

Factors Influencing Suicidal ideation among Korean University Students

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Abstract

Korea has the highest suicide rate among the OECD countries, and the suicide rate is highest among young adults in their 20s, most of whom are university students. Therefore, suicide among Korean university students is a public health issue that is of interest to us. The purpose of this study is to investigate the factors affecting the suicidal ideation of university students in Korea, and to use them as a basis to establish effective intervention for university suicide prevention through it. This was a cross-sectional descriptive study using convenience sampling method. The participants were 344 university students at universities in S and G cities. Data were collected with a structured questionnaire and analyzed using descriptive analysis, t-test, ANOVA, Pearson correlation coefficients, and hierarchical regression analysis using with the SPSS/Win 23.0 program. There was a significant correlation between depression ($r=.45$, $p<.001$), drinking alcohol ($r=.14$, $p=.008$), social support ($r=-.26$, $p<.001$), quality of life ($r=-.46$, $p<.001$), and suicidal ideation. In the first step of hierarchical regression analysis, satisfaction of school life ($\beta=.198$, $p<.001$) was the significant factor influencing the suicidal ideation. Explanatory power was 25.2%. In the second step of the hierarchical regression analysis, absence of parents ($\beta=-.095$, $p=.044$), depression ($\beta=.247$, $p<.001$), quality of life ($\beta=-.280$, $p<.001$), and explanatory power were increased to 42.0%. The results of the study indicate the need to actively identify the group of university students in their 20s with high risk of suicide through continuous evaluation of depression, and to improve the quality of life as a method of preventing suicide. In addition, the effect of absence of parents on the suicidal ideation among Korean university students suggests that parental support may play an important role in suicide prevention.

Keywords: *Suicidal Ideation, Depression, Quality of Life, Young Adult.*

1. Introduction

Korea is among the few OECD countries where the suicide rate is increasing, and it is also at the top in terms of the rate of increase and absolute numbers of suicide rates [1]. When different age groups are compared, suicide is reported as the number one cause of death in young adults in their 20s. As of 2014, the number of

suicides among young adults in their 20s is 36 suicides per 100,000 young adults [2]. The data of the National Statistical Office did not distinguish suicide subjects as university students. However, 68.9% of Korean high school graduates go to university [3], and university students are mostly in their twenties. Therefore, the suicide rate for young adults in their twenties is closely related to the suicide rate among university students [4]. In Korean society, university student suicide is a serious public health problem that should be of interest to medical professionals and policy makers.

Studies related to suicide attempt to predict the risk of suicide by measuring suicidal ideation. Indeed, young adults in their 20s showed a higher rate of suicidal ideation than other adults, leading to higher rates of suicidal plans and suicidal attempts [5]. Therefore, in order to prevent suicide among university students, it is important to evaluate and mediate suicidal ideation among individuals.

To understand the broad concept surrounding suicidal ideation among university students, it is necessary to analyze the degree of influence of suicide protective factors and risk factors on suicidal ideation. First, depression is a major threat to mental health according to many existing studies [6, 7], it is a common psychological problem found among people who already have suicidal intentions and has been reported as one of the strong predictors of suicidal ideation [8].

Further, drinking alcohol is a risk factor for suicide as it has been noted that those who commit suicide tend to consume more alcohol before suicide, and in about 50% of suicide deaths, are drunk when they die [6, 7]. In addition, drinking alcohol before suicide plays an important role in unplanned suicide attempts [8].

Suicide protective factors play a role in regulating and improving individual responses to mitigate the negative effects of suicidal risk factors and to adaptively cope with them [9], so identifying suicide protective factors may help prevent suicides. Social support, a suicide protective factor, is one of the factors affecting suicide. It is an external resource for individuals coping with suicide, and is considered as a representative protective factor to reduce suicidal thoughts and behavior [10]. Stravynski and Boyer [11] reported that the lack of social support from family and friends was closely related to the suicidal ideation among adolescents and adults as well as university students. In other words, high levels of social support from university students may have a protective effect on suicide by reducing negative influences in stress situations. However, being socially disconnected or unsupported can be a suicide risk factor [12].

Another suicide protective factor is quality of life. Those who attempt suicide have a lower quality of life than those who do not, and low quality of life can be a marker of poor coping skills and inadequate social support [13].

Therefore, understanding the relationship between risk factors, protective factors, and suicidal ideation will be helpful as a basis for effective intervention to prevent suicide. Finally, these findings will contribute to helping university students adapt to university life and live as healthy members of society.

2. Methods

2.1 Study design

This is a cross-sectional descriptive study designed to identify depression, drinking, social support, quality of life, degree of suicidal ideation, and factors influencing suicidal ideation.

2.2 Sampling method and Data collection

This study used a simple random sampling strategy for university students. In order to obtain generalizable research results, subjects were collected from two universities, one in Seoul, the capital of South Korea and one in Gyeongbuk, the largest province. The data collection for this study was done through a survey from May 1, 2018 to June 30, 2018, after receiving consent from the research participants. The researchers directly

distributed questionnaires to 350 subjects who responded to the questionnaires. A total of 344 subjects were analyzed in the final study, and 6 persons who had insufficient responses were excluded from the results analysis.

2.3 Sample size Measures

The number of subjects in this study was calculated using the G * Power 3.0 program. The significance level was .05, the effect size was .10, the power was .95 [14], and the minimum sample size was 132 when the predictor was 5. Due to the sensitivity of this research subject, high dropout rate was a concern. Finally, 350 people expressed willingness, and the minimum sample size of 132 was achieved.

2.4 Variable measurements

2.4.1 Depression: This study used the Center for Epidemiologic Studies Depressive Symptoms Scale (CES-D) was used as a measure of the current level of depressive symptoms [15]. This 20-item tool is rated on a 4-point Likert scale. Higher scores indicate the higher level of depressive symptoms. Cronbach's coefficients for a study among the Korean population [16] and in this study were .89 and .87, respectively.

2.4.2 Drinking alcohol: We used a simple four-item screening tool for alcohol abuse. It answers 'yes' or 'no'. If there is an answer of 'Yes' in more than 2 items out of 4 items, it is classified as danger drinking group. In this study, Korean version of the 'National Health and Health Awareness Survey' [17] was used.

2.4.3 Social Support: We used a modified version of the the Personal Resource Questionnaire-part II specific to adolescent. The scale was originally developed by Brandt & Weinert [18]. This 11-item tool is rated on a 5-point Likert scale. Higher scores indicate the higher level of social support. Cronbach's coefficients in this study were .92.

2.4.4 Quality of life: Quality of life, which was developed by Stoker et al. [19] and modified to Korea version by Yoon et al [20]. It comprises a 23-questionnaire and scored on a 10-point Likert scale. Higher scores implying better quality of life. The Cronbach's coefficients were .83 and .89 in Yoon's and the present studies, respectively.

2.4.5 Suicidal ideation: We used the Scale for Suicidal Ideation developed by Beck, Kovacs and Weissman [21] and self-report questionnaire modified by Park and Shin [22]. It comprises a 19-questionnaire and scored on a 3-point Likert scale. Higher scores indicate the higher level of suicidal ideation. Cronbach's coefficients in this study were .88.

2.5 Data analysis

This study used SPSS / Win 23.0 to analyze the data. The general characteristics were determined by frequency and percentage, and differences in life respect and will according to general characteristics were analyzed by mean, standard deviation, dependent t-test, and one-way ANOVA. The relationship between depression, drinking alcohol, social support, quality of life, and suicidal ideation were determined by Pearson's correlation coefficient. Hierarchical regression analysis was used to analyze the individual influences of suicidal ideation and influencing factors.

2.4 Ethical considerations

Ethical approval was obtained from Dongguk University Institutional Review Board (IRB NO: DGU IRB 20180006-02). This study explained the objectives, requirements, expectations, and implications of this study to the potential participants. Then, they decided for themselves whether or not to participate in the study. The participants gave written consent and were free to withdraw it.

3. Results

3.1 Suicidal ideation according to General Characteristics

The suicidal ideation among university students showed a statistically significant difference according to the subjects' major, grade, parental survival status, and school life satisfaction (Table 1). Significantly higher suicidal ideation was noted among those who majored in arts ($t=8.848$, $p<.001$), suffered due to absence of parents ($t=2.843$, $p=.038$), were university freshmen ($t=3.976$, $p=.004$), or had lower school life satisfaction ($t=5.275$, $p<.001$).

Table 1. Suicidal ideation according to General Characteristics (N=344)

Variables	Category	n(%)	Suicidal ideation		
			M±SD	T or F*	P
Gender	Male	150(43.3)	36.43±4.94	-1.823	.069
	Female	195(56.7)	37.46±5.30		
Grade	1st	104(30.2)	36.73±5.23	1.796	.148
	2nd	169(49.1)	37.33±5.14		
	3rd	47(13.7)	35.72±4.13		
	4th	24(7.0)	38.29±6.43		
Religion	Yes	142(41.3)	36.59±4.80	-1.222	.223
	No	202(58.7)	37.28±5.39		
Majors	Department of Humanities and Social Studies	114(33.1)	36.35±5.13	8.848	<.001
	Department of Nature and Engineering	212(61.6)	36.97±4.87		
	Department of Art	18(5.3)	43.42±6.17		
Parent survival status	Both parents' survival	268(77.9)	37.33±5.42	2.843	.038
	One parent' survival	50(14.5)	35.98±3.75		
	Parent divorce	20(5.8)	34.50±1.84		

Residence	Absence of parents	6(1.7)	38.66±8.01		
	Home	134(39.0)	37.71±5.66		
	Independent Living	122(35.5)	37.37±5.27	.966	.497
	Dormitory	88(25.6)	35.11±3.19		
	Higher level	48(14.0)	35.60±4.57		
School grades	Middle-upper level	80(23.3)	35.92±4.75		
	Middle level	142(41.3)	37.29±4.89	3.976	.004
	Middle-lower level	52(15.1)	37.96±5.78		
	Lower level	22(6.4)	39.72±6.47		
	Higher level	10(2.9)	34.00±1.33		
Economic level of family	Middle-upper level	65(18.9)	37.38±4.92		
	Middle level	166(48.3)	37.37±5.46	1.365	.237
	Middle-lower level	46(13.4)	36.06±3.73		
	Lower level	57(16.6)	36.80±5.80		
	Yes	152(44.2)	37.05±5.66		
Lover	No	192(55.8)	36.99±5.13	.103	.918
	Very satisfied	26(7.6)	35.00±2.36		
Satisfaction in school life	Satisfied	108(31.4)	35.88±4.66		
	Medium	156(45.3)	37.39±5.24	5.275	<.001
	Unsatisfied	44(12.8)	39.50±5.88		
	Very unsatisfied	10(2.9)	37.00±6.53		

- For variables with two categories, t-test was used, for those with more than two categories, Anova was used.

3.2 Descriptive statistics and correlations of research variables

The mean and standard deviation of the variables in the study are shown in Table 2, and the results of the analysis of correlations between the variables in this study are presented in Table 3. There was a statistically significant negative correlation between depression and social support ($r = -.41, p < .001$), depression and quality of life ($r = -.65, p < .001$). On the other hand, depression was positively correlated with drinking alcohol ($r = .12, p < .05$) and suicidal ideation ($r = .45, p < .001$). Suicidal ideation and drinking alcohol ($r = .14, p < .05$) showed a positive correlation, while suicidal ideation and social support ($r = -.26, p < .001$), suicidal ideation and quality of life ($r = -.46, p < .001$) were negatively correlated and statistically significant. Social support and quality of life ($r = .22, p < .001$) showed a significant positive correlation.

Table 2. Scores of Variables (N=344)

Variables	Min.	Max.	M±SD	Ranges
Depression	24	60	38.18±8.28	0~60
Drinking alcohol	5	8	7.34±1.04	4~8
Social support	15	26	17.35±3.19	11~55
Quality of life	79	230	157.58±33.73	23 ~ 230
Suicidal ideation	33	51	36.99±5.16	19~57

Table 3. Correlations of Depression, Drinking alcohol, Social support, Quality of life and Suicidal ideation (N=344)

Variables	Depression r(P)	Drinking alcohol r(P)	Social support r(P)	Quality of life r(P)	Suicidal ideation r(P)
Depression	1				
Drinking alcohol	.12 (.025)	1			
Social support	-.41 (<.001)	-.06 (0.210)	1		
Quality of life	-.65 (<.001)	-.13 (0.012)	.22 (<.001)	1	
Suicidal ideation	.45 (<.001)	.14 (.008)	-.26 (<.001)	-.46 (<.001)	1

3.3 Factors influencing the Suicidal ideation

Hierarchical regression analysis was used to analyze the individual influences of suicidal ideation and influencing factors. The factors that influence suicidal ideation are presented in Table 4. In the regression model 1, when we entered the general characteristics, which showed a significant correlation with in suicidal ideation. As a result, among the general characteristics, suicidal ideation was influenced by school life satisfaction ($\beta = .198, p < .001$) and explanatory power was 25.2%. In the regression model 2, which includes the effects of depression, drinking alcohol, social support, and quality of life, and the explanatory power was increased to 42.0% (Adjusted $R^2 = .420$). In Model 2,

suicidal ideation was predicted by the absence of parents ($\beta = -.095$, $p < .044$), depression ($\beta = .247$, $p < .001$), quality of life ($\beta = -.280$, $p < .001$) were significant influencing factors.

Table 4. Factors influencing sub-scale of suicidal ideation (N=344)

Variables	Model 1			Model 2		
	β	SE	p	β	SE	p
Major	.096	.46	.075	.015	.43	.759
Grades	-.022	.32	.685	-.006	.29	.907
Absence of parents	-.086	.41	.104	-.095	.36	.044
Satisfaction in school life	.198	.31	<.001	.048	.30	.356
Depression				.247	.03	<.001
Drinking alcohol				-.060	.24	.217
Social support				.019	.07	.699
Quality of life				-.280	.01	<.001
F (p)	5.725(<.001)			15.518 (<.001)		
Adjusted R ²	.252			.420		

4. Discussion

The results of this study showed that the factors affecting the suicidal ideation among Korean university students were quality of life, depression, and absence of parents. The most powerful factor influencing the suicidal ideation among university students was the quality of life. This is similar to the results of Park [23], who reported that quality of life affects the suicidal ideation of adults, though not university students. In today's Korean society, university students live in a stressful situation that has resulted due to the difficulty in finding employment in a competitive society and decrease in social network. The social isolation of university students is growing due to their lifestyle [24]. Therefore, suicide among university students is a result of not only personal factors, but also socio-environmental factors. Since quality of life is a concept that measures multidimensional human characteristics and social factors, it is considered to be the most influential factor in the suicidal ideation among university students. Based on these findings, it can be said that in future when measures are proposed to deal with student suicides through the suicide prevention program for university students, suggestions from individual students, together with those from their universities and communities, should be considered.

The depression among university students in this study was found to be 36.99 points. This is higher than the average score, and in line with the findings of an existing study [25], in which the degree of depression among university students in Korea was found to be higher than the average score. Depression is reported to be more common among university students than among adults, and it is the most critical health problem among university students, and more than 30% of university students in Korea experience depression [26], which is supported by the results of this study. The second factor that influences the suicidal ideation among university students was depression. These results are in agreement with existing studies [25, 26] in which depression was found to be an influential variable in suicidal ideation. The more severe the depression is, the

more suicidal ideation increases and suicidal attempts are made. Diagnostic and Statistical Manual of Mental Disorders (DSM-5) includes a specific plan for suicide, suicidal attempt, or suicide as symptoms of major depressive disorders [27]. In recent years, Korean students have been experiencing depression due to the economic difficulties caused by the rise in prices, increase in tuition fees, and difficulty in finding employment, resulting in anxiety about the future [28]. Therefore, depression is a dangerous factor causing personal vulnerability and leading to suicide and it is necessary to have concrete interventions at the university level to manage the depression among university students.

Finally, the absence of parents was also a factor in suicide ideation among university students. The results of this study are similar to those of Toolan [29], who reported that children and adolescents without one or both parents showed suicidal ideation and suicidal behavior. In the present study, it is interesting to note that the absence of parents affects the suicidal ideation among university students, but not among children and adolescents. This is because it is difficult to find in existing studies that the absence of parents influences university students' suicidal ideation. The results of this study are indicative of the characteristics of parent-child relationship in Korean society.

Unlike the West, Korean children receive absolute support from parents because children become economically and socially independent only after graduating from university. A review of existing studies supports the results of this study. Thus, the influence of parents is not only important for childhood and adolescence, but also important for university students. The results of this study suggest that students must be encouraged to maintain a close relationship with parents in order to reduce the rate of suicide among Korean university students. In addition, it was confirmed that the attachment formation to the parents and the supportive attitude of the parents toward the university going children will play an important role in the prevention of suicides.

5. Conclusion

In this study, the higher the quality of life of college students, the lower their suicidal ideation. Also, the higher the depression, the higher suicidal ideation were when the parents divorced or died. In conclusion, in Korea, where the suicide rate is highest in the world, intervention is needed to improve the quality of life of the university students with the highest suicide rate.

The results of this study showed that it is possible to identify high risk group for suicide through sustained depression assessment of university students in their 20s, and that active intervention for depression is necessary. The results confirmed that intervention is needed to improve the quality of life as a way to prevent suicide among the students in their 20s. In this study, parental divorce or death affected the suicidal ideation of Korean university students. This is a rare research result that is difficult to find in existing overseas studies. The impact of the absence of parents on the suicidal ideation among Korean university students suggests that the adult university students are still in need of parental support, which may play an important role in preventing suicide.

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