countries x two genders). These three variables, however, are not symmetric in terms of their causal structure. Family-related stress is the more "external" to each individual than general life satisfaction and depression, and therefore, it affects the latter two. On the other hand, one's depression is more "internal" than family-related

stress or even general life satisfaction. Given the hierarchical nature of these three concepts, we entered family-related stress in the regression analyses for general life satisfaction and depression. Likewise, we entered general life satisfaction in the regression analyses for depression.

### Data

Data for the present article came from a larger project involving comparative data sets from Japan, Korea, and China (Ishihara 2009). Data from Korea are not used in this study due to incompatibilities in question items. Japanese data were drawn from National Family Research of Japan conducted in January 2004 (NFRJ03). The survey was conducted by Japan Society of Family Sociology to collect data on family using a national representative sample of adults in Japan (N=6,302). Chinese data came from Family Research in China, conducted in 2006. Four cities/regions (Chengdu, Nanning, Shanghai, and Dalian) were selected first to represent a broad range of the country in terms of geography, culture, and social development. Representative samples of adults in each city/region were drawn for this survey. For a comparability purpose, we chose respondents of 30-74 years old at the end of each survey year. The final sample sizes were 5,914 for Japanese data and 4,769 for Chinese.

The two surveys included many variables pertaining to family life for each respondent. Both questionnaires are quantitative in nature. The Chinese questionnaire was developed from its Japanese counterpart so that many questions were identical except languages used.

### Measures

As measures of general psychological well-being, we use general life satisfaction, stress caused by family relationships, and (lack of) self-reported depression symptoms. Predictor variables included in this analysis include the respondent's age, marital status, number of children, years of formal education, household income, and self-reported health status.

**Family-related stress.** In both surveys, there were a series of 10 questions pertaining to stress, both in family and work. Factor analyses indicated that in both countries, there were two factors, one pertaining to family life and the other to work. All questions start with "In the past month, how often have you experienced...", and the family-related items include "worry about children," "worry about spouse," "worry about parents or parents-in-law," "feeling that I am not understood by family," "feeling that I had too much burden to housework, child- and elderly-care," and "feeling anxious about the future of household economy." In this article, we use only family-related stress.

There are four response categories from 1 (=Often), 2 (=Sometimes), 3 (=Rarely), through 4 (=Never). A family-related stress scale was created by taking the average score of these items. The scores were then reverse-coded to indicate degree of stress. Larger scores (close to 4.0) indicate more stress related to family life or work and smaller scores less stress.

**General life satisfaction.** In both surveys, there was a question on general life satisfaction. The question states, "How satisfied are you with your life in general?" There are four choices, 4 =

Much Satisfied, 3 = Rather Satisfied, 2 = Rather Dissatisfied, and 1 = Much Dissatisfied.

**Depression.** In both surveys, there were a series of 12 questions pertaining to depression. These 12 items were taken from 20-item CES-D (the Center for Epidemiologic Studies Depression Scale). They include, among others, "bothered by things that don't usually bother," "did not feel like eating," "felt depressed," and "felt fearful." The response categories are "not at all (=1)," "one or two days a week (=2)," "three or four days a week (=3)," and "almost everyday (=4)."

Factor analyses were conducted on these 12 items for each country, and in both, 11 items were aligned on a single factor. The only item which did not align with others was "I felt like enjoying my days." Thus, we took the average score of the eleven items (range = 1 - 4) for each respondent. The higher the score, the more depressive symptoms a respondent reported. We also counted how many of the eleven items the respondent answered 2 or above (at least once a week). The preliminary results indicated that the average score was more strongly related to its correlates than the count score.

**Other predictors.** The respondent's age was based on his/her self report. To capture a possible non-linear effect on the three well-being variables, we also used the squared term of the respondent's age. Since the squared term of one's age could be a very large number which would make its regression coefficients near-zero, the age was divided by 100 before taking its square (a 40 years old was coded .40 and its square was .16, for example). The respondent's marital status

was dummy coded for widowed, divorced, and never-married, with currently married as the reference category. The number of children and years of formal education were based on self-report. The respondent's household income was originally asked in categories but later converted with mid-points into annual values, expressed in 1,000,000 yen (in Japan) and 10,000 yuen (in China). Finally, the respondent's self-reported health was based on the single question, "How would you rate your general health status in the past week?" The score ranges from 5 (Very Good) to 1 (Very Bad).

## Findings

### Descriptive Statistics

Table 1 shows means and standard deviations for family-related stress for Japanese men, Japanese women, Chinese men, and Chinese women. Japanese women seem to be more stressed out with family issues than their male counterparts ( $t=14.99$ ). The difference is relatively large at .27 out of the maximum possible difference of 3.0 (1 to 4 scale). The family-related stress seems to be uncorrelated with gender in China. While cross-cultural comparisons give us only tentative findings due to translations and semantic differences in these two countries, it seems that family stress is more prevalent in China than in Japan,

particularly among males. Actually, it is more like Japanese men tend to have few stresses related to family compared to the other three groups.

As is seen in Table 2, the degree of general life satisfaction is virtually identical between men and women in Japan. This is in stark contrast to marital satisfaction in which Japanese men showed much more satisfactory evaluation of their marriages than their female counterparts (Kamo 1993). Though there is no question pertaining to that aspect in the present data set, it is expected that the average job satisfaction is much lower for men than women in Japan to balance out the effect of gender to produce nearly equal distributions in general life satisfaction. In China, just like in Japan, there is no relationship between one's gender and his/her general life satisfaction.

Comparing these two countries, on the other hand, a larger proportion of people in China responded with "Much Satisfied" and a smaller with "Much Dissatisfied" compared to their Japanese counterparts. Combining both genders in each country, the difference between the mean ( $t=5.39$ ) is significant, though the mean values were very similar to each other (2.82 in China vs. 2.75 in Japan). This cross-national comparison, however, need to be evaluated with caution.

**Table 1. Means and Standard Deviations of Family-Related Stress by Country and Gender**

Family-Related Stress			
	Japan	China	t-value
Male (N)	1.686 (2761)	2.026 (2130)	17.62***
Female (N)	1.956 (3078)	2.041 (2383)	4.31***
t-value	14.99***	.71	

\*\*\*p<.001, \*\*p<.01, \*p<.05, #p<.10



**Table 2. Distributions of Life Satisfaction Scores, by Country and Gender**

	1. Much Dissatisfied	2. Somewhat Dissatisfied	3. Somewhat Satisfied	4. Much Satisfied
Japanese				
Men (N=2788)	5.7%	22.0%	64.0%	8.3%
Women (N=3103)	4.5%	22.9%	64.7%	7.9%
Chinese				
Men (N=2245)	3.8%	23.2%	61.3%	11.6%
Women (N=2496)	2.8%	22.8%	62.2%	12.2%

Different languages used for the two surveys may have caused such a small difference, even though there is no real difference in these two populations.

Findings are a little different for depression. As seen in Table 3, women seem to be more depressed on the average than men in both countries while the difference is not large (.08 in Japan and .03 in China in 1-4 scale). While the cross-country differences are significant in both genders (people seem to be more depressed on the average in China), this comparison is subject to subtle semantic differences due to translations. It's probably unwise to conclude that depression is more common among Chinese people

than their Japanese counterparts only from these findings.

To examine the structure of the three response variables, we created four correlation matrices (one for each gender/country group) for these three variables. Table 4 indicates the results. From this table, we see that the three variables representing psychological well-being are all correlated with each other in expected directions.

### Regression Analyses

For each of the three response variables (general life satisfaction, depression, and family-related stress), we ran regression analyses for

**Table 3. Means and Standard Deviations of Depression Scale, by Country and Gender**

	Japan	China	t-value
Male (N)	1.378 (2784)	1.526 (2248)	12.01***
Female (N)	1.459 (3101)	1.558 (2498)	8.22***
t-value	6.92***	2.57**	

**Table 4. Inter-Item Correlations by Country and Gender**

	Depression	Life Satisfaction	Family-Related Stress
Depression	1.000	-.309 (2234)	.455 (2753)
		-.302 (2490)	.495 (3072)
Life Satisfaction	-.370 (2773)	1.000	-.369 (2750)
	-.378 (3093)		-.423 (3070)
Family Stress	.490 (2126)	-.377 (2117)	1.000
	.434 (2382)	-.346 (2376)	

\*Correlations in the upper right half are for Japanese and those in the lower bottom are for Chinese. Correlations on top in each cell are for men and those on the bottom are for women. Numbers in parentheses are N for each correlation.

\*\*\*p<.001, \*\*p<.01, \*p<.05, #p<.10

the four groups (Japanese men, Japanese women, Chinese men, and Chinese women). The results are presented in Tables 5 through 7. Table 5 represents the regression estimates for family-related stress. The R<sup>2</sup> measure shows the largest value for Japanese women (.257), followed by Japanese men (.179). Japanese people's family-related stress (regarding children, spouses, parents, family budget, etc.) is better explained than their Chinese counterparts'. Comparing the two countries, the effects of marital statuses are somewhat different. In Japan, widowed, divorced, and single people all have fewer family-related stress, indicating the source of the stress is marital relationships. In China, on the other hand, divorced people feel more stress than married people, and widowed and single people show as much stress as married people. In China, marriage itself does not seem to be a source of stress unlike in Japan. The fact that divorced people exhibit more family-related stress in China may indicate that the major source of family-related stress there is inter-generational

relationships. While children seem to cause stress in both countries, the effect seems stronger in Japan. Both countries are known for large needs of educational investments for their children. This difference may be due to more help from extended family members in China, but this is only a conjecture at this point. Women's years of education increase family-related stress in Japan. Since well-educated women are more likely to become full-time housewives (Yu 2009), they get more involved with family welfare including how to raise their children. Instead of working as a resource to better deal with family matters, women's education in Japan may serve as a proxy for social class, which likely increases pressure to raise their children so that they become competitive. The honor for their family is often measured by how successful their children become, and well-educated women may feel more stress due to their sense of responsibility.

The respondent's age showed an inverse U-shaped effect on family-related stress, as shown in Figure 1. For Japanese and Chinese males,

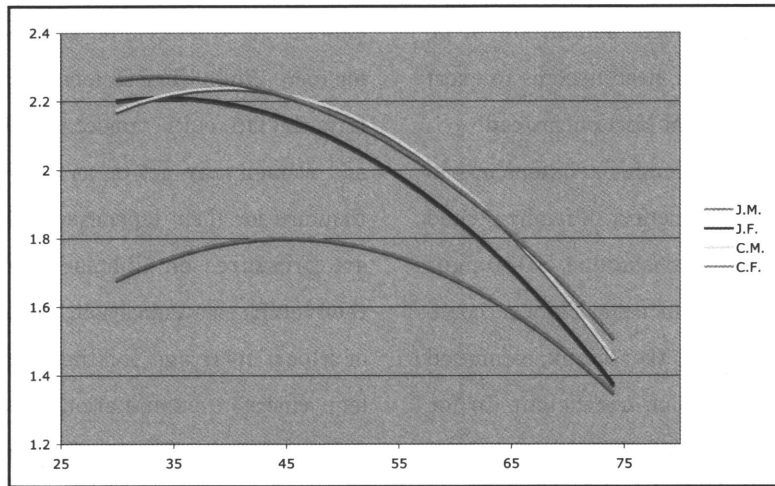
**Table 5. Multiple Regression Analyses of Family-Related Stress by Country and Gender**

	Japanese Men		Japanese Women		Chinese Men		Chinese Women	
	b	beta	b	beta	b	beta	b	beta
Constant	.954***		1.789***		1.867***		2.452***	
Age	4.789***	.950	3.578***	.602	5.340***	.875	3.233**	.517
Health	-.143***	-.210	-.175***	-.221	-.175***	-.203	-.183***	-.205
Widowed	-.263***	-.065	-.392***	-.140	-.055	-.014	.061	.024
Divorced	-.209**	-.061	-.367***	-.117	.309***	.089	.175*	.044
Single	-.447***	-.198	-.683***	-.200	-.011	-.003	-.035	-.006
Chnum	.125***	.209	.144***	.194	.073***	.097	.045*	.057
Eduyear	.002	.009	.015*	.041	-.022***	-.105	-.016***	-.084
Income	-.013***	-.074	-.024***	-.121	-.017***	-.082	-.038***	-.133
Agesq	-5.324***	-1.100	-5.247***	-.912	-6.713***	-1.127	-4.756***	-.781
N	2529		2802		2045		2307	
R <sup>2</sup>	.179		.257		.119		.107	
Maxage	44.98		34.10		39.77		33.99	

Note: Maxage is the age at which the response variable takes the maximum predicted value.

\*\*\*p<.001, \*\*p<.01, \*p<.05, #p<.10

Figure 1. Family-Related Stress as a Function of Age (Other Predictors Are Controlled).



the family related stress increases when they are young (until around 40 years only in China and 45 in Japan) then decreases. Among women, on the other hand, it keeps pretty much decreasing. The family-related stress tends to be most common when they are young and gradually decreases as they age.

Next, we examine what affect people's general life satisfaction in Japan and China. The amount

of variation in the response variables explained ( $R^2$ ) seems all equal at around .29 except among Chinese women (.22). The estimated regression equations are very similar across genders and countries. Comparing standardized coefficients (beta's), the respondent's subjective health and family-related stress show the strongest effects (except age and age-squared as a result of a harmless multicollinearity). People's general life

Table 6. Multiple Regression Analyses of Life Satisfaction by Country and Gender

	Japanese Men		Japanese Women		Chinese Men		Chinese Women	
	b	beta	b	beta	b	beta	b	beta
Intercept	3.282***		2.872***		2.859***		2.510***	
Age	-4.780***	-.880	-2.977***	-.559	-2.093*	-.356	-.224	-.040
Health	.197***	.268	.168***	.237	.277***	.334	.214***	.266
Widowed	-.229**	-.052	-.163***	-.065	-.141#	-.038	-.277***	-.121
Divorced	-.447***	-.121	-.269***	-.096	-.375***	-.113	-.357***	-.098
Single	-.510***	-.209	-.258***	-.084	-.453***	-.127	-.138	-.026
Chnum	.016	.024	.042***	.063	.004	.005	.050**	.071
Eduyear	.015*	.054	.023***	.069	-.004	-.020	.000	.000
Income	.030***	.165	.032***	.180	.009*	.045	.016**	.060
Agesq	4.748***	.911	3.115***	.603	2.414*	.421	.508	.092
Fam. Stress	-.299***	-.277	-.321***	-.358	-.281***	-.292	-.245***	-.271
N	2523		2797		2045		2306	
R <sup>2</sup>	.286		.286		.285		.220	
Minage	50.34		47.78		43.36		22.05	

Note: Minage is the age at which the response variable takes the minimum predicted value.

\*\*\*p<.001, \*\*p<.01, \*p<.05, #p<.10

satisfaction seems to be more closely related to their educational achievement and income in Japan. Among Chinese men, health seems to exert a stronger effect on life satisfaction, instead.

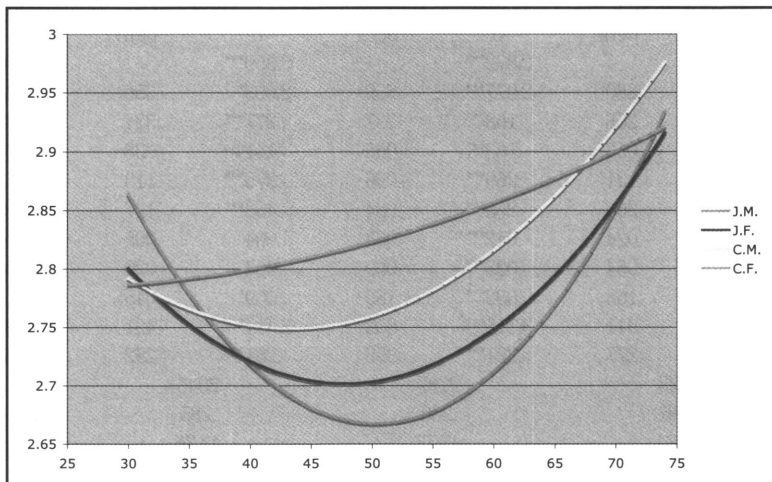
Given more unequal gender relationships in Japan, we expect that the effect of family-related stress on general life satisfaction is stronger for Japanese women than their Chinese counterparts. It appears that the size of estimated unstandardized regression coefficient (b) for Japanese women (-.321) seems larger than that for their Chinese counterparts (-.245). When we formally tested the difference between the two coefficients, the t-value to indicate the difference was 3.14 (df = 5,080,  $p < .01$ ). The gender difference in this effect in Japan, however, is not statistically significant, providing only a weak support for this contention of this contextual effect.

Figure 2 shows the estimated relationship between age and general life satisfaction. Japanese men and women clearly have the lowest point, around 50 years old. It is around when the stress related to children reaches the highest

point for women due to college entrance examinations and work-related stress becomes worst for men. While Chinese men show a similar pattern, the life-course trajectories for Chinese men and women may not be as clearly delineated as they are for their Japanese counterparts. There are pressures on Chinese women regarding their children's education, but not necessarily at a particular age for their children (e.g. college entrance examination) or at a particular career point for men (e.g. beginning managerial positions).

Finally, Table 7 represents estimated regression equations for depression. The  $R^2$  seems similar to one another at around .30. Everything else is very similar across genders and societies. The effect of children seems a little different; while it is negative in Japan (the more children, the less depression), it is positive among Chinese women. The more children they have, the more likely they are to have depressive symptoms. In addition, while education helps Chinese people to avoid depression, it seems to increase its risk in

Figure 2. Life Satisfaction as a Function of Age (Other Predictors Are Controlled).



**Table 7. Multiple Regression Analyses of Depression by Country and Gender**

	Japanese Men		Japanese Women		Chinese Men		Chinese Women	
	b	beta	b	beta	b	beta	b	beta
Constant	1.709***	.	1.578***		1.551***		1.696***	
Age	-.104	-.029	.048	.013	-.054	-.015	-.095	-.026
Health	-.122***	-.256	-.102***	-.209	-.112***	-.217	-.104***	-.196
Widowed	.165***	.058	.143***	.082	.145***	.063	.154***	.102
Divorced	.218***	.091	.165***	.085	.122**	.059	.123**	.052
Single	.154***	.097	.178***	.084	.139**	.063	.210**	.059
Chnum	-.028**	-.066	-.034***	-.073	.018	.039	.025*	.055
Eduyear	.006#	.034	.008#	.034	-.009***	-.071	-.008**	-.068
Income	.003	.028	.004#	.029	-.001	-.011	-.003	-.017
Fam. Stress	.237***	.339	.245***	.395	.253***	.422	.217***	.365
Life Satis.	-.100***	-.154	-.108***	-.157	-.021	-.034	-.055***	-.084
N	2516		2791		2041		2305	
R <sup>2</sup>	.305		.309		.314		.281	

\*\*\*p<.001, \*\*p<.01, \*p<.05, #p<.10

Japan ( $p < .10$  for men and women). Since there is no effect of age, either itself or its square for depression, there is no corresponding figure as Figures 1 and 2.

## Discussion and Conclusions

China and Japan are similar in their cultures and geographic locations, but they are quite different from each other in their history and economic/political system. As a result, such psychological characteristics as family-related stress, life satisfaction, and depression are affected in a different fashion in these two countries.

Family-related stress was low on the average among Japanese men (Table 1). From Figure 1, we can see that this difference is particularly large when they are young. When they don't have children or children are still small, Japanese men are not held responsible for housework or childcare. Most of family burdens are carried by women in that country (Ishii-Kuntz 2008). With the experience of Communist era, gender relations in China are relatively equal despite their

common heritage of Confucianism.

The mean level of life satisfaction was quite similar in Japan and China. This is in a stark contrast to family-related stress (shown above) and marital satisfaction, which favor men in Japan. Though we didn't examine in this paper (due to differences in samples of employed respondents only), work-related stress is higher for men, particularly in China. When women are not gainfully employed (which is quite common in Japan), work-related stress should be close to zero for them by definition. Thus, men and women's life satisfaction in Japan tend to be balanced out; family favors men and (no) work favors women.

As has been reported, depressive symptoms were more common among women than men. Gender differences, however, are relatively small particularly among our Chinese sample. This small difference in Japan may be surprising given quite an unequal treatment of women there. It is somewhat likely that this is due to the quality of depression measures in the surveys, which utilized partial items of the CES-D scale instead

of the entire scale or clinical measures.

Regression analyses of the three response variables were more similar than different across genders and countries. Marriage, children, and education among women seem to be sources of family-related stress in Japan, while education helps Chinese women cope with that type of stress. Household income and own education, on the other hand, seem to increase general life satisfaction in Japan, while these effects are either non-existent (income) or much weaker (education) in China. Education also seems to increase depressive symptoms in Japan, while the lack of education and children increases depression in China.

While education in Japan seems to exert interesting/puzzling effects on family-related stress, life satisfaction, and depression, this variable might serve as a proxy for other variables. They include social class, family background, or even type of job when they are not controlled for in the regression equation. The effects of age are also revealing particularly in Japan. Family life-cycle stages delineated by marriage, children, and job are reflected in family-related stress and life satisfaction in Japan.

Cross-cultural studies such as this work need to be encouraged. Not only in-depth analyses of a few countries, but also broader comparisons of many countries are possible, given the development of hierarchical linear model (HLM). This line of research is still relatively scarce, but more systematic comparative analyses should be conducted for a broad range of countries, both developed and developing. The contextual

effects on individual's psychological well-being will be more clearly shown under that type of analysis.

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