Suicidology Online 2020; VOL. 11:1

Suicidology Online
open access journal
www.suicidology-online.com

ISSN 2078-5488

Original Research

Examining whether South Korean and Japanese Views of Suicide and Death Help to Better Understand their Contrasting Suicide Patterns

William Feigelman ✉[,1], Daisuke Kawashima [2], Yoshiki Koga [2], Kenji Kawano [3], Julie Cerel [4]

[1] Nassau Community College, Garden City, N.Y., USA
[2] Chukyo University, Nagoya, Japan
[3] Ritsumeikan University, Kyoto, Japan
[4] University of Kentucky, Lexington, Kentucky, USA

Submitted: January 15th, 2019; Accepted: November 20th, 2019; Published: May 26th, 2020

***Abstract*:** Based on two independent surveys of South Korean (n=1,599) and Japanese adults (n=1,490) views of suicide and death this analysis found South Koreans more stress-prone and more accepting of suicide than the Japanese, patterns convergent with their overall differences in societal suicide rates. Multiple regression analysis findings suggested that a substantial proportion of the variations in stress differences between all respondents were accounted for by three variables: country differences, depression and satisfaction with one's financial status; this finding suggests that South Koreans' diverging views of suicide and death may add to their overall levels of experienced stress.

***Keywords*:** suicide views, death views, South Koreans, Japanese, cross-national suicide comparisons

Numerous investigators have examined the diverging and contrasting patterns of suicide between the peoples of South Korea and Japan (Ahn, Park, Ha, Choi, & Hong, 2012; Chan et al., 2015; Jeon, Reither, & Masters, 2016; Kim, Kim, Kawachi, & Cho, 2011; Park, 2015; Park et al., 2016). Although both neighboring countries possessed closely similar and low suicide rates in the mid-1980s, both have shown substantial increases in suicides recently, with South Korea greatly outstripping Japan, accounting for the steepest rate rises (Jeon, et al, 2016). In Japan, suicide rates declined from a peak of 27.0 per 100,000 people (over 34,000 people per year) in 2003 to 16.8 per 100,000 people (almost 21,000 people per year) at 2017 (Ministry of Health, Labour and Welfare & National Police Agency, 2018). There has been much research and related work on suicide prevention in Japan during this period, and those strategies apparently were effective (Takeshima et al., 2015).

By contrast, presently the yearly suicide rate for South Korea was tabulated at 30 per 100,000 (Jeon et al., 2016). Although numerous factors have been mentioned to explain the diverging patterns between these two countries, several analysts have noted the sharply rising numbers of elderly, especially male, suicides in South Korea (Jeon et al., 2016; Kwon, Chun, & Cho, 2009). In recent years South Korean, elderly males have experienced more impoverishment and abandonment as economic development have left many older workers with insufficient pension incomes and deficient economic resources; at the same time, extended family obligations to support elderly relatives have also declined (Kwon et al., 2009). Another recent study found that past South Korean suicides may not have been as low, and increases may not have been as spectacular, as previously thought; some previously claimed so-called 'ambiguous' deaths and other non-suicidal deaths were actually suicides, when subjected to further forensic medical examination

✉ William Feigelman, Ph.D.
Nassau Community College, Garden City, N.Y., USA
E-mail: william.feigelman@ncc.edu

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

and review (Chan et al., 2015). Yet, the question still remains, why might such similar and nearby societies possess such sharply differing and contrasting suicide patterns as they presently do.

Although geographic proximity between South Korea and Japan has led to many cultural, linguistic and religious similarities, during much of the twentieth century, beginning in 1910 and throughout the period of World War II, Korea remained a colonized entity ruled autocratically by Japan (Beckwith, 2010; Hundt & Bleiker, 2007). The domination of Korea by Japan during this period, and its influence on the mental health of a conquered people, has been a subject of much social scientific and literary discussion and commentary (Glosserman & Snyder, 2017, or see, for example, the widely read fiction work Pachinko, Lee, 2017). In addition, what impact the partitioning of Korea following the Korean War of the 1950s represents an additional mental health challenge to the peoples of South Korea, with extended family ties being ruptured in this process. What impacts from this history and continuing political conflicts regarding war responsibility may have had on suicides in Korea represents an interesting unknown question not often examined in the mental health literature in discussions of diverging Japanese and Korean suicide patterns. Most all comparative studies of this question have focused more or less exclusively upon economic, demographic and differences in access to lethal means in analyzing the contrasts between Japan and South Korean suicide patterns (Jeon et al, 2016; Kim et al, 2011; Park et al., 2016; Snowdon, 2018).

In 2009 a unique opportunity presented itself to better understand the suicide and death viewpoints that South Korean adults share with the collection of the 2009 Korean General Social Survey. During that particular survey year, a large array of additional questions about suicide and death were included and presented to a representative sample of South Korean adults. The survey also included several important diagnostic scales: the nine question PHQ-9 scale measuring depression experienced during the last two weeks (Kroenke, Spitzer, & Williams, 2001) a five-item suicide proneness scale (Park, Im, & Ratcliff, 2014), a six-question acceptance of suicide scale, (Jung & Olsen, 2014), and a four-question measure of experienced stress, from four distinct sources: experienced generally, from family, job and economic difficulties. Numerous analysts have focused on this data to obtain a better understanding of the dynamics of South Korean suicides (Jung & Olsen, 2014; Lee, Kim, & Shin, 2012; Park et al., 2014).

We thought it would be advantageous to present many of these same questions asked in the 2009 South Korean GSS study to a comparable sample of Japanese adults to see whether a comparative examination of the contrasts between these two datasets could yield insights into the differences in thinking about suicides and death between these two peoples. We hoped this could enhance understandings of the differences in suicide patterns between these two peoples. Initially, given the higher South Korean suicide rate, we anticipated that South Koreans would show higher depression rates, greater suicide proneness, more overall stress and greater acceptability of suicide compared to the Japanese. Flowing from the higher rates of suicide in South Korea, we also anticipated that more South Koreans would know others having more suicide thoughts, having knowledge of more persons making suicide attempts and would be acquainted with more people that had actually died by suicide. We were uncertain about what the data would show in diverging beliefs about death and suicide between these two peoples, but we expected that it would help to better understand their differing suicide patterns.

Method

Procedure and participants

We utilized the 2009 South Korean General Social Survey which was based on face-to-face interviews conducted among the 18 and older South Korean household population following the same format as the U.S. General Social Surveys. The survey response rate was 63.4% yielding a total of 1,599 respondents, based on a multistage cluster sampling method. This survey was conducted by the Survey Research Center at Sungkyunkwan University in Seoul, South Korea. In 2009, the Korean GSS included an additional array of questions on Mental Health and Suicide. These data are available from the Inter-University Consortium for Social and Political Research at the University of Michigan, (ICPSR #34665).

In Japan, a total of 1,490 respondents were recruited for an on-line survey through a research company in September 2017. First, we translated the original South Korean survey instrument into Japanese, with the exception of the PHQ-9 scale, which had already been translated and validated in Japanese (Muramatsu et al., 2007). Then, a back-translation was conducted by native speakers who had not been involved in this research. Finally, the first author confirmed that the South Korean and Japanese scales, except for the PHQ-9 scale, were equivalent. The study was conducted among the twenty to sixties- year- old population of the Japanese general public that registered as potential respondents with an internet research company. Despite these slight differences in survey definitions both surveys

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

essentially matched one another in their age ranges. The age-group cut-offs corresponded with one another with 21% of the Korean respondents matching up to 22% of the Japanese and 15% of the Korean respondents matching with 17.5% of the Japanese.

Completed questionnaires were received from 1,594 participants, but 104 participants were excluded because they had not seriously taken part in the survey; 94 participants responded: "I have just clicked through this, please throw my data away." in answering questions for the seriousness check (Aust, Diedenhofen, Ullrich, & Musch, 2013). In addition, after preliminary reviews of the data, 10 participants were found to have offered sharply contradictory answers and these surveys were also discarded. Data from 1,490 respondents were used in the current study, yielding an overall response rate of 93%.

All participants provided informed consent and participated in the study voluntarily. At the end of the survey respondents were offered information for suicide prevention support. This survey was part of a larger, more comprehensive study of Japanese attitudes toward suicide and was approved by the Chukyo University Institutional Review Board. Fewer that 5% of all respondents did not provide answers to various questions in both surveys; we reported all cases where respondents answered specific questions thus slight fluctuations will be noted throughout this report in item-by-item responses.

Measures

Depression. We employed the PHQ-9 Depression scale (Kroenke, et al., 2001; Muramatsu et al., 2007) consisting of nine items scored additively, indicating a respondent's experience of depressive symptoms in the two weeks prior to completing the survey. South Korean respondents answered a translated version of these nine questions. Japanese respondents answered a Japanese version of this scale, mentioned previously (Muramatu et al., 2007). The PHQ-9 scale covered such experiences as having "Little interest or pleasure in doing things;" "Feeling down, depressed or hopeless," "Trouble falling or staying asleep or sleeping too much", "Thoughts that you would be better off dead or of hurting yourself in some way," among other statements indicating depression. These items were scored on a 4-point Likert scale extending from 1 (not at all) to 4 (nearly every day). Scale scores ranged from a low 9 to a high of 36, (M=13.88, SD=4.9). Cronbach's α for the scale was .87.

Stress. We measured stress using an additive score for the sum of responses to four items: general stress, financial stress, occupational stress, and domestic stress. For the measure of general stress, respondents were asked the frequency with which they felt stressed in everyday life. Response choices include 1 = "Very much stressed," 2 = "Somewhat stressed," 3 = "Not stressed much," and 4 = "Almost never stressed." For other measures of stress, respondents are asked the extent to which they agreed or disagreed with the following three statements: (1) "I get stressed out because of financial issues"; (2) "I get stressed out because of my occupation or business"; and (3) "I get stressed out because of my family problems, such as spouse, children, and parents." Response choices were 1 = "Strongly agree," 2 = "Agree," 3 = "Disagree," and 4 = "Strongly disagree." Responses to the four questions were averaged to generate the stress index and a higher scale score meant lower experienced stress. The Cronbach's α for the index was .73. Scale scores ranged from 4 to 16 with a mean of 9.6, (SD=2.55). A similar stress scale was utilized by Jung and Olsen, 2014.

Suicide Proneness. This scale was originally developed by Park et al. (2014). Suicide proneness was measured by five items and asked as follows: "Over the last month" (1) "Have you ever felt that you would be better off dead or wished to die;" (2) "Have you desired to hurt yourself in any way;" (3) "Have you ever thought about suicide;" (4) "Have you ever planned to commit suicide;" and (5) "Have you ever attempted suicide?" Respondents rated each item on a dichotomous scale of either no or yes. The sum of responses indicated suicide proneness. All five items were moderately inter-correlated with one another, yielding a Cronbach's α of .81. A higher score indicated a higher level of suicide proneness. Scores ranged from 5 to 10 (M= 5.37, SD=.98).

Suicide Acceptability Scale. We also employed an indicator of suicide acceptability that had been developed by other investigators (Jung & Olsen, 2014; Park et al., 2014). Suicide acceptability was measured by the extent to which one agreed or disagreed with the following six statements regarding suicide: (1) "Every person has a right to commit suicide" (reverse coded); (2) "There are circumstances where suicide is the only solution to a problem" (reverse coded); (3) "If a person with a fatal disease commits suicide, it is understandable"(reverse coded); (4) "Suicide is a very serious ethical breach"; (5) "Suicide is an offense to one's family and relatives"; and (6) "I cannot understand how people dare to kill themselves". This study coded response choices as follows: 1 = "completely agree," 2 = "mostly agree," 3 = "neither agree nor disagree," 4 = "mostly disagree," and 5 = "completely disagree." For each respondent, we created an index computing the average of the scores for the six items. Thus, individual item scores theoretically could range from a low of 1 to a high of 5, with higher scores

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

representing lower levels of approval of suicide. Cronbach's α for the index was modest, .70. Overall scores ranged from 6 to 30 (M=15.15, SD=4.23).

Satisfaction with financial status. Another important variable in this study is satisfaction with financial status. This variable can be traced back to the original 1972 U.S. General Social Survey where it was employed on a three-point scale evaluated from satisfied, somewhat satisfied to not at all satisfied, and it has been carried forward to all later U.S. GSS surveys. This variable has been adapted to a great many international comparative GSS studies. In the 2009 South Korean GSS it was defined on a 5-point scale. In our combined South Korean-Japanese sample the frequency breakdown was as follows: 1) Very satisfied, n=144, 4.7%; 2) Somewhat satisfied, n=962, 31.2%; 3) Neither satisfied nor dissatisfied, n=782, 25.4%; 4) Somewhat dissatisfied, n=829, 26.9%; 5) Very dissatisfied, n=368, 11.9%.

The 2009 South Korean General Social Survey and our Japanese comparison survey dataset also contained numerous demographic variables that we utilized: age, sex, years of education completed, marital status and social status. In addition, we also examined 14 specific viewpoints on suicide, six of which were embodied in the above mentioned Suicide Acceptability scale. There were also 9 questions probing attitudes towards death and questions about whether the respondent knew anyone personally who had suicide thoughts, had attempted suicide or had completed suicide.

Analytic Plan

First, we compared and contrasted the two datasets demographically to ascertain whether there were any substantial divergences between respondents from both studies that would need to be controlled for in any comparative analyses. Then we compared and contrasted the South Korean and Japanese respondents on any potential important characteristics that would lead toward one country's people being more inclined to suicide than the other. Finally, we selected one potentially significant predictor of suicide, stress score variabilities, and then we assembled a multi-variate prediction model of all potentially important correlates that would predict this characteristic that would make the Korean respondents inclined to higher rates of suicide than the Japanese.

Table 1. Socio-demographic differences between South Korean and Japanese adult respondents.

	Korea		Japan		Total		χ2 (df)	p-value
	n	%	n	%	n	%		
Sex								
Male	769	48.1	744	49.9	1513	49.0	1.05(1)	.307
Female	830	51.9	746	50.1	1576	51.0		
Total	1599	100.0	1490	100.0	3089	100.0		
Age (years)								
18–30	330	20.7	325	21.8	655	21.3	25.24(3)	.001
31–45	616	38.7	452	30.3	1068	34.6		
46–60	402	25.2	452	30.3	854	27.7		
>61	245	15.4	261	17.5	506	16.4		
Total	1593	100.0	1490	100.0	3083	100.0		
Education								
< High school	296	18.6	35	2.4	331	10.8	251.23(4)	.001
High school Some College	501	31.4	404	27.3	905	29.4		
College Graduate	216	13.5	322	21.7	538	17.5		
Post Graduate	492	30.9	634	42.8	1126	36.6		
Total	90	5.6	87	5.9	177	5.8		
	1595	100.0	1482	100.0	3077	100.0		
Marital Status								
Married/ widowed	1172	73.3	847	56.9	2019	65.4	94.63(2)	.001
Never Married	370	23.1	534	35.8	904	29.3		
Divorced / Separated / Cohabiting	57	3.6	109	7.3	166	5.4		
Total	1599	100.0	1490	100.0	3089	100.0		
Place of Living								
Big city	487	30.6	374	25.1	861	27.9	90.06(3)	.001
Suburbs	433	27.2	424	28.5	857	27.8		
Small city or a town	506	31.8	642	43.1	1148	37.3		
Country village/ farm	166	10.4	50	3.4	216	7.0		
Total	1592	100.0	1490	100.0	3082	100.0		
Socioeconomic success								
Very successful	17	1.1	8	0.5	25	0.8	514.49(4)	.001
Quite successful	263	16.5	116	7.8	379	12.3		
Neither successful nor unsuccessful	979	61.2	466	31.3	1445	46.8		
Quite unsuccessful	260	16.3	543	36.4	803	26.0		
Very unsuccessful	80	5.0	357	24.0	437	14.2		
Total	1599	100.0	1490	100.0	3089	100.0		

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

Results

Table 1 above shows the demographic contrasts between the South Korean respondents and the Japanese. Table 1 showed no significant sex differences between the two national samples. The table shows a higher percentage of young-middle-aged South Koreans compared to the Japanese and the Japanese were more numerous among older-middle-aged, compared to the South Koreans. Compared to the Japanese, the South Koreans were over-represented among those who did not complete high school, and proportionally more Japanese completed 4 years of college, compared to the South Koreans. Usually such educational differences would lead the better educated to see themselves as more successful economically. However, in these comparisons the South Koreans viewed themselves as more successful socio-economically compared to the Japanese. This was also noted in respondents' views of how they compared themselves to others in society, where, again, South Koreans judged themselves as more successful, as compared to their peers (This finding is not displayed in the tables). A higher percentage of Japanese viewed themselves as divorced, separated or cohabiting, as compared to South Koreans. But much higher percentages of South Koreans said they were married or widowed and more Japanese indicated being never married, which is inconsistent with the older ages of the Japanese. More South Koreans reported living in large cities, compared to the Japanese, the largest percent of whom reported living is small cities. It is possible that the views of greater socio-economic successes shared by the South Koreans, who experienced more limited educational attainments, could contribute to greater feelings of economic stress and turmoil.

Table 2 shows that the South Koreans reported significantly higher overall stress, compared to the Japanese with a mean of 9.4, compared to 9.9 for the Japanese, where lower scores indicated higher stress, p = .001. South Koreans also showed higher levels of suicide acceptability with a mean of 14, compared to 16.4 for the Japanese, where lower scores indicated higher suicide acceptability, p =.001. Depression was found to be higher for the Japanese than for the South Koreans with a mean of 14.3 compared to 13.5, p = .001. Again, suicide proneness was found to be higher for the Japanese than the South Koreans with a mean of 5.4 compared to 5.3, p =.002. While statistically significant, this difference is rather modest and could have been a byproduct of our somewhat large sample size.

Table 3 showed significantly more South Koreans acquainted with others who had suicide thoughts than the Japanese, 14.5 percent as compared to 5.5 percent. In the South Korean sample 10 percent reported familiarity with someone attempting suicide and 17 percent who completed suicide, contrasted with 12 percent and 19 percent respectively among the Japanese sample; these small differences showed the two groups undifferentiated in their exposures to those who had attempted or completed suicides.

Table 2. Stress, depression, suicide acceptability and proneness among South Korean and Japanese adult respondents.

	South Korea			Japan			*t* (df)	p-value
	n	Mean	SD	n	Mean	SD		
Stress	1492	9.37	2.57	1490	9.91	2.50	−5.78(2980)	.001
Suicide Acceptability	1587	14.00	4.23	1490	16.40	3.88	−16.37(3075)	.001
Depression	1584	13.47	4.49	1490	14.33	5.27	−4.94(3072)	.001
Suicide Proneness	1599	5.32	.85	1490	5.43	1.12	−3.01(3087)	.003

Table 3. Contacts with suicidal individuals among South Korean and Japanese adult respondents.

	South Korea		Japan		Total		χ2 (df)	p-value
	n	%	n	%	n	%		
Suicidal thought of close person								
Yes	231	14.5	82	5.5	313	10.1	68.04(1)	.001
No	1365	85.5	1408	94.5	2773	89.9		
Total	1596	100.0	1490	100.0	3086	100.0		
Suicide attempt of close person								
Yes	159	10.0	173	11.6	332	10.8	2.20(1)	.138
No	1438	90.0	1317	88.4	2755	89.3		
Total	1597	100.0	1490	100.0	3087	100.0		
Died by suicide of close person								
Yes	275	17.2	287	19.3	562	18.2	2.21(1)	.137
No	1324	82.8	1203	80.7	2527	81.8		
Total	1599	100.0	1490	100.0	3089	100.0		

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

Among all the 23 statements about suicide and death (six of which were embodied in the suicide acceptability scale) that were included in both surveys we wanted to examine those that were associated at least modestly with country membership differences. We selected only those that correlated at least at .15 or higher with being either being South Korean or Japanese. Only nine statements passed that test and they are reported below (Table 4), yielding correlation coefficients from .17 to .43. Each of these below listed statements showed a substantial contrasting response between the South Koreans and the Japanese in thinking about suicide and death where responses between the groups differed sharply with the South Koreans agreeing with each statement to a greater degree than the Japanese. The statements were as follows: "If I die now my family will be greatly disappointed" (r = .35); "The world will not change in spite of my death" (r = .24); "I don't have any reservation about death" (r = .31); "I will never choose suicide despite all my serious economic, physical or social problems." (r = .42); "Everybody has the likelihood to commit suicide." (r = .17); "Suicide can be prevented." (r = .20); "One should not talk about the suicide" (r = .28); "Responsibility for the suicide lies not in the individual, but in the society (r =.24) ; "Suicides of famous people such as entertainers has an impact on the suicides of ordinary people (r = .35).

Table 4. Views of death and suicide among South Korean and Japanese adult respondents.

	South Korea		Japan		Total		χ2 (df)	p-value
	n	%	n	%	n	%		
If I die now, my family will be greatly disappointed								
Strongly agree	1071	67.1	464	31.1	1535	49.7	418.46(3)	.001
Agree	432	27.1	733	49.2	1165	37.8		
Disagree	74	4.6	226	15.2	300	9.7		
Strongly disagree	19	1.2	67	4.5	86	2.8		
Total	1596	100.0	1490	100.0	3086	100.0		
World will not change in spite of my death								
Strongly agree	1025	64.2	540	36.2	1565	50.7	253.63(3)	.001
Agree	452	28.3	726	48.7	1178	38.2		
Disagree	80	5.0	187	12.6	267	8.7		
Strongly disagree	40	2.5	37	2.5	77	2.5		
Total	1597	100.0	1490	100.0	3087	100.0		
I don't have any reservation about the death								
Strongly agree	329	20.6	69	4.6	398	12.9	369.34(3)	.001
Agree	563	35.3	277	18.6	840	27.2		
Disagree	438	27.4	732	49.1	1170	37.9		
Strongly disagree	266	16.7	412	27.7	678	22.0		
Total	1596	100.0	1490	100.0	3086	100.0		
I will never choose the suicide								
Strongly agree	1129	70.8	369	24.8	1498	48.6	689.44(3)	.001
Agree	334	20.9	642	43.1	976	31.6		
Disagree	88	5.5	400	26.8	488	15.8		
Strongly disagree	44	2.8	79	5.3	123	4.0		
Total	1595	100.0	1490	100.0	3085	100.0		
Everybody has the likelihood to commit a suicide								
Strongly agree	288	18.0	134	9.0	422	13.7	278.50(4)	.001
Agree	813	50.9	521	35.0	1334	43.2		
Neither agree nor disagree	206	12.9	471	31.6	677	21.9		
Disagree	154	9.6	288	19.3	442	14.3		
Strongly disagree	137	8.6	76	5.1	213	6.9		
Total	1598	100.0	1490	100.0	3088	100.0		
Suicide can be prevented								
Strongly agree	566	35.6	214	14.4	780	25.3	341.10(4)	.001
Agree	722	45.4	688	46.2	1410	45.8		
Neither agree nor disagree	161	10.1	492	33.0	653	21.2		
Disagree	89	5.6	76	5.1	165	5.4		
Strongly disagree	54	3.4	20	1.3	74	2.4		
Total	1592	100.0	1490	100.0	3082	100.0		

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

Table 4. Views of death and suicide among South Korean and Japanese adult respondents (continued).

	South Korea		Japan		Total		χ2 (df)	p-value
	n	%	n	%	n	%		
One should not talk about the suicide								
Strongly agree	259	16.2	35	2.4	294	9.5	391.28(4)	.001
Agree	387	24.3	111	7.5	498	16.1		
Neither agree nor disagree	439	27.5	633	42.5	1072	34.8		
Disagree	346	21.7	513	34.4	859	27.8		
Strongly disagree	164	10.3	198	13.3	362	11.7		
Total	1595	100.0	1490	100.0	3085	100.0		
Responsibility for the suicide lies not in the individual but in the society								
Strongly agree	230	14.4	46	3.1	276	8.9	505.27(4)	.001
Agree	616	38.6	208	14.0	824	26.7		
Neither agree nor disagree	410	25.7	897	60.2	1307	42.3		
Disagree	245	15.3	260	17.5	505	16.4		
Strongly disagree	97	6.1	79	5.3	176	5.7		
Total	1598	100.0	1490	100.0	3088	100.0		
Suicide of famous people has an impact on the suicide of ordinary people								
Strongly agree	527	33.0	120	8.1	647	21.0	516.48(4)	.001
Agree	804	50.3	623	41.8	1427	46.2		
Neither agree nor disagree	176	11.0	576	38.7	752	24.4		
Disagree	56	3.5	124	8.3	180	5.8		
Strongly disagree	34	2.1	47	3.2	81	2.6		
Total	1597	100.0	1490	100.0	3087	100.0		

We focused on stress score variations as the best probable predictor of completed suicide differences among all the available variables in our survey datasets. Initially, we examined whether any of the socio-demographic variables were related to stress score differences. Table 5 presents a multiple regression equation of stress score differences as associated with age, education, socio-economic success views and marital status differences. The results showed each of these four variables significantly associated with stress score variables accounting for a small percentage, 6 percent, of stress score variabilities. (Cohen's d statistics were calculated to gauge effect size differences; these statistics were based on dichotomous, bivariate associations of stress and socioeconomic success in Table 5 or stress and depression in Table 6).

Table 6 displays a multiple regression equation of all potential correlates of stress score differences, the previously mentioned demographic variables, the country differences variable, differences in depression, suicide acceptability, suicide proneness, and satisfaction with one's financial status, in which all collectively accounted for a large amount of the variabilities of stress score differences, (33%). Judging from the beta weights three variables alone, depression, with a beta weight of .37, country differences, counted South Korea as 1 Japan as 2, yielded a beta weight of .19; satisfaction with financial status had a beta weight of .28; together, these three variables accounted for explaining the lion's share of the variance.

In Table 7, where we regressed these three variables exclusively in another multiple regression equation, where the explained variance was 31%. Thus, the remaining other variables collectively accounted for explaining only the remaining additional 2 percent of stress score differences.

Table 5. Multiple regression equation of stress score differences by demographic variables.

Number of obs = 2965
F (4, 2960) = 49.19
R^2 = .06

Independent variables	Correlation Coefficient	Squared Semipartial Correlation	Beta	p-value
Age (years)	.05	0.005	.08	.001
Education	.05	0.002	.05	.013
Socioeconomic success	−.24	0.551	−.24	.001
Marital status	−.03	0.002	.05	.011

Note. Cohen's d (for association of Stress and Success) =.33

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

Table 6. Multiple regression of stress score differences by all available potential correlates.

Number of obs = 2942
F (4, 2960) = 158.94
R^2 = .33

Independent variables	Correlation Coefficient	Squared Semipartial Correlation	Beta	p-value
Age (years)	.05	0.000	.02	.314
Education	.05	0.001	−.03	.059
Socioeconomic success	−.24	0.004	−.08	.001
Marital status	− .03	0.004	.07	.001
Suicide Acceptability	−.10	0.001	−.03	.049
Country	.10	0.025	.19	.001
Suicide Proneness	−.18	0.002	−.04	.006
Depression	−.45	0.109	−.37	.001
Financial satisfaction	−.39	0.060	−.28	.001

Note. Cohen's d (for association of Stress and Depression) =.17

Table 7. Multiple regression of stress score differences by depression, satisfaction with financial status and country differences.

Number of obs = 2968
F (4, 2960) = 448.66
R^2 = .31

Independent variables	Correlation Coefficient	Squared Semipartial Correlation	Beta	p-value
Country	.10	0.0230	.15	.001
Depression	−.45	0.1426	−.39	.001
Financial satisfaction	−.39	0.0870	−.30	.001

Discussion

One of our most important findings, perhaps, has shown South Koreans more stress-prone and more accepting of suicide than their Japanese survey counterparts. Many studies have offered convergent findings with the 1994 Finnish study showing everyday life stressors, such job problems, family discord, somatic illness, financial trouble, unemployment, and other adverse life experiences greatly over-represented among those taking their lives (Heikkinen, Aro, & Lönnqvist, 1994). There has been less well documented support for acceptability of suicide and being suicidal. One study of adolescents and young adults found that among those thinking that it was acceptable to end one's life they were fourteen times more likely to make a plan to kill themselves than those without such beliefs (Joe, Romer, & Jamieson, 2007). Another study, meshing General Social Survey respondent data with National Death Index records, found that on average, nine years before their deaths, suicide decedents had previously indicated significantly higher expressions of acceptance of suicide than their still living survey counterparts (Feigelman, Rosen, & Gorman, 2014). Thus, acceptability of suicide appears associated with eventual suicides.

Another potentially important finding has shown country differences between South Koreans and Japanese as an important correlate to stress variations, accounting for a beta weight of .19 in the multiple regression analysis, suggesting that peoples' diverging beliefs about suicide and death can contribute to their stress differences and may ultimately impact observed differences in suicide rates. One must be extremely cautious before making interpretations about how South Korean and Japanese interpret suicide and death differently from the mixed array of questions that were posed to respondents in the surveys.

One striking difference was noted in between how both groups perceived celebrity suicides so differently accounting for a correlation of .35 showing South Koreans more keenly aware of this potential compared to the Japanese. In South Korea much has been written about celebrity suicides. Suicides of various South Korean celebrities in fashion, sports and the performing arts have been subject to much media attention and this has prompted much academic interest in this for its copycat potential (Ji, Lee, Noh, & Yip, 2014). In Japan, too, celebrity suicides have engendered much public and academic interest (Ueda, Mori, & Matsubayashi, 2014; Ueda, Mori, Matsubayashi, & Sawada, 2017). Japan has also experienced two media influenced

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

epidemics of copycat suicide derived from charcoal burning and Hydrogen Sulfide gas exposures (Nabeshima, Onozuka, Kitazono, & Hagihara, 2016). Another media focus in Japan has been upon ordinary citizen suicides occurring regularly where 30 or more die yearly by hanging themselves in the dense Black Forest of the foothills of Mount Fuji (Stack & Niederkrotenthaler, 2018; Takahashi, 1988). Such diverging concerns about copycat suicides in Japan may have enfeebled attention away from celebrity suicides, our survey data clearly showed South Koreans more keenly aware of the additional suicide potential from celebrity suicides than the Japanese.

Several other striking contrasts in the suicide and death views should be noted between the South Korean and Japanese respondents. More South Koreans than Japanese felt that suicide arose from social forces and was not inspired by individual choices, perhaps relieving those dying by suicide from feelings of individual responsibility. More also felt they would never take their lives, even in the most despairing personal circumstances. This could suggest that South Korean bereavement might come at a higher price by the suicide decedent never being entirely forgiven for his/ her actions. However, it is unclear what these sentiments mean without having additional follow-up questions.

Another contrast seemed relatively clear: South Koreans appeared more ashamed of suicide deaths than the Japanese with their greater support of these two statements: "If I die now my family will be greatly disappointed". "One should not talk about the suicide." Again, more questions on the shame issue could have helped to enhance understanding of suicide shame.

Although suicides are more numerous in South Korea than in Japan the survey data only showed South Koreans more likely to be exposed to others having suicide thoughts than the Japanese. They were not more likely to know others who attempted suicide and those that completed suicide. This finding suggests two possibilities: either the low base-rates of these behaviors may affect exposures to attempt survivors and suicide decedents or that South Koreans may be more inclined to conceal these behaviors when they do occur. This is an important subject for further research.

It may have seemed capricious and arbitrary for us to have selected stress scores variabilities for our primary focus, instead of suicide proneness or depression. However, we had good theoretical reasons for selecting stress score differences. First, suicide proneness differences did not differ all that appreciably with a tenth of a percentage point difference between the Japanese and South Korean respondents' means on suicide proneness. It was only because we had a large sample of approximately 3,000 cases that led to this difference to become a statistically significant one.

But what about depression, where the differences between South Koreans and Japanese were more substantial: Why did we not focus on depression differences? We have to be cautious in speculating on the associations between completed suicides and depression. In the U.S., there are millions of highly depressed people but only thousands of suicides. Eric Caine, who has studied patterns of completed suicides extensively for more than three decades made these comments about the dangers of making conclusions of false-positive predictions from focusing upon depression diagnoses in order to predict eventual completed suicides. He said: "when seeing any person with a diagnosis of major depression, there is a greater than 99% chance that she or he will not die from suicide in the coming year ... because we do not know how to distinguish those who might die from those who will not." (Caine, 2013, page 824).

Another research on the PHQ-9 scale and subsequent completed suicides reinforces Caine's conclusions. This follow-up study of over 84,000 patient respondents that completed over 207,000 PHQ-9 depression scales included 46 respondents that died by suicide (Simon et al., 2013). Findings showed a 0.3% higher risk of having suicidal thoughts among those with higher PHQ-9 scale scores. Findings on completed suicides were somewhat less clear with 6 participants reporting feeling they would be better off dead who stated they felt this way sometimes or never, compared to 6 participants who thought this way, reporting having the same thoughts more than half the days or more often. The authors claimed that their findings may not be applicable to samples of the general population and they also said "although our findings showed that item 9 of the PHQ-9 accurately identifies outpatients at increased risk of suicidal behavior, this finding alone is not sufficient to justify population based screening for secondary or selective prevention." (pg.1200).

Another study investigated associations between heightened depression and completed suicides among a large sample of approximately 10,000 male adolescents who were studied repeatedly in their early adult years and then examined again when death records were collected from the small numbers of respondents that had died prematurely, n=227. None of the former respondents who died by suicide (n=21) had shown any heightened levels of depression during their high school or early adult years compared to still living controls; nor did these respondents show any evidence of increased suicidal thinking nor prior suicide attempts. What

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

distinguished the suicide decedents from those who were still living were heightened family discord and conflict; more school expulsions, more getting in trouble with the law, going to jail, more use and abuse of drugs and violent conduct (Feigelman, Joiner, Rosen, & Silva, 2015).

This is not the only study demonstrating that stressful life events such as job loss, conflict with or the loss of one's spouse or romantic partner, humiliating events such as being sent to prison or being subjected to disciplinary problems, coupled with substance use problems and other life stressors can lead one to take their life. This was found in the previously mentioned Finnish study, Heikkinen et al. (1994); also by Brent et al. (1993), in a study of adolescents; also by Stone, Holland, Schiff, and LikamWa McIntosh (2016), among middle-aged adults.

This analysis has emphasized the many and varied common features in suicide causation that cut across national boundaries of all industrialized societies in causing suicide: life stressors, psychopathology, depression, burdensomeness, suicide acceptance, experiences of economic dislocations, social isolation, humiliation among many others. Yet, at the same time by comparing two somewhat similar industrialized societies, South Korea and Japan we claim there are unique nation-specific causes that serve as specific causal agents in the different places. We are convinced that further comparative analyses of the shared suicide and death viewpoints of citizens will yield important knowledge of the distinctive array of causal forces found in differing countries. More comparative analysis of this sort should advance the suicidology knowledge base.

There are several limitations to the present work. First, we should acknowledge the 8-year time gap between the original South Korean and Japanese surveys. This may have resulted in unexpected differences between the groups as a result of this time lag. Second, it would have been more desirable to have had a more socially representative sample of Japanese adults that would have more perfectly matched with the South Korean sample, rather than the convenience sample that we were able to obtain. It also would have been more desirable to have pretested and conducted preliminary interviews with South Koreans to have more carefully and thoughtfully arrived at the 23 suicide and death questions that were utilized in the original 2009 survey to reflect suicide and death attitudes of the people. An additional limitation of our study is that we were unable to take into account presently diverging suicide prevention strategies in Japan and South Korea and assess their impact in affecting suicide rates and attitudes in both countries. Previous studies show that diverging economic commitments (Baek et al, 2015) and efforts aimed at reducing stigma (Chen, Courtwright, & Wu, 2017) can impact differences in East Asian suicide rates and attitudes. From our survey comparisons, we were unable to assess the roles of these diverging governmental strategies. Another limitation of the present study, and perhaps of most all previous comparative research on Japanese and South Koreans suicide patterns, is its failure to take into account the unique historical and political contexts of neighboring countries, including conquered experience, military tension, and political conflicts, and the importance of those contexts in affecting the mental health and suicide potential among both groups. It remains an important task for future research to investigate how this unique history of Japan and South Korea may have imprinted the cultures of both groups and may have affected suicide patterns.

As it was, we were able to discern at least three distinct potentially important themes in the questions: celebrity suicides, suicide acceptability and suicide shame. But with more thought and questioning a deeper probing of shame could have been pursued, attitudes of concealing suicide (or openly disclosing it) and a host of other potentially important attitudes that help to define these experiences (and the support given) to those bereaved by suicide who encounter varying support from one country to another. We feel encouraged by the strong evidence obtained in the present investigation documenting that national differences do indeed matter in thinking about suicide and death in determining suicide outcomes differently in different places.

Acknowledgements

This study was supported in part by a Grant-in-Aid for Scientific Research (B) from the Japan Society for the Promotion of Science (25285196). We also appreciate the assistance by Ms. Mana Fujiwara.

References

Aust, F., Diedenhofen, B., Ullrich, S., & Musch, J. (2013). Seriousness checks are useful to improve data validity in online research. *Behavior Research Methods, 45*(2), 527-535.

Ahn, M. H., Park, S., Ha, K., Choi, S. H., & Hong, J. P. (2012). Gender ratio comparisons of the suicide rates and methods in Korea, Japan, Australia, and

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

the United States *Journal of Affective Disorders, 142*, 161-165.

Baek, J., Park, J., Ahn, J., Roh, S., Heo, J., Fava, M., Mischoulon, D., & Jeon, H. (2015). Review of suicide prevention programs: Massachusetts, United States, in comparison with Seoul. *Psychiatry Investigations*, *12*(3), 281-287.

Beckwith, C. (2010). Could there by a Korean-Japanese linguistic relationship theory? Science, the data and the alternatives. *International Journal of Asian Studies*, *7*(2), 201-219.

Brent, D., Perper, J. A., Moritz, G., Baugher, M., Roth, C., Balach, L., & Schweers, J. (1993). Stressful life events, psychopathology and adolescent suicide: A case control study. *Suicide and Life Threatening Behavior*, *23,* 179-187.

Caine, E. (2013). Forging an Agenda for suicide prevention in the United States. *American Journal of Public Health*, *103*, 822-829.

Chan, C. H., Caine, E. D., Chang, S. S., Lee, W. J., Cha, E. S., & Yip, P. S. (2015). The impact of improving suicide death classification in South Korea: a comparison with Japan and Hong Kong. *PLoS One, 10*(5), e0125730.

Chen, J., Courtwright, A., & Wu, K. (2017). The role of stigma and de-normalization in suicide prevention laws in East Asia: A socio-cultural, historical and ethical perspective. *Harvard Review of Psychiatry*, *25*(5), 229-240.

Feigelman, W., Rosen, Z., & Gorman, B. S. (2014). Exploring prospective predictors of completed suicides: Evidence from the General Social Survey. *Crisis*, *35*(4), 233-44.

Feigelman, W., Joiner, T., Rosen, Z., & Silva, C. (2015). Investigating correlates of male youth: Questioning the close affinity between suicide attempts and deaths. *Suicide and Life Threatening Behavior*, *46*(2), 191-205.

Glosserman, B., & Snyder, S.A. (2017). *Japan-South Korea identity clash*. NY: Columbia Univ. Press.

Heikkinen, M., Aro, H., & Lönnqvist, J. (1994). Recent life events, Social support and suicide. *Acta Psychiatrica Scandinavica*, *377*, 365-377.

Hundt, D., & Bleiker, R. (2007). Reconciling colonial memories in Korea and Japan. *Asian Perspective, 31*(1), 61-91.

Jeon, S. Y., Reither, E. N., & Masters, R. K. (2016). A population-based analysis of increasing rates of suicide mortality in Japan and South Korea, 1985-2010. *BMC Public Health, 16*, 356.

Ji, N. J., Lee, W. Y., Noh, M. S., & Yip, P. (2014). The impact of indiscriminate media coverage of a celebrity suicide on a society with a high suicide rate: epidemiological findings on copycat suicides from South Korea. *Journal of Affective Disorders, 156*(1), 56–61.

Joe, S., Romer, D., & Jamieson, P. E. (2007). Suicide acceptability is related to suicide planning in U.S. adolescents and young adults. *Suicide and Life Threatening Behavior*, *37,* 165-178.

Jung, J. H., & Olson, D. V. A. (2014). Religion, Stress, and Suicide Acceptability in South Korea. *Social Forces*, *92*(3), 1039-1059.

Kim, S. Y., Kim, M. H., Kawachi, I., & Cho, Y. (2011). Comparative Epidemiology of Suicide in South Korea and Japan: Effects of Age, Gender and Suicide Methods. *Crisis, 32*(1), 5-14.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16,* 606-613.

Kwon, J. W., Chun, H., & Cho, S. (2009). A closer look at the increase in suicide rates in South Korea from 1986–2005 *BMC Public Health, 9*, 72.

Lee, M. A., Kim, S., & Shim, E. J. (2012). Exposure to suicide and suicidality in Korea: Differential effects across men and women? *International Journal of Social Psychiatry, 59*(3), 224-231.

Lee, M. J. (2017). Pachinko. NY: Grand Central Publishing.

Ministry of Health, Labour and Welfare, & National Police Agency (2018). *Jisatsu no Jokyo* [State of suicide in 2017] Retrieved from http://www.mhlw.go.jp/stf/seisakunitsuite/bunya/hukushi_kaigo/shougaishahukushi/jisatsu/jisatsu_year.html (May 16, 2018)

Muramatsu, K., Miyaoka, H., Kamijima, K., Muramatsu, Y., Yoshida, M., Otsubo, T., & Gejyo, F. (2007). The patient health questionnaire, Japanese version: validity according to the Mini-international neuropsychiatric interview-plus. *Psychological Reports*, *101*(3), 952-960.

Nabeshima, Y., Onozuka, D., Kitazono, T. & Hagihara, A. (2016) Analysis of Japanese Articles About Suicides Involving Charcoal Burning or Hydrogen Sulfide Gas. *Int J Environ Res Public Health*, *13*(10), 1013.

Park, B. C., Im, J. S., & Ratcliff, K. S. (2014). Rising Youth Suicide and the Changing Cultural Context in South Korea. *Crisis, 35*(2), 102–109.

Suicidology Online
open access journal
www.suicidology-online.com
ISSN 2078-5488

Park, S. (2015). Brief report: Sex differences in suicide rates and suicide methods among adolescents in South Korea, Japan, Finland, and the US. *Journal of Adolescence*, *40*, 74-77.

Park, S., Lee, H. B., Lee, S. Y., Lee, G. E., Ahn, M. H., Yi, K. K., & Hong, J. P. (2016). Trends in Suicide Methods and Rates among Older Adults in South Korea: A Comparison with Japan 2016. *Psychiatry Investig., 13(2), 184–189.*

Simon, G. E., Rutter, C. M., Peterson, D., Oliver, M., Whiteside, U., Operskalski, B., & Ludman, E. J. (2013). Does response on the PHQ-9 Depression Questionnaire predict subsequent suicide attempt and suicide death. *Psychiatric Services*, *64*, 1195-1202.

Snowdon, J. (2018). Differences in patterns of suicide in East Asia and the West: The importance of socio-cultural factors. *Asian Journal of Psychiatry*, *36*, 106-111.

Stack, S., & Niederkrotenthaler, T. (2018). Explaining suicide in a leading hotspot, AOKIGAHARA (Black Forest): New Film & Analysis. Presentation at 51st American Association of Suicidology Meetings, Washington, DC. April.

Stone, D. M., Holland, K. M., Schiff, L. B., & LiKamWa McIntosh, W. (2016). Mixed methods analysis of sex differences in life stressors of middle-aged suicides. *American Journal of Preventive Medicine, 51*, S209-S218.

Takahashi, Y. (1988). Aokigahara-jukai: Suicide and amnesia in Mount Fuji's Black Forest. *Suicide and Life Threatening Behavior, 18*(2), 164-175.

Takeshima, T., Yamauchi, T., Inagaki, M., Kodaka, M., Matsumoto, T., Kawano, K., Takahashi, Y. (2015). Suicide prevention strategies in Japan: a 15-year review (1998-2013). *Journal of Public Health Policy*, *36*(1), 52-66.

Ueda, M., Mori, K., & Matsubayashi, T. (2014), The effect of media reports of suicides by well-known figures between 1989 and 2010 in Japan. *International Journal of Epidemiology*, *43*(2), 623-629.

Ueda, M., Mori, K., Matasubayashi, T. & Sawada, Y. (2017) Tweeting celebrity suicides: Users' reactions to prominent suicide deaths on Twitter and subsequent increases in actual suicides. *Social Science and Medicine*, *189*, 158-166.