

2016

Addressing the Suicide Rate in South Korea

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Recommended Citation

Kim, Hye Tae, "Addressing the Suicide Rate in South Korea" (2016). *A with Honors Projects*. 165.
<http://spark.parkland.edu/ah/165>

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Spring 2016

Addressing the Suicide Rate in South Korea

Abstract

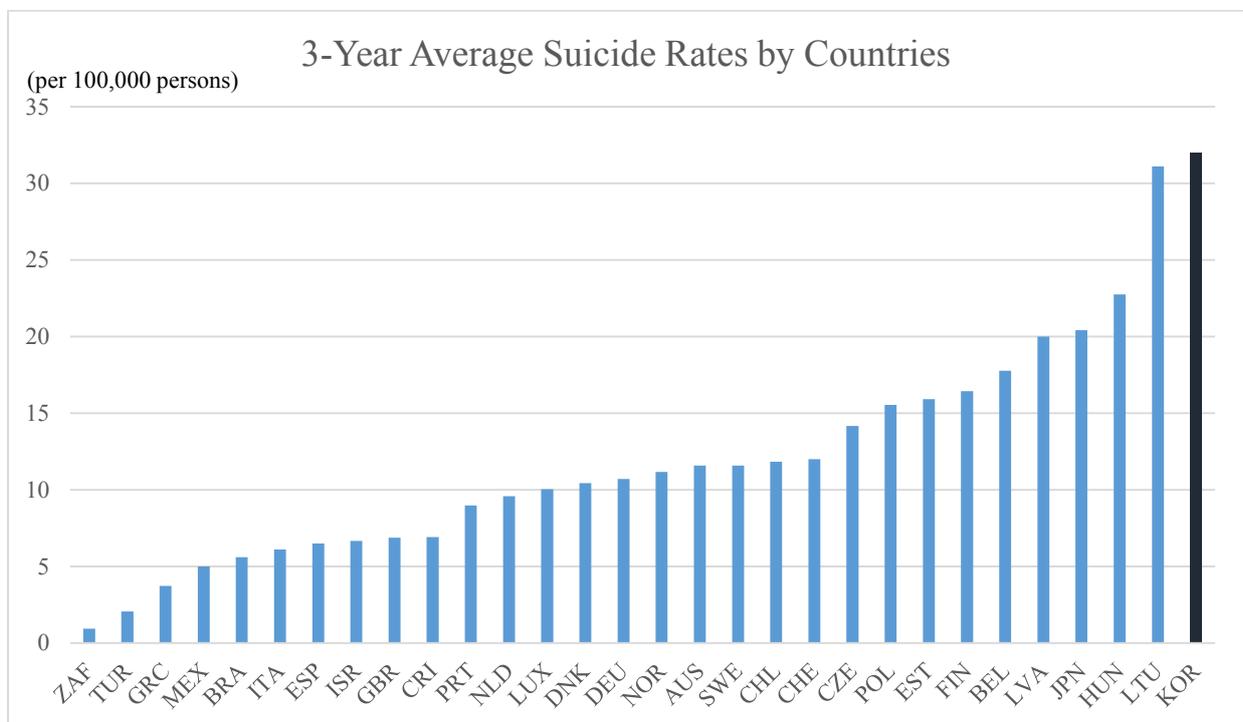
South Korea has one of the highest suicide rate among all the OECD countries as its three-year average of suicide rate is 31.97 per 100,000 persons. This paper re-identified the suicide rate in South Korea using the OECD database. After the procedure, hypotheses were used to find the certain socio-economic factors that correlate with the rate. Previously published studies and South Korean government databases were analyzed to find the correlations between possible socio-economic factors and changes in suicide rate to check the hypothesis. Certain hypotheses proved true and there were certain socio-economic factors that showed significant correlation with the change in suicide rate in South Korea. Those certain factors affect (or at least correlate) with the change in suicide rate in South Korea. To prevent this rate from growing further, the government must exercise preventions in certain areas to decrease the rate, possibly increasing overall happiness level of the country.

Keywords: suicide, depression, urbanization, paraquat

The Organization for Economic Cooperation and Development (OECD) publishes annual reports on various topics for its member countries. By its 2014 report, *Society at a Glance: OECD Social Indicators*, South Korea has by far the highest suicidal rate among its members.

Figure 1 compares the average suicide rates of OECD member countries from 2010 to 2012. The graph visualizes the 2016 data published on the OECD website by comparing the suicide rate of South Korea among the OECD members. The comparison is striking as the country shows three-year average suicide rates of 31.97 per 100,000 persons, when other countries such as Republic of South Africa (ZAF) shows the number as low as 0.93. As DNI consulting paper stated in 2011, as Koreans see suicide as an act of shame and are less likely to admit close one's death as suicide, the rate may actually be much higher than reported.

Figure 1. 3-Year Average Suicide Rates of OECD Countries



After identifying the rate, the goal of this study was set to pinpoint the possible factors that correlates, and possibly affects, the change in suicide rates in South Korea. Multiple hypotheses were created each with particular socio-economic factors, such as socioeconomic status and government prevention program will show significant correlations with the rate. Previously published studies, both in Korean and English and Korean government databases, were analyzed for data to support the hypotheses.

The work started by setting up a possible hypotheses, one such as people are more likely to commit suicide due to growing depression rates. Next goal was to find the data from published studies or governmental databases to back up the hypotheses. If the factor correlating with the suicide rate were found, the hypothesis (the factor) were marked and the next goal was set to analyze the factor in a deeper way, such as to find the reason for the change in factor and how it can be affected, and ultimately how the factor can be altered to decrease the rate of suicide.

It is true that one cannot know for certain why some committed suicide. There could be multiple factors behind a suicide and one can only find correlations and make a best guess behind those connections. However, to make the best guess, the differences in male/female methods of suicide and changing trends of suicide methods were analyzed, as well as the prevalence of depression and its correlation with the rate. Another thing that that was stressed was the suicide rate of people enlisted in army. The goal was to find the trends from the database or the find the previous studies that does that with persuasive data to back up its claims.

Numerous data were found, however (as expected), many were insignificant and it was not easy finding a solid data that fits and supports the certain hypothesis. For an example,

this paper has begun with expecting that suicide rate in South Korea is growing however the OECD data disapproved the theory and showed that it was actually decreasing. The hypothesis got revised and the revision was periodical as the new challenges to the hypotheses continuously showed up.

Results

1. Depression:

This paper tried to find the relationship between depression rates and suicide rates in Korea. There were several respected organizations claiming that higher depression rate leads to higher suicide rate, including the OECD and WHO. In its *2013 Health at a Glance report*, OECD explicitly commented on relationship between depression and suicide rate in Korea.

“Suicide rates also rose sharply at this time (1990s) in Korea and, unlike in Japan, have continued to increase. It is now the fourth leading cause of death in Korea.

Mental health services in Korea lag behind those of other countries with fragmented support, focused largely around institutions, with insufficient or ineffective support provided to those who remain in the community. Further efforts are also needed to remove the stigma associated with seeking care (in Korea).”

Another similar argument were found from a study published by Korean Medial Association in 2011:

“Depression lowers one’s quality of life and his/her function in society. It impacts physiological well-being as well as mental health and can act as a risk factor for physical disease or even suicide.”

However those claims, depression leads to suicide, were all based on European studies such

as done by W. Ruts in 1999, and there were no experiments done on linking the rates of depression and rates of suicide in South Korea. Korean Ministry of Health and Welfare did not collect its data on depression until 2001 and the studies were done every 5 years. The studies were conducted only three times so far and not enough data were accumulated (yet) to back up the claim.

So although it might be safe to conclude that higher depression rates leads to suicide rates, no studies were done explicitly correlating the factors in South Korea.

2. Urbanization:

As Korea is one of the world's most rapidly urbanized countries, it was possible to locate several studies searching for correlation between suicide rate and urbanization. A 2012 study conducted by Kyung-Hwa Choi and Dong-Hyun Kim proved that although general adolescents (15-19 years or age) suicide rate decreases over the years, suicide rates of adolescents living in urban area have increased during the years from 1997 to 2012.

The increase was same for both males and females, however male suicide rate showed increase of 2.6% per year [95% CI: 0.7, 4.6], where female suicide rate increased by 3.3% per year. [95% CI: 1.4, 5.2] Another study done by K. Cheong, M. Choi, B. Cho, T. Yoon, C. Kim, I. Kim, and Y. Hwang in 2015 reported that in the case of urban area, the suicide rate is higher among urban poor where the gap between rich and the poor is bigger.

This could lead to conclude that feeling of comparative deprivation could be a strong factor in suicide rates, which has been briefly mentioned by previous study done by W. Ruts in 2009. However no such studies were done in South Korea, specifically correlating the feeling of deprivation and suicide.

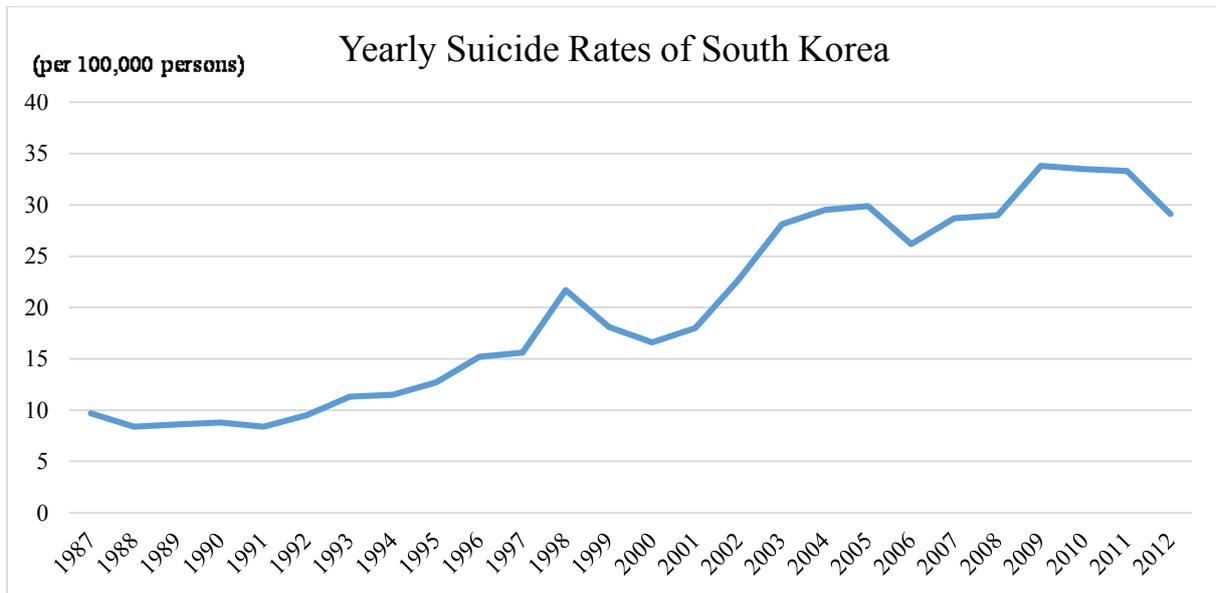
3. Government regulations of lethal chemicals

In Korea, there is a chemical notorious for its extremely painful and deadly side effects when ingested. Sometimes the chemical is projected as a “sure bet to suicide” by media. Yet it was so easy to obtain the chemical, as anyone could get them anywhere from various stores in rural area. The chemical’s name is paraquat, but the most of the time people call it by its nickname “Gramoxon”. It was such an effective herbicide however due to people abusing it as a way to kill themselves, the Korean government prohibited use of the chemical in 2011.

A study funded by Korean Ministry of Education analyzed suicide incidents from 2005 to 2013 and the results were astonishing. In the 2015 study, Myung W, Lee G-H, Won H-H, Fava M, Mischoulon D, and Nyer M found that the prohibition of the chemical, after controlling for the effects of celebrity suicide, economic, weather and seasonal factors, found to be reducing the overall suicide rate by 10% and suicide by poisoning of herbicides and fungicides by 46.1%.

The team concluded that the prohibition of the herbicide alone could be the factor that stopped the country’s ever-growing suicide rate in 2012, where it finally lost its inglorious world’s number 1 suicide rate title after years of reigning. The change in suicide rate were shown by figure 2 below. (Data retrieved from OECD)

Figure 2. Yearly suicide rates of South Korea from 1987 to 2012



Conclusions and Suggestions

In this study, the actual OECD-reported suicide rate of South Korea were retrieved and the results were compared with other countries. Moreover, during the process of setting up and checking for the possible hypotheses, it was possible to identify and speculate few factors that have significant correlations with the suicide rate in South Korea. Those were depression rate, urbanization, and government regulations of lethal chemicals (paraquat).

Each one of above factors affected suicide rates in various ways. South Korea, as a country, cannot and will not stop urbanizing itself, even it will statistically cost more adolescents to commit suicides. However there are clearly proven ways to stop the growing rates of suicide, including the government regulation of lethal chemicals such as paraquat. This has proven effective in cutting the suicide rate as whole and government should take more actions like this.

Also, since the prevalence of depression has proven to be correlated with rate of

suicide in many countries, the government should also try to minimize the possible prevalence of depression. Several times encountered during the research were various mentions about Korean culture preventing one from admitting that he/she is suffering from depression, like the OECD quote shown in page 3. Korean government should take a step further in reducing its negative stigma associated with mental illnesses, which will help curb its world-class suicide rate and ultimately (hopefully) leading its citizens to live happier lives.

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