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Individual and Country-Level Effects of Social Trust on Happiness: The Asia Barometer Survey[1]

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The relationship of individual-level and country-level social trust to individuals' happiness was investigated, using cross-national data of 39,082 participants from 29 Asian countries. For self-reported happiness, 2.0% of the participants responded they were *very happy*, while 18.7% were *very unhappy*. The significant variables associated with happiness were female gender, being age 20–29 years or 60–69 years, married, high income and education, students/retired/homemaker, religious belief, good health, and higher individual and aggregate social trust. Individual health, social trust, and aggregate social trust were all independently associated with people's happiness. People were more likely to be happy if they lived in countries with higher aggregate social trust than countries with poor social trust.

Happiness is one of the most important outcomes of human life and is an important concept in economic, social, and psychological research (Di Tella, MacCulloch, & Oswald, 2003; Helliwell & Putnam, 2004; Layard, 2005). Although previous medical literature has used the term *subjective well-being* to indicate happiness, recent medical research has begun using the term *happiness* and has shown increasing interest in happiness research (Subramanian, Kim, & Kawachi, 2005; Yip et al., 2007). Results of medical research on this outcome have provided evidence for a positive correlation between health and happiness in individuals (Subramanian et al., 2005; Yip et al., 2007).

In addition to health status, several individual characteristics have been shown to influence happiness, including sociodemographic factors (e.g., age, gender, marital status, income, education, employment; Di Tella et al., 2003; Layard, 2005). For instance, people with a low income generally report lower levels of happiness, as do people with little education (Di Tella et al., 2003).

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Unemployed people also report more unhappiness (Di Tella et al., 2003). Another important individual determinant of happiness is spiritual belief: Those who profess spiritual beliefs are likely to report being happier (Helliwell & Putnam, 2004).

Diener and Seligman (2002) characterized the psychological features of happiness. Based on their results, very happy people were highly social and had stronger romantic and other social relationships than did less happy groups. The very happy people were also more extraverted and more agreeable, and experienced positive feelings most of the time. Diener et al. suggested that very happy people have a functioning emotional system that reacts appropriately to life events.

Aside from individual characteristics, macroeconomic and societal features may also influence happiness. A study by Di Tella et al. (2003) suggested that per capita gross domestic product (GDP), rapid change of GDP, unemployment rate, and inflation rate are likely to influence people's happiness. Further, increasing attention has been paid to social capital as an important predictor of happiness (Helliwell & Putnam, 2004).

Social capital has been developed as a concept indicating the quantity and quality of social interactions in a community (Petrou & Kupek, 2007). A society with high levels of social capital is considered to have high social participation among its citizens, high social trust, and high levels of institutional or organizational trust. Studies have suggested that better social capital may have positive effects on various aspects of physical and psychological health and may also enhance people's happiness (Helliwell & Putnam, 2004; Yip et al., 2007). Other studies using cross-national data have shown a high correlation between social capital and happiness (Bjonskov, 2003; Gundelach & Kreiner, 2004).

However, the mechanism of the interrelationships among social capital, health, and happiness does not seem to be simple. Helliwell and Putnam (2004) conceptualized a pathway from social capital through health to well-being. Using cross-national data from the World Values Survey (Canada and the U.S.), their study hypothesized that social capital may be not only independently associated with happiness, but may also act through health on happiness. Additional studies are needed to validate their hypothesis.

Furthermore, there has been considerable debate about whether social capital is a collective or individual resource, regarding its beneficial properties for individual health and well-being. For instance, Kawachi, Kennedy, and Glass (1999) indicated that people living in states with low social trust report poorer subjective health than do people living in states with high social trust, whereas other studies have shown that only individual-level social trust is associated with people's well-being (Barefoot et al., 1998; Hyyppa & Maki, 2001; Rose, 2000).

As a tool for exploring and examining hypotheses in social epidemiology, the statistical technique using multilevel mixed-effects modeling is now considered suitable for investigating simultaneous multilevel data, such as analyzing compositional (i.e., individual-level), as well as contextual (i.e., community-level or country-level) variables (Poortinga, 2006; Subramanian, Kim, & Kawachi, 2002). By using this technique, Subramanian et al. reported that the action of social capital operates not on the community level, but on the individual level, and that there is a cross-level interaction effect, indicating that social capital does not seem to uniformly benefit individuals in the same society (Subramanian et al., 2002). Consequently, it has been suggested that individuals with higher social capital more often report better health in countries with a higher level of aggregate (i.e., community-level) social capital than do individuals with lower social capital. But they are less likely to report better health in countries with a lower level of aggregate social trust (Poortinga, 2006; Subramanian et al., 2002). Since these studies were based on Western nations, further studies are needed to validate their hypothesis, especially in Asian nations.

Regarding the literature on the happiness of nations (including Asian nations), Diener's (2000) and Inglehart and Klingemann's (2000) research groups contributed to the important theoretical and empirical development of this field. Based on multinational perspectives, Diener suggested the importance of better understanding the components of happiness, the significant cultural influences on happiness, and the need for additional research using representative selection of respondents in each nation for producing national indicators of happiness. Based on the Euro-Barometer Surveys, Inglehart and Klingemann showed the large differences in the happiness levels of different nations. For instance, among European nations, many more people in Denmark, Belgium, or The Netherlands reported that they were *very happy* than in France, Portugal, or Italy throughout the survey periods from 1973 to 1998. More recently, however, based on time-series data from representative national surveys carried out from 1981 to 2007, Inglehart and Klingemann showed that happiness rose in 45 of the 52 countries. According to Inglehart and colleagues (Inglehart, Foa, Peterson, & Welzel, 2008), happiness is increased in a society that allows free choice. Economic development, democratization, and social tolerance have led to more free choice, resulting in higher levels of happiness around the world.

Thus, in the current study, we aim to investigate the interrelations between social capital and people's health and happiness, based on a multilevel, mixed-effects model. We examined the effects of aggregate social capital in models adjusted for self-rated health and other important individual-level factors for happiness. We also examined the significance of

possible cross-level interaction on happiness between individual- and aggregate-level social capital. Social trust was used as a variable of interest among social capital dimensions.

Using data from a large sample of the Asia Barometer Survey, the current investigation may be the first study to analyze happiness across nations in Asia. The novelty of our study includes investigation of the interrelationships between social trust and health and happiness; examination of possible cross-level interaction on happiness between individual- and aggregate-level social trust; and use of current multinational data throughout Asian countries.

Method

Study Participants

We used data from the Asia Barometer Survey (2003–2006), which includes information on individuals from 29 Asian countries on a vast range of subjects (Inoguchi, 2005). The countries included in our analysis were Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, China, Hong Kong, India, Indonesia, Japan, Kazakhstan, Kyrgyzstan, Laos, Malaysia, the Maldives, Mongolia, Myanmar, Nepal, Pakistan, Singapore, South Korea, Sri Lanka, Taiwan, Tajikistan, Thailand, the Philippines, Turkmenistan, Uzbekistan, and Vietnam. For the purpose of the study, Hong Kong and Taiwan were considered as independent countries, considering their socio-economic characteristics. Prior ethics committee approval from the Chuo University was obtained. We received written, informed consent from the survey participants.

The sampling method involved three stages (Inoguchi, 2004). First, capital and major metropolitan cities were purposely chosen for the survey districts in countries, and the sampling areas in these cities were randomly selected using the method of probability proportionate to its size. The wards for sampling in each district were then randomly selected from a list of total wards for the city. The more highly populated wards were given a higher probability of being selected, so that all households had an equal probability of being selected, ensuring that the sample was geographically representative of the city.

Second, within a ward that was identified for sampling, the households were randomly selected using the right-hand-walk rule, in which households were contacted in clusters around the selected starting points. From the first household contacted, two households were skipped, and the next one was contacted.

Third, when we interviewed the first eligible member who was available at the time of the survey, this could lead to a nonrandom sample, since it could

lead to an overrepresentation of women, as women are easier to interview and are more likely to be available. To avoid this problem, we used the Kish Grid, which is a method of selecting eligible respondents randomly from within a household using a random number table. Because of the necessity of obtaining written consent, we made sure that all participants were literate.

Data Collection

Face-to-face interviews were used to provide structured questionnaires in this survey. The detailed content of the questionnaires was previously published elsewhere (Inoguchi, 2005). Data collection included demographics, marital status, socioeconomic factors (i.e., income, education, occupation), religious beliefs, self-rated health, self-reported happiness, and social capital (social trust: general trust, interpersonal trust, and mutual help), in addition to information on political, environmental, and daily-life issues, which were related to the Asia Barometer Survey.

The dependent variable in all analyses (i.e., self-reported happiness) was based on the following question: "All things considered, would you say that you are happy these days?" The item was rated on a 5-point scale ranging from 1 (*very unhappy*) to 5 (*very happy*). This was treated as a continuous variable. The item has been widely used and validated in the happiness literature (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2006).

The individual-level independent variables included gender, age (range = 20–69 years), marital status, religious belief, income, education, employment, and individual-level social trust. Age was categorized into the following five groups: *20–29 years*, *30–39 years*, *40–49 years*, *50–59 years*, and *60–69 years*. Categories of marital status included *single*, *married*, *divorced/separated*, or *widowed*. For religious belief, we asked each participant "Do you regard yourself as belonging to any particular religion?" Participants responded *Yes* or *No* to the question.

Annual household income was used as an income variable in the present study. Categories of income groups included *low*, *middle*, and *high*. The criterion used to assign these categories was based on the income distribution to divide the samples into three categories with similar frequencies. Thus, we divided the samples of each country into subsamples with frequencies as close to 33% each as possible.

For educational attainment, we also used three categories (*low*, *middle*, and *high*), based on the distribution of educational attainment in each country. For instance, in the data from 2003 to 2005, the *low-education* category included no formal education or elementary school/junior high

school/middle school; the *mid-education* category included high school or vocational-technical school; and the *high-education* category included professional school/technical school or university/graduate school.

For occupational status, we used six categorical classes: *self-employed*, *employed*, *unemployed*, *retired*, *homemaker*, and *student*. The self-employed group included self-employed in agriculture, forestry, or fisheries; business owner in mining or manufacturing industry of an organization with up to 30 employees; vendor or street trader; business owner or manager of an organization; and self-employed professional. The employed group included senior manager, employed professional or specialist, clerical worker, sales, manual worker, driver, and "other" worker.

Self-rated health was defined as the individual's personal satisfaction with his or her overall health. In the survey we asked, "Please tell me how satisfied or dissatisfied you are with your health." The item was rated on a 5-point scale ranging from *very dissatisfied* to *very satisfied*. The categories were collapsed to form a dichotomous variable of 1 (*poor health*, for *very dissatisfied*, *somewhat dissatisfied*, or *neither satisfied nor dissatisfied*) or 0 (*good health*, for *very satisfied* or *somewhat satisfied*).

Social trust, which is the dimension of cognitive social capital, was measured by a composite index constructed from a factor score of three questionnaire items related to general trust, interpersonal trust, and mutual help. The general trust question was "Would you say that most people can be trusted or that you can't be too careful in dealing with people?" The question on interpersonal trust in merit-based utility was "Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?" And the question on mutual help was "If you saw somebody on the street looking lost, would you stop to help?" For the last question, the responses were *I would always stop to help*, *I would help if nobody else did*, and *It is highly likely I wouldn't stop to help*.

These questions have been used widely in previous studies to measure cognitive social trust (Dekker & Broek, 2004; Olsen & Dahl, 2007; Putnam, 2000; Yip et al., 2007). Factor analysis of these items provides a one-factor solution with an eigenvalue of 1.43. All items were loaded above 0.40, and no other factors exceeded unity. The individual scores were calculated using the regression equation with the factor loadings, and a higher score indicated higher trust. The standardized scores ($M = 0$, $SD = 1$) were used in descriptive statistics, and for the multivariable models, they were collapsed to form a dichotomized variable: 0 (*high social trust* for values less than 0) and 1 (*low social trust* for values of 0 or more).

Country-level social capital was constructed using aggregate social trust. Aggregate social trust was calculated using the mean score of individual-level scores in each country and collapsed to form a dichotomized variable: 0 (*high*

social trust for values less than 0) and 1 (*low social trust* for values of 0 or more).

Statistical Analysis

We used mixed-effects linear regression models to analyze the relationship of individual- and country-level features to happiness by considering individuals nested in each country, as data structures in the Asia Barometer Survey were hierarchical multilevels (Level 1 = individual; Level 2 = country). The data provide information on individuals, but the individuals are also grouped in their countries. The random-effects covariance matrix was set to unstructured form.

We constructed five different mixed-effects models: (a) the model including individual-level characteristics, except for self-rated health and social trust (Model A); (b) the model including health in Model A (Model B); (c) the model including social trust in Model A (Model C); (d) the model including health and social trust in Model A (Model D); and (e) the model including aggregate social trust and the interaction term between individual and aggregate social trust in Model D (Model E). Beta coefficients greater than 0 indicate that the effect related positively to happiness, whereas beta coefficients less than 0 indicate that the effects related negatively to happiness.

Descriptive statistics were calculated and presented as the mean with standard deviation or the count number with proportion to the overall sample population where appropriate. Effect sizes of each significant characteristic were estimated using Cohen's method based on the absolute value of beta coefficients of Model E divided by the population standard deviation of Likert-scale responses to the happiness item. All statistical analyses were performed using STATA version 10 (College Station, TX). Two-tailed p values less than .05 were considered statistically significant.

Results

Table 1 shows descriptive statistics of the study participants. Their mean age was 37.8 years ($SD = 11.9$). The majority of participants were married (72.4%). The three levels of both income and education had almost even distributions. In terms of job status, the majority were employed (employed = 48.2%; self-employed = 16.5%). The majority rated their health as good (68.6%), but more than half of the participants were classified as having low social trust (55.4%). In terms of happiness, 43.1% reported that

Table 1

Descriptive Statistics of All Participants

Characteristic	*n*	%
Gender		
Women	19800	50.7
Men	19282	49.3
Age (in years)		
20–29	11413	29.2
30–39	11128	28.5
40–49	9147	23.4
50–59	5784	14.8
60–69	1610	4.1
Marital status		
Single	8680	22.2
Married	28278	72.4
Divorced/separated	1035	2.6
Widowed	1057	2.7
N/A	32	0.1
Income		
High	12420	31.8
Mid	12219	31.3
Low	12426	31.8
N/A	2017	5.2
Education		
High	11861	30.3
Mid	14549	37.2
Low	12518	32.0
N/A	154	0.4
Employment		
Employed	18843	48.2
Unemployed	2979	7.6
Self-employed	6467	16.5
Retired	1514	3.9
Homemaker	7230	18.5
Student	1958	5.0
N/A	91	0.2

Table 1 *Continued*

Characteristic	*n*	%
Religious belief		
Yes	29866	76.4
No	8021	20.5
N/A	1195	3.1
Self-rated health		
Good	26808	68.6
Poor	12080	30.9
N/A	194	0.5
Social trust		
High	14450	37.0
Low	21642	55.4
N/A	2990	7.7
Happiness		
Very happy	800	2.0
Pretty happy	3344	8.6
Neither happy nor unhappy	9600	24.6
Not too happy	16856	43.1
Very unhappy	7289	18.7
N/A	1193	3.1

Note. $N = 39082$. N/A = not available.

they were *not too happy*, followed by *neither happy nor unhappy* (24.6%), *very unhappy* (18.7%), *pretty happy* (8.6%), and *very happy* (2.0%; missing data, 3.0%).

Table 2 and Figures 1 and 2 present the mean happiness, health, and social trust scores for each of the 29 countries. By construction, the social trust score was centered on 0 ($SD = 1$). People in Brunei reported the highest level of happiness, while people in Tajikistan reported the lowest level of happiness. In terms of self-rated health, people in Brunei also reported the highest level. People in Turkmenistan reported the lowest level of health. For the social trust score, people in the Maldives reported the greatest level of trust. People in Cambodia reported the lowest level of trust. Correlation coefficients between happiness, health, and social trust were significant at the individual level: .283, .101, and .057 for happiness and health, happiness and social trust, and health and social trust, respectively ($p < .001$).

Table 2

Happiness, Health, and Social Trust in 29 Asian Countries

		Happiness[a]		Health[b]		Social trust[c]	
	n	*M*	*SD*	*M*	*SD*	*M*	*SD*
1. Afghanistan	874	3.44	0.93	4.11	0.98	0.25	1.01
2. Bangladesh	1008	3.77	0.90	3.87	1.05	–0.18	0.82
3. Bhutan	801	4.13	.81	4.38	0.81	0.01	0.97
4. Brunei	804	4.45	0.64	4.62	0.57	0.21	0.94
5. Cambodia	812	3.06	0.77	3.29	1.05	–0.64	0.65
6. China	3800	3.70	0.89	3.71	0.95	0.54	1.02
7. Hong Kong	1000	3.53	0.70	3.57	0.71	0.06	1.06
8. India	2060	3.93	0.96	4.25	0.94	–0.08	0.97
9. Indonesia	825	3.93	0.75	4.35	0.84	0.07	0.90
10. Japan	2685	3.66	0.82	3.66	0.98	–0.01	1.01
11. Kazakhstan	800	2.94	1.13	3.47	1.16	–0.41	0.80
12. Kyrgyzstan	800	3.21	1.25	3.57	1.27	–0.32	0.73
13. South Korea	2642	3.48	0.88	3.55	0.91	0.46	1.02
14. Laos	800	3.66	0.76	3.92	0.98	–0.33	0.86
15. Malaysia	1600	3.97	0.80	4.22	0.75	–0.28	0.92
16. Maldives	821	4.21	0.87	4.34	0.87	0.55	0.97
17. Mongolia	800	3.55	0.74	3.42	1.09	–0.18	0.88
18. Myanmar	1600	3.67	0.93	3.78	1.12	–0.17	0.84
19. Nepal	800	3.55	1.08	3.82	0.78	–0.24	0.79
20. Pakistan	1086	3.47	1.01	3.51	1.02	0.49	1.01
21. Philippines	800	3.91	0.99	4.21	0.84	–0.50	0.80
22. Singapore	1838	4.00	0.85	4.06	0.75	0.10	1.02
23. Sri Lanka	1613	4.01	0.81	4.13	0.86	–0.32	0.93
24. Taiwan	1006	3.55	0.92	3.62	0.84	0.09	1.13
25. Tajikistan	800	2.93	1.00	3.85	1.04	–0.07	0.97
26. Thailand	1600	3.82	0.82	3.82	1.07	–0.33	0.89
27. Thailand	800	3.45	1.04	3.07	1.56	0.02	1.31
28. Uzbekistan	1600	3.44	1.05	3.43	1.15	–0.25	0.94
29. Vietnam	2607	3.95	0.90	3.56	0.95	0.11	0.94
Total	39082	3.70	0.95	3.81	1.02	0	1

[a]Based on a 5-point scale ranging from 1 (*very unhappy*) to 5 (*very happy*). [b]Based on a 5-point scale ranging from 1 (*very dissatisfied with health*) to 5 (*very satisfied with health*). [c]Based on a single-factor analysis from the three questionnaires. Greater values indicate higher trust.

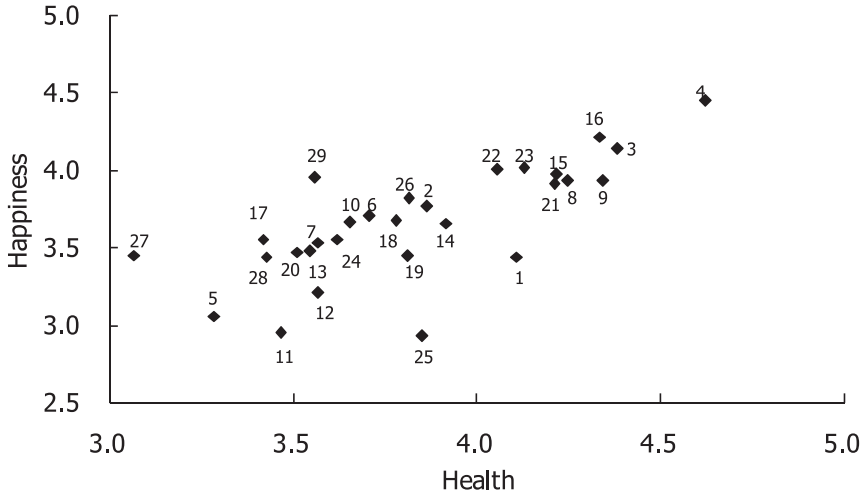

Figure 1. Health and happiness in 29 Asian countries. *Note*. The number of the dot indicates the number of each country in Table 2.

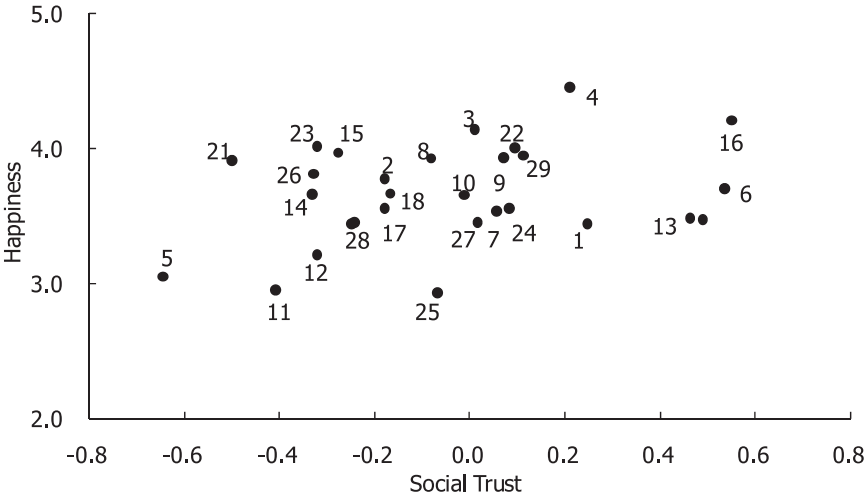

Figure 2. Social trust and happiness in 29 Asian countries. *Note*. The number of the dot indicates the number of each country in Table 2.

Table 3 presents the results of the five successive multilevel models, using aggregate social trust as an indicator of country-level social capital. The first model (Model A) shows that the significant variables that were positively associated with happiness were married status, being a homemaker, and being a student. The significant variables that were negatively associated with happiness included male gender, being 30 to 59 years old, being divorced/separated, being widowed, having a low or middle income, being poorly or moderately educated, being unemployed, and having no religious belief.

Model B added self-rated health to Model A as both fixed- and random-effects variables. Model B shows that poor health was negatively related to happiness. In this model, adjusted for health, self-employed and retired statuses, which were not significant in Model A, became significantly associated with happiness. Model C added individual-level social trust to Model A as both fixed- and random-effects variables, and shows that low trust was negatively related to self-reported happiness. In this model, adjusted for individual-level social trust, the age range of 60 to 69 years, which was not significant in Model A, became significantly associated with happiness.

Model D shows that both self-rated health and individual-level social trust were independently related to happiness. The final model (Model E), adjusted for both self-rated health and individual-level social trust, reveals that aggregate social trust was significantly related to self-reported happiness ($p = .043$). People tend to report less happiness in countries with low aggregate social trust, and social capital seems to benefit individuals in the same country uniformly.

There was no significant cross-level interaction between individual-level social trust (Level 1) and country-level aggregate social trust (Level 2). Based on the standard deviation of 0.95 in the happiness item and the beta coefficients of Model E, effect sizes of characteristics for happiness are shown in Table 4. The ranking by the magnitude of these effect sizes indicated that good self-rated health, married status, and aggregate social trust were among the top three characteristics associated with happiness.

Discussion

Examining contextual effects of social capital on people's happiness may be a challenge. However, this Asian cross-national research indicated that higher levels of aggregate social trust are associated with happiness through its contextual effects. Self-rated health, individual-level social trust, and aggregate social trust are all independently associated with people's happiness in Asian countries. Regardless of individual-level social trust, people are more likely to be happier if they live in countries with higher levels of

Table 3

Multilevel Models of Individual- and Country-Level Characteristics for Happiness

	Model A			Model B			Model C			Model D			Model E		
Characteristic	Beta	*SE*	*p*	Beta	*SE*	*p*	Beta	*SE*	*p*	Beta	*SE*	*p*	Beta	*SE*	*p*
Gender (base group: women)															
Men	−.037	.011	<.001	−.050	.011	<.001	−.035	.011	.002	−.049	.011	<.001	−.049	.011	<.001
Age (base: 20–29 years)															
30–39 years	−.071	.014	<.001	−.059	.014	<.001	−.071	.014	<.001	−.059	.014	<.001	−.059	.014	<.001
40–49 years	−.100	.015	<.001	−.076	.015	<.001	−.107	.015	<.001	−.083	.015	<.001	−.083	.015	<.001
50–59 years	−.130	.018	<.001	−.088	.017	<.001	−.140	.018	<.001	−.096	.018	<.001	−.095	.018	<.001
60–69 years	−.054	.030	.073	−.008	.030	.797	−.070	.031	.023	−.019	.030	.541	−.019	.030	.534
Marital status (base: single)															
Married	.155	.015	<.001	.148	.015	<.001	.149	.015	<.001	.142	.015	<.001	.142	.015	<.001
Divorced/separated	−.227	.032	<.001	−.220	.032	<.001	−.222	.033	<.001	−.214	.033	<.001	−.213	.033	<.001
Widowed	−.147	.033	<.001	−.113	.033	.001	−.150	.034	<.001	−.121	.033	<.001	−.121	.033	<.001
Income (base: high income)															
Mid	−.081	.012	<.001	−.071	.012	<.001	−.079	.012	<.001	−.068	.012	<.001	−.068	.012	<.001
Low	−.197	.012	<.001	−.175	.012	<.001	−.199	.012	<.001	−.176	.012	<.001	−.176	.012	<.001
Education (base: high education)															
Mid	−.053	.012	<.001	−.052	.012	<.001	−.052	.012	<.001	−.053	.012	<.001	−.053	.012	<.001
Low	−.121	.014	<.001	−.105	.014	<.001	−.116	.015	<.001	−.102	.014	<.001	−.102	.014	<.001

Employment (base: employed)															
Unemployed	−.077	.019	<.001	−.071	.019	<.001	−.071	.020	<.001	−.066	.019	.001	−.066	.019	.001
Self-employed	.026	.014	.066	.028	.014	.044	.026	.014	.066	.027	.014	.051	.027	.014	.052
Retired	.042	.029	.151	.072	.029	.012	.036	.029	.225	.064	.029	.028	.064	.029	.028
Homemaker	.050	.016	.001	.047	.015	.002	.054	.016	.001	.050	.016	.001	.050	.016	.001
Student	.139	.025	<.001	.130	.024	<.001	.139	.025	<.001	.127	.025	<.001	.127	.025	<.001
Religious belief (base: *Yes*)															
No	−.103	.016	<.001	−.099	.016	<.001	−.095	.016	<.001	−.095	.016	<.001	−.095	.016	<.001
Self-rated health (base: good)															
Poor				−.377	.032	<.001				−.372	.031	<.001	−.372	.030	<.001
Individual social trust (base: high)															
Low							−.138	.018	<.001	−.119	.017	<.001	−.140	.022	<.001
Aggregate social trust (base: high)															
Low													−.254	.125	.043
Cross-level interaction (social trust)															
Aggregate × Individual													.040	.029	.166
Intercept	3.794	0.070	<.001	3.872	0.066	<.001	3.881	0.073	<.001	3.948	0.068	<.001	4.087	0.096	<.001

Note. $N = 33736$.

Table 4

Effect Sizes of Characteristics for Happiness

Rank	Characteristic	Model E (absolute value of beta)	Effect size[a]
1	Self-rated health (good vs. poor)	.372	.39
2	Married vs. divorced/separated	.355	.37
3	Aggregate social trust (high vs. low)	.254	.27
4	Income (high vs. low)	.176	.19
5	Individual social trust (high vs. low)	.140	.15
6	Employment (student vs. employed)	.127	.13
7	Education (high vs. low)	.102	.11

Note. Only factors with an effect size greater than .10 are shown with the ranking by the greater effect size.
[a]Based on the absolute value of beta coefficients of Model E divided by the population *SD*.

aggregate social trust. Differences in country-level social trust can partly explain happiness differences among Asian countries. Based on the magnitude of the effect sizes, good self-rated health and married status, in addition to aggregate social trust, are the most important characteristics associated with happiness.

The results of the current studies may confirm the importance of social capital (both individual and aggregate) as predictors of happiness, suggested by previous studies. In a study using cross-national data from the World Values Survey from the U.S. and Canada, Helliwell and Putnam (2004) found that civic engagement and social ties were associated with subjective well-being. A study of European countries by Gundelach and Kreiner (2004) found a high correlation between both community- and individual-level membership in organizations and self-reported happiness, even after adjusting for other social factors, and concluded that, in an aggregated analysis, social capital was the most important predictor of happiness. Another study also suggested that an index of social capital was positively associated with satisfaction with life (Bjonskov, 2003).

Although happiness seems to be related to aggregate social capital, the mechanism of how social capital at the societal level relates to individual happiness can be debated. It is easily understandable that persons with higher levels of individual social trust would receive some benefits to their happiness through active engagement in diverse social activities and inte-

gration in their communities. However, higher social trust does have a positive effect on the resources, securities, and friendliness of communities of individuals.

A recent study conducted in rural China (Yip et al., 2007) suggested that social trust is strongly associated with emotional support, and this may facilitate social networks and support mechanisms, which can positively affect well-being. The mechanisms through which social capital affects subjective well-being may be linked to a better social network. Thus, people living in countries with higher social trust may be happier because of better emotional support. People in countries with low social trust may experience more stress from poor emotional support.

The current study indicated that there is a difference in mean levels of happiness between these countries. Better social capital in a country may enhance the average happiness level of that country, whereas poor social capital may produce social disintegration. Unhappiness may be induced as a result of underinvestment in several forms of social capital, such as social services, civic activity, and cultural activities. Public policymakers and public-service professionals may be advised to consider the role of improvement of country-level aggregate social capital in enhancing the happiness of individuals by contextual effects of social capital on happiness. In particular, policies are needed to enhance environments that strengthen existing social networks and facilitate social support at both the individual and the country level (Yip et al., 2007).

The current study identified several individual characteristics as important determinants for happiness, including age, gender, socioeconomic status (SES), marital status, and religious belief. In terms of the effects of age on happiness, the relationship is not linear. Age has a U-shaped effect on people's happiness, with a low level of happiness in midlife, but recovery occurs at older ages, in spite of the effects of aging on physical health. This U-shaped pattern linking age and happiness is persistent among studies, including the Euro Barometer Study (Di Tella et al., 2003). Midlife unhappiness may be conceptualized generally as *midlife crisis*, in which people are faced with major life changes and often fear inactivity and meaninglessness (Erikson, 1998; Johnson & Krueger, 2006).

Women tend to have a higher level of happiness than do men, and this finding is in line with the results of the World Values Survey, in which happiness was higher among women than men (Helliwell & Putnam, 2004). For a specific explanation of the gender difference, Helliwell and Putnam suggested that living in a country with a high-quality government increases happiness more for women than for men. Being married improves subjective well-being, a finding that has been consistent across studies (Helliwell & Putnam, 2004; Mroczek & Kolarz, 1998; Ross, 2005).

Our study also suggested that marriage has beneficial effects on happiness. Marital status is considered by some investigators to be family-level social capital, emphasizing the importance of family through frequent interactions with family members to enhance happiness (Helliwell & Putnam, 2004).

The current study indicated that happiness is found to be lower for persons with low SES. Low income, low educational attainment, and low job positions were all associated with being unhappy. Although a careful interpretation of the impact of SES on happiness may be needed in cross-national studies (Layard, 2005), multiple studies have found that individuals with low SES were at greater risk of unhappiness (Di Tella et al., 2003; Helliwell & Putnam, 2004). The relationship between SES and happiness can be explained partly by the previous findings that people in lower hierarchical positions are more prone to increased stress from low job control and manual labor (Amagasa, Nakayama, & Takahashi, 2005; Kawakami et al., 2004; Shigemi, Mino, Ohtsu, & Tsuda, 2000). People in higher positions in the hierarchy are less exposed to stressful events and may also have greater social and psychological resources when coping with such events (Adler & Newman, 2002).

The current study also shows that the level of happiness was higher for homemakers and students. Since the literature is scarce, we may propose some explanations. Although the combination of household work and family obligations may increase the workload for homemakers, household labor may not cause adverse effects, but may enhance happiness through better ability to control the work situation at home and less stress related to homemaking. Students may be happier since learning something may improve their level of happiness.

We found that there was a positive link between happiness and religious belief. Multiple transnational studies have shown similar results with slightly different degrees of effects on happiness (Helliwell & Putnam, 2004). Although data for frequency of attendance at church or temple were not available in our dataset, attending these kinds of social networks may create community-level social capital. More frequent interactions with other people in a religious community may enhance happiness through better resources for social capital.

There are some limitations of the current study. First, Asian countries have different cultural backgrounds, and these differences may influence how people respond to questions regarding individual happiness. Little research has been conducted to examine the cultural aspects in measuring happiness. Psychometric analysis may be needed to investigate this issue. Second, our measure of social capital in Asian countries analyzed only one dimension (i.e., social trust) of social capital. Other aspects of social capital (e.g., civic

participation, collective action) may or may not show different results. Third, although we found no evidence of interaction between aggregate social trust and individual-level social trust in the current study, other dimensions of social capital may still have an interaction with individual-level social trust. Finally, we analyzed the dataset without any weighting, although the countries have great variations in their populations and are different from the sample distributions of our dataset.

In conclusion, happiness differences among Asian countries may partly arise from differences in social capital. Country-level aggregate social trust is significantly associated with people's happiness, and this association is independent from self-rated health and individual-level social trust. High-trust Asian nations generally have a happier population than do low-trust nations.

References

Adler, N. E., & Newman, K. (2002). Socioeconomic disparities in health: Pathways and policies. *Health Affairs*, *21*(2), 60–76.

Amagasa, T., Nakayama, T., & Takahashi, Y. (2005). Karojisatsu in Japan: Characteristics of 22 cases of work-related suicide. *Journal of Occupational Health*, *47*, 157–164.

Barefoot, J. C., Maynard, K. E., Beckham, J. C., Brummett, B. H., Hooker, K., & Siegler, I. C. (1998). Trust, health, and longevity. *Journal of Behavioral Medicine*, *21*, 517–526.

Bjonskov, C. (2003). The happy few: Cross-country evidence on social capital and life satisfaction. *Kyklos*, *56*, 3–16.

Dekker, P., & Broek, A. (2004, July). *Civil society in longitudinal and comparative perspective: Voluntary associations, political involvement, social trust, and happiness in a dozen countries*. Presented at the 6th International Conference of the International Society for Third-Sector Research. Toronto, Ontario, Canada.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychology*, *55*, 34–43.

Diener, E., & Seligman, M. E. (2002). Very happy people. *Psychological Science*, *13*, 81–84.

Di Tella, R., MacCulloch, R. J., & Oswald, A. J. (2003). The macroeconomics of happiness. *Review of Economics and Statistics*, *85*, 809–827.

Erikson, E. H. (1998). *The life cycle completed* (extended version). New York: W. W. Norton & Company.

Gundelach, P., & Kreiner, S. (2004). Happiness and life satisfaction in advanced European countries. *Cross-Cultural Research*, *38*, 359–386.

Helliwell, J. F., & Putnam, R. D. (2004). The social context of well-being. *Philosophical Transactions of the Royal Society: B. Biological Sciences*, *359*, 1435–1446.

Hyyppa, M. T., & Maki, J. (2001). Individual-level relationships between social capital and self-rated health in a bilingual community. *Preventive Medicine*, *32*, 148–155.

Inglehart, R., Foa, R., Peterson, C., & Welzel, C. (2008). Development, freedom, and rising happiness: A global perspective (1981–2007). *Perspectives on Psychological Science*, *3*, 264–285.

Inglehart, R., & Klingemann, H. D. (2000). Genes, culture, democracy, and happiness. In E. Diener & E. M. Suh (Eds.), *Culture and subjective well-being* (pp. 165–183). Boston: MIT Press.

Inoguchi, T. (2004). The Asia Barometer: Its aim, its scope, its strength. *Japanese Journal of Political Science*, *5*, 179–196.

Inoguchi, T. (2005). *Values and life styles in urban Asia: A cross-cultural analysis and sourcebook based on the Asia-Barometer Survey of 2003* (1st ed.). Tokyo: Oriental Culture and Akashi Shoten.

Johnson, W., & Krueger, R. F. (2006). How money buys happiness: Genetic and environmental processes linking finances and life satisfaction. *Journal of Personality and Social Psychology*, *90*, 680–691.

Kahneman, D., Krueger, A. B., Schkade, D., Schwarz, N., & Stone, A. A. (2006). Would you be happier if you were richer? A focusing illusion. *Science*, *312*, 1908–1910.

Kawachi, I., Kennedy, B. P., & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health*, *89*, 1187–1193.

Kawakami, N., Haratani, T., Kobayashi, F., Ishizaki, M., Hayashi, T., Fujita, O., et al. (2004). Occupational class and exposure to job stressors among employed men and women in Japan. *Journal of Epidemiology*, *14*, 204–211.

Layard, R. (2005). *Happiness: Lessons from a new science*. New York: Penguin.

Mroczek, D. K., & Kolarz, C. M. (1998). The effect of age on positive and negative affect: A developmental perspective on happiness. *Journal of Personality and Social Psychology*, *75*, 1333–1349.

Olsen, K. M., & Dahl, S. A. (2007). Health differences between European countries. *Social Science and Medicine*, *64*, 1665–1678.

Petrou, S., & Kupek, E. (2007). Social capital and its relationship with measures of health status: Evidence from the Health Survey for England 2003. *Health Economics*, *17*, 127–143.

Poortinga, W. (2006). Social capital: An individual or collective resource for health? *Social Science and Medicine*, *62*, 292–302.

Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. New York: Simon & Schuster.

Rose, R. (2000). How much does social capital add to individual health? A survey study of Russians. *Social Science and Medicine*, *51*, 1421–1435.

Ross, N. (2005). Health, happiness, and higher levels of social organization. *Journal of Epidemiology and Community Health*, *59*, 614.

Shigemi, J., Mino, Y., Ohtsu, T., & Tsuda, T. (2000). Effects of perceived job stress on mental health: A longitudinal survey in a Japanese electronics company. *European Journal of Epidemiology*, *16*, 371–376.

Subramanian, S. V., Kim, D. J., & Kawachi, I. (2002). Social trust and self-rated health in U.S. communities: A multilevel analysis. *Journal of Urban Health*, *79*(Suppl. 1), S21–S34.

Subramanian, S. V., Kim, D., & Kawachi, I. (2005). Covariation in the socioeconomic determinants of self-rated health and happiness: A multivariate, multilevel analysis of individuals and communities in the U.S.A. *Journal of Epidemiology and Community Health*, *59*, 664–669.

Yip, W., Subramanian, S. V., Mitchell, A. D., Lee, D. T., Wang, J., & Kawachi, I. (2007). Does social capital enhance health and well-being? Evidence from rural China. *Social Science and Medicine*, *64*, 35–49.